An Bord Pleanála

Inspector's Report ABP313007-22

Development	10-year permission and 35-year operational life of a windfarm consisting of 7 turbines, meteorological mast and ancillary works and equipment.
Location	Ballynagare, Dysert Marshes and associated townlands to the north of the village of Lixnaw, County Kerry.
Planning Authority	Kerry County Council.
Planning Authority Reg. Ref.	211441.
Applicant	Ballynagare Windfarm Limited.
Type of Application	Permission.
Planning Authority Decision	Refuse.
Type of Appeal	First Party
Appellant(s)	Ballynagare Windfarm Limited.
Observer(s)	(i) Lixnaw Wind Aware Group, (ii) An Taisce, (iii) Steve Edwards, (iv) Thomas Dillon.
Date of Site Inspection	5th and 6th September, 2022.
Inspector	Paul Caprani.

Contents

1.0 Introduction

1.1. AP313007-22 relates to a first party appeal against the decision of Kerry County Council to refuse planning permission for a windfarm development comprising of 7 wind turbines together with a permanent meteorological mast and all ancillary works at a site at Ballynagare to the north of the village of Lixnaw in North County Kerry. Planning permission was refused for six reasons relating to; adverse visual impact particularly in the context of the ecclesiastical complex at Rattoo and the surrounding historic landscape, the proposal would significantly impact on the residential amenities of the area particularly through operational noise, visual impact and general disturbance. The reasons for refusal also referred to potential for the proposed development to adversely impact on the integrity of waterbodies on the basis that the proposed construction works, could adversely impact on waterbird populations of importance in the area and, notwithstanding the proposed mitigation measures, the Planning Authority is not satisfied that the proposed development individually or in combination with other plans or projects would not result in adverse impacts on Natura 2000 sites in the vicinity. A number of observations were submitted supporting the decision of Kerry County Council to refuse planning permission for the proposed development. The application was accompanied by an Environmental Impact Assessment Report, a Natura Impact Statement and a book of photomontages which form part of the EIAR.

2.0 Site Location and Description

Location

2.1. The proposed development is located at Ballynagare a rural area approximately 9 kilometres west of Listowel and 2 kilometres north of Lixnaw in North County Kerry. The proposed development is located in the townlands of Ballynagare, Dysert Marshes, Dysert and Curraghcroneen. The entire site covers an area of approximately 529 hectares. The proposed development has an approximate elevation of between 2 and 5 metres above Ordnance Datum. The site is located to the immediate south of the confluence between the River Feale and the River Brick. The River Brick runs northwards along the western boundary of the site while the

larger River Feale also runs northwards along the north-eastern boundary of the site. Both Rivers discharge into the Cashen Estuary c3km to the north of the site.

Habitats

2.2. The site predominantly comprises of cutover bog (Fossetts Classification) - PB4. Improved agricultural grassland (GA1) surrounds the cutover bog habitats with some of the agricultural areas having been reclaimed from peatland. The cutover bog has been used for turf-cutting activities. The EIAR indicates that there is relatively small area of uncut raised bog habitat c.2.9 hectares in size at the eastern and western fringes of the cutover bog. There is also an area of conifer plantation along the northern boundary of the site as well as areas of dry meadow and grassy verges, hedgerows and treelines. The area immediately surrounding the site is predominantly rural in nature with a relatively high density of rural one-off housing. Both arable and pasture agricultural land together with some conifer planting is located in the wider area.

Settlement

2.3. In terms of overall settlement, the nearest substantial settlement is the village of Lixnaw which has a population of c.700 people (2016). Lixnaw is located approximately 2 kilometres to the south of the subject site. The village of Ballyduff is located approximately 3 kilometres to the north-west of the site. It has a population of 532 persons. The largest settlement in the wider area is the town of Listowel, approximately 9 kilometres to the west. It has a population of just less than 4,000. The Rattoo ecclesiastical centre which includes a church, graveyard and round tower is located approximately 1.3 kilometres from the north-western boundary of the site. Archaeological records indicate that an ancient roadway linked the ecclesiastical settlements of Rattoo to the northwest of the site with the ecclesiastical settlement of Dysert to the east of the site. This medieval road/togher was approximately 3km long. It is no longer physically apparent on the ground but traces of the ancient alignment are discernible on aerial photographs of the site.

2.4. In terms of local settlement in the vicinity, there is a proliferation of rural dwellings and farmsteads located along roadways surrounding the site. These include roadways which run northward from the R557 (Listowel/Lixnaw) Regional Route. One of the more significant local roads include a road which runs northwards to the

east of the site from the R557 to the townlands of Farrandeen, Knockaunacurraheen and Curraghroneen. This road terminates in the townland of Dysert, where another ecclesiastical site including a medieval church and graveyard is located. A local road also runs northwards from the village of Lixnaw towards the site and towards McElligots Bridge. A road also runs northwards to the west of the site from the western environs of Lixnaw Village towards the townland of Muckenagh[1]. Dwellings in the vicinity of the site are also located along the local road to the north-west of the site serving the ecclesiastical site of Rattoo and Rattoo House. The nearest dwelling to any of the turbines is 680 metres.

Hydrology and Drainage

2.5. In terms of hydrology the proposed development is located in the Tralee Bay/Feale surface water catchment (Hydrometric Area 23) of the Shannon River Basin District. As mentioned above, both the River Feale and River Brick watercourses run along the western and north-eastern boundary of the site respectively. Both discharge into the Cashen Estuary a transitional watercourse 6 to 8 kilometres to the north of the site. This Rivers are tidal and levees/embankments run along most of the boundary between the site and the riverbank. The Lixnaw Canal is located to the south-west of the site immediately north of the settlement of Lixnaw. The Crompaun River joins the River Brick along the western boundary of the subject site. The site is also traversed by numerous ditches and streams. These streams and ditches generally drain westwards towards the River Brick. However, the ditches and streams located in the eastern and northern part of the site primarily drain towards the River Feale.

Roads

2.6. In terms of road infrastructure, the R551 Regional Route links the villages of Ballyduff to Causeway to the north-west of the site. The R556 branches southwards off the R551 towards the village of Abbeydorney. To the south-east of the site the R557 links the town of Listowel with the village of Lixnaw before turning southwards towards the village of Abbeydorney. A number of local roads (including those referred to above in the subsection entitled Settlement), serve numerous one-off

[1] View of the site from various vantage points along the roadways referred to are contained in the photo presentation accompanying this report.

dwellings to the east, west and north-west of the site. A local public road traverses the centre of the site it runs in a south-easterly direction through the site over Ballynagare Bridge which crosses the River Brick and continues across the site before turning southwards into the village of Lixnaw. A number of access roads and tracks also traverse the site. These smaller minor roads/tracks are/were used for access to turf-cutting activities on the site. The site has also been the subject of unauthorised dumping activity.

European Sites

2.7. In terms of Natura 2000 sites both the Brick River and Lixnaw Canal along the western boundary of the site and the Feale River along the north-eastern boundary of the site form part of the Lower Shannon SAC (Site Code: 002165). Both rivers discharge into the Cashen Estuary which also forms part of this SAC. The Kerry Head SPA is located approximately 8 kilometres to the north-west of the subject site. The Stack to Mullaghareirk Mountains, West Limerick Hills and Mountain Eagle SPA is located approximately 8 kilometres south-east of the subject site.

3.0 **Proposed Development**

3.1. Planning permission is sought for the following:

Turbine development.

- The construction of 7 wind turbines with an overall ground to blade tip height in the range of 170 metres maximum to 169.5 metres minimum with a hub height of 95 metres. A rotor diameter in the range of 150 metres maximum to 149 metres minimum.
- The exact make and model of the turbine will be dictated by a competitive tender process but will not exceed the maximum size envelop set out above. The wind turbines to be installed at the site will be the conventional three blade turbines that will be geared to ensure that the rotors of all turbines rotate in the same direction at all times. The turbines will be light grey matt in colour.
- Each wind turbine will be secure to reinforced concrete foundation to be installed below the finished ground surface. The size of the foundation will be

dictated by the turbine manufacturer and the final turbine selection will be the subject of a competitive tender process. The maximum horizontal and vertical extent of the turbine foundation will be a minimum of 19 metres and a maximum of 25 metres with a minimum depth of 2.7 metres and a maximum depth of 6 metres.

- The hardstanding areas will consist of levelled and compacted hardcore around each of the base to facilitate access, turbine assembly and turbine erection. The hardstanding areas are extended to cover the turbine foundations once the foundations are put in place. The extent of the required areas at each turbine location may be optimised on site within the parameters set out and assessed in the EIAR depending on topography, position of the site access road and the proposed turbine position and the turbines suppliers exact requirements. The main hardstanding areas will be c.82 metres in length and 28 metres in width giving an area of c.0.23 hectares in size. A temporary working area adjacent to the main hardstanding is also proposed.
- It is anticipated that the proposed wind turbines will have a rated electric power output in the 5 to 6 megawatt range depending on further wind data analysis and power output modelling. For the purposes of the EIAR, a rated output of 6 megawatts has been chosen per turbine giving an overall estimated installed capacity of 42 megawatts. This would be sufficient to supply c.27,800 Irish households with electricity per year.

  The precise location of the Turbines are indicated in the drawings submitted and also on various maps and figures contained in the EIAR including figure 4.1 between page 4.3 and 4.4 of the EIAR. The geographical co-ordinates of the Turbines are set out in Table 1 below:

Turbine Number	Easting	Northing	Approx. Altitude (m AOD)
T1	489168.9075	633294.2662	0.78
T2	489512.6774	632946.997	0.73
T3	488974.8514	632534.2959	0.91
T4	489597.5548	632148.4197	0.70
T5	488625.6129	631954.4156	0.41
T6	489119.2683	631757.5398	0.67
T7	488705.6813	631207.8471	0.88
Meteorological Mast	88469	131002	-

Site Roads

- In terms of site roads, it is proposed to make maximum use of the local road network and the existing on-site roads in accessing the turbine locations. There will be requirements to alter the corners and junctions and in some cases extending the width of the road in order to accommodate the abnormal sizes of the turbine components. Thus, existing roads and tracks throughout the site will be upgraded where appropriate. In addition, it is proposed to construct 8.21 kilometres of new roadway as part of the proposed development. The new roadway development will also involve the requirement of 20 water crossings, 3 of which will be extensions of the existing crossings and 17 will comprise of new watercourse crossings. Where relatively shallow depths of overburden are found within the site, it is proposed to construct new roads or improve existing roads directly on the solid formation. In localised areas, it may be necessary to construct some floating roads over peat, primarily to preserve any existing in-situ archaeological features which may exist on the site.

Borrow Pit

- It is also proposed to develop an on-site borrow pit as part of the proposed windfarm development. It is proposed to obtain the majority of rock and

hardcore material that will be required from the borrow pit. The borrow pit is to be located in an area to the south-east of the site. It is intended to extract approximately 144,000 cubic metres of hardcore material from the borrow pit for the construction of all turbine foundations, hardstands and access roads. The borrow pit will be excavated to an average approximate depth of 10 metres. Upon the removal of the rock from the borrow pit it is proposed to reinstate using surplus excavated peat and spoil.

Temporary Peat Repositories

- It is also proposed to provide temporary peat repositories where excess earthen overburden material is excavated. Selected areas within the site will be used as temporary peat repository areas. The peat storage areas are located in proximity to Turbine 1 and Turbine 7.

Electricity Substation

- It is proposed to construct an electricity substation within the site. The substation is to be located to the immediate south of a new access road leading to the borrow pit to the south of the site. The construction of the electrical components of the substation will be subject to ESB specifications. The proposed electricity substation compound will be approximately 50 metres in length and 25 metres in width and will include one windfarm control building along with electrical substation components necessary to consolidate the electrical energy generated by each turbine and export that electricity from the windfarm site. The windfarm control building will be approximately 157 square metres in size and 6 metres in height. The layout of the substation and the windfarm control building is indicated on Figure 4.9 of the EIAR.

Grid Route Connection

- A 38kV connection between the proposed development and the national electricity grid will be necessary to export electricity from the proposed development. The proposed underground cable connection will originate at the onsite substation and connect to the existing 110kV switch station at Clahane. The Clahane Substation is located (as the crow flies) approximately 7 kilometres south-east of the proposed substation. The electricity and fibre

optic cables will run from the onsite substation along the eastern roadways initially along the R557 eastwards towards Listowel before branching southwards along a number of local roads at Ballyhorgan East south towards Lissahane and further south towards Knockburrane Crossroads before crossing the N69 and arriving at the Clahane 110kV Substation. The cables will be run in trenches that will be approximately 1.3 metres in depth and 0.6 metres in width along the sides of roadways.

Meteorological Mast

- It is also proposed to provide one permanent meteorological mast as part of the proposed development. The mast will be equipped with wind monitoring equipment at various heights. The mast is to be located at the western boundary of the site in proximity to the Brick River. The mast will be a slender structure 110 metres in height and will be either freestanding or supported by guy wires radiating from the tower. It will be constructed on hardstanding.

Temporary Construction Compounds

- Two temporary construction compounds are also proposed, one to the immediate north of Turbine No. 3 and one between the proposed borrow pit and the proposed substation. The construction compounds will consist of temporary site offices, staff facilities and car parking. All wastewater generated by staff will be tankered off site.

Site Entrances

- In terms of site entrances there are 7 proposed site entrances onto the site from local roads in the area. The main site entrance will be to the south of the site from the R557 via the local road (L6055).

Haul Routes

- With regard to the proposed haul route, the proposed turbine transport route will be from Foynes Port onto the N69 back towards Limerick where the turbines will then travel west along the N21 towards Tralee and turn right at the roundabout before Tralee and onto the N69 travelling north-east. The turbines will continue north along the N69 and then turn left onto the local road at Mount Coal Cross before travelling north-west onto the R557. The

turbines will then turn left onto the R557 and continue north-east towards the proposed development site. Construction materials such as concrete and steel will follow the same transport route as the delivery route for the turbines from both north and south of the N69 to the proposed development site.

4.0 Planning Authority's Decision

4.1. Decision

4.1.1. Kerry County Council refused planning permission for the proposed windfarm and associated works for six separate reasons which are set out in full below.

1. *Having regard to the impact of the proposed development on the "Bohergarranban" "Whitehorse Ridge" or "Monks" Road/Togher which physically links the ecclesiastical complex at Rattoo and the church, graveyard and ecclesiastical enclosure at Dysert, the significant visual impact on both ecclesiastical sites and the wider medieval landscape, the potential for previously unrecorded archaeological features, strata and artefacts to be encountered during works associated with the proposed development and the likely impact (visual) and possible impact (noise) on Rattoo Tower, which is a national monument, it is considered that the proposed development would be contrary to Development Objectives H26, H28 and H29 of the Kerry County Development Plan 2015 and would be contrary to the proper planning and sustainable development of the area.*

2. *It is considered that the visual impact arising from the proposed windfarm, would seriously interfere with views of historic landscape and its component constituents, would detract from the character and setting of protected structures and would cause irreparable damage to the historic landscape in this area. The proposed development would be detrimental to the visual, landscape and tourist amenities of the area, including views to and from Rattoo Tower, from the R551 Regional Route which forms part of the Wild Atlantic Wild Way touring route and from Ferrybridge over the Cashen which is listed as a protected view in the Kerry County Development Plan 2015. Therefore, the proposed development would materially contravene*

Development Objectives ZL-1 and ZL-5 of the Kerry County Development Plan 2015 and would be contrary to the proper planning and sustainable development of the area.

3. *Having regard to the location and scale of the proposed windfarm and proximity to existing dwellings, it is considered that the proposed development, notwithstanding the mitigation measures proposed, would seriously injure the amenities of property in the vicinity by reason of operational noise, visual impact and general disturbance. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.*

4. *The Planning Authority is not satisfied that the proposed development would not negatively impact on the ability of waterbodies in the vicinity of the proposed windfarm to achieve the relevant water quality status required under the Water Framework Directive and it is not satisfied that the excavation of the proposed borrow pit and infilling of same with large volumes of peat would negatively impact on the local hydrogeology. The proposed development would, therefore, materially contravene Development Objective NE-15 of the Kerry County Development Plan 2015, would be prejudicial to the protection of water resources and natural heritage and would be contrary to the proper planning and sustainable development of the area.*

5. *The site of the proposed windfarm development is located in a wetland and grassland area used by waterbirds associated with the Cashen Estuary pNHA, including a nationally important wintering population of Annex I listed Whooper Swans. Having regard to the deficiencies in the details provided in the application, including in relation to the use of the land by birds during and after times of flood, noise and vibration impact assessment and that the need for compensatory Whooper Swan enhancement lands located outside the identified site and landholding maps submitted, the Planning Authority is not satisfied that the proposal would not adversely impact on waterbird populations of importance in the area. It is therefore considered that the proposed development would, materially contravene Development Objective*

NE-13 of the Kerry County Development Plan 2015 and would be contrary to the proper planning and sustainable development of the area.

6. *On the basis of the information provided with the application, particularly in relation to lack of details on*

   (a) the provision of effective construction phase water quality protection measures during times of flood,

   (b) the use and importance of the windfarm site and study area by otter,

   (c) the possible use of importance of the windfarm site and study area by Hen Harrier breeding in the Stacks and the Mullaghereirks, West Limerick Hills and Mountain Eagle SPA,

   (d) the possibility of movement between the Cashen Estuary Whooper Swan herd and that associated with the Tralee Bay Complex SPA,

   and notwithstanding the proposed mitigation measures outlined, the Planning Authority is not satisfied that the proposed development individually, or in combination with other plans and projects, would not result in adverse effects on the integrity of the Lower Shannon SAC, the Tralee Bay Complex SPA or the Stacks and Mullaghereirks, West Limerick Hills and Mountain Eagle SPA, in view of the site's conservation objectives. In such circumstances it is considered that the proposed development would materially contravene Development Objective NE-11 of Kerry County Development Plan 2015 and that the Planning Authority is precluded from granting planning permission for the proposed development.

4.2. **Planning Application**

4.2.1. The planning application was lodged on 14th December, 2021.

4.2.2. The planning application was accompanied by an Environmental Impact Assessment Report (assessed and evaluated in a separate section below), and an NIS (assessed and evaluated in a separate section below).

4.2.3. Letters of consent from the various landowners associated with application site accompanied the application.

4.2.4. Details of pre-planning consultation are also contained on file. It is stated that following a presentation on behalf of the applicants the following issues were identified as being important in determining the application.

- The visual impact particularly in the context of Rattoo Tower.
- Archaeology.
- Geotechnical considerations particularly in relation to impact on peat.
- Potential dust, noise and vibration associated with the borrow pit.
- The options for the grid connection.
- The acknowledgement that the area is sensitive in terms of ecology and that an ecological report is to be submitted in addition to the NIS.

4.2.5. Other information submitted with the application included:

- The planning application form.
- The newspaper and site notice.
- The EIA portal confirmation (ID 2021264).
- Planning application drawings including drainage drawings.
- Planning application fee.

4.3. Assessment by Planning Authority

4.3.1. Observations

An observation from **Transport Infrastructure Ireland** stated that it had no observations to make in respect of the proposed development.

A report from the **County Archaeologist** notes the presence of one monument within the windfarm site KE009088 which includes a *togher* or road that runs across the Dysert Marshes from the ecclesiastical complex at Rattoo towards an early ecclesiastical site at Dysert adjacent to the River Feale. The togher or road is in close proximity if not directly impacted upon by the hardstanding of Turbine No. 1. The proposal and providing floating roads as a mitigation measure passing over the togher is questionable in terms of its effectiveness.

The report also identifies two further monuments which are in close proximity to aspects of the proposed development KE016005 an enclosure in Farrandeen Townland has been levelled with no above ground trace visible on the Ordnance Survey (first edition 6") map. A proposed road leading to the proposed substation and borrow pit passes through the zone of notification around this monument. Similarly the proposed cable route from the windfarm substation to the ESB substation at Clahane passes through a zone of notification around the recorded monument KE016043 a ringfort site. Any works undertaken within the zones of notification require the National Monument Service to be notified in writing of the proposed works.

Concern is expressed that there is a lack of proposed mitigation around the works to be undertaken other than the monitoring of groundworks and this is considered insufficient given the identified potential for subsurface archaeological features and artefacts. Concern is also expressed in relation to the size and scale of the turbines in proximity to the Rattoo Ecclesiastical Centre. The report does not discuss the archaeological landscape as a coherent entity as there are two early ecclesiastical sites linked by a road/togher through the subject site. It is considered that the proposed windfarm impacts both on the physical and visual connection between the two ecclesiastical sites at Rattoo and Dysert and will also significantly alter the landscape setting of these monuments and the wider medieval landscape around Lixnaw. On the basis of the above it is argued that this application should be refused.

A submission from the **Irish Aviation Authority** states that in event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to

(i) Agree the aeronautical obstacle warning light scheme for the windfarm development.

(ii) Provide as constructed co-ordinates with the mean sea level tip height elevations at each wind turbine location.

(iii) Notify the authority of intention to commence crane operations within 30 days prior to the notification of the erection.

A submission from **An Taisce** expresses concern in respect of the impacts of the proposed development on the early medieval ecclesiastical settlement of Rattoo. A

separate letter from An Taisce also indicates that the application requires assessments on impacts to European sites as well as to the Whooper Swans and a wider variety of swans in the area.

A report from **Inland Fisheries Ireland** states that the chief concern of IFI in relation to the proposed development is the protection of inland fisheries. This includes both the instream and riparian habitat and the water quality of the bordering River Brick and River Feale waterbodies both of which provide important habitats and transit areas for both salmonids and lamprey. Of significant to the IFI is that the proposed development will necessitate the continuation of the current drainage/watercourse management scheme thereby preventing the future restoration of the bog complex. IFI are concerned that the proposed peat stripping of the site and the reuse of this material within the development and the potential for significant nutrient loss from this activity. The proposed mitigation measures focus on suspended solids and while silt settlement ponds will likely retain heavier suspended solids, they only have limited retention for dissolved nutrients such as ammonia.

Should planning permission be granted, the submission sets out a suite of mitigation measures to be employed during the construction phase in order to protect watercourses. This include the provision of a construction and environmental management plan.

- Details of the proposed settlement ponds.
- Measures to prevent erosion and reduce silt run-off potential.
- Details in relation to proposed water crossings.
- And other mitigation measures to avoid contamination during construction.

A report from **Failte Ireland** notes the Kerry County Council Renewable Energy Strategy and the Draft Kerry County Development Plan 2022 – 2028. It notes that the area in question (Area 23) would be sensitive to wind energy development and it is considered that the majority of this area has reached its capacity to absorb additional wind energy development. It is also noted that the proposed development would be situated in close proximity to Rattoo Round Tower which is a unique Irish round tower due to its unique carving and moulding features. Failte Ireland therefore respectfully request that the potential for impacts on tourism and amenity value of

the area as there is result of the proposed development be given due consideration in determination of the application.

A report from **The Department of Housing, Local Government and Heritage Development Applications Unit** recommends a refusal of planning permission on archaeological grounds, taking into consideration the sensitivity of the existing landscape, the significance and importance of the protected archaeological heritage in this area and the proposal to carry out a development of the nature and scale proposed is considered to be inappropriate and unsustainable.

The detailed reasons for refusal include:

- The significant negative impact on the setting and amenity of national monuments.
- Problems with the visual impact assessment of the national monument at Rattoo and the absence of an assessment of noise impact in relation to this monument.
- The negative impacts on the wider archaeological landscape and in particular the monuments in the area.
- The proposed development would be contrary to the many of the policies and objectives contained in the Kerry Development Plan in relation to the protection of archaeological heritage.

Internal Planning Authority Reports

A report from the **Environment Section** notes that they are aware that some of the development site is subject to regular flooding. Notwithstanding the mitigation measures outlined in the planning documentation to prevent sediment laden water impact on watercourses, it is highly likely that much of the mitigation measures will be overwhelmed by flooding events should such flooding event occur during the construction phase of the proposed development. There are concerns in relation to the potential impact on the temporary storage of such large volumes of peat on peatland and the management of any sediment laden water from these peat storage areas. There are further concerns in relation to the placement of such large volumes of peat into the proposed limestone borrow pit and the potential impact that the

placement of this peat may have on local hydrogeology. It is noted that the water quality status of the River Brick waterbody catchment is currently unknown and therefore it is unclear whether this particular waterbody is at risk of not achieving the required Water Framework Directive quality status. The Cashen waterbody is currently classified as poor and at risk of not achieving the required water framework directive quality status. Thus, the Environment Section of Kerry County Council have strong reservations in relation to a number of aspects of the proposed development. The Environment Section therefore cannot be satisfied that the proposed development will not negatively impact on both the waterbody's ability to achieve the relevant water quality status required under the Water Framework Directive and cannot be satisfied that the placement of such large volumes of peat in the proposed borrow pit will not negatively impact on the local hydrology. On the above basis the Environment Department are not in a position to recommend approval for this application.

A report from the **Listowel Roads Office** recommends further information in relation to:

- Details of the proposed development boundary.
- Details of the proposed haulage route and further details in relation to the proposed grid connection route.

A report from the **Executive Planning (Conservation) Officer** provides details of the built heritage surrounding the application site including protected structures in the wider area. The report also details the built heritage planning policy as set out in the Development Plan. It is considered that the EIAR submitted is deficient in terms of its analysis of the impact of the proposed development on protected structures. It is considered that the development will contravene internal charters, conventions and national guidelines as well as development plan guidelines and on this basis it is recommended that permission be refused as the visual impact would seriously interfere with views of a historic landscape and its component constituents and would detract from the character and setting of protected structures and would cause irreparable damage to the historic landscape in this area and would dominate the immediate historic settlement.

Third Party Submissions

Circa 140 third party submissions were received objecting to the proposed development. The submissions raised a wide range of concerns in respect of ecology, particularly protected species, hydrology, contravention of development plan policy, impact on historic and archaeological landscape, impact on peatlands, impact on visual and residential amenity, flooding concerns, impact on wetland habitats, adverse impacts on tourism and a variety of other lesser concerns.

The Planners Report

The planner's report details the proposed development and the planning context pertaining to the site and the various submissions and observations received by third parties, prescribed bodies and internal reports in respect of the application. The report goes on to assess the content of the EIAR submitted with the application. It concludes that the EIAR submitted does not adequately identify and describe the effects of the proposed development on the environment. It is considered that the EIAR is substandard and lacks appropriate detail particularly in relation to the evaluation of the impact of the proposal on the landscape, population, water and heritage. The EIAR also fails to demonstrate that there is an overriding need to use the site in question for wind energy and therefore notwithstanding the need for additional renewable energy projects nationally, it is considered that the precautionary principle should apply in view of the significant environmental sensitivities that relate to the area. It is noted that no issues of significant concern were identified in relation to the proposed grid connection element.

It is also considered that the Planning Authority is not satisfied that the proposed development would not negatively impact on the ability of waterbodies in the vicinity of the proposed windfarm to achieve the relevant water quality status required under the Water Framework Directive.

Section 4 of the planner's report undertakes an assessment of the proposed development under the Habitats Directive. It concludes that insufficient information has been provided in the AA screening report to rule out the possibility of significant effects on the Whooper Swan population of the Tralee Complex SPA and it is considered that there is insufficient information submitted with the NIS and the wider application to rule out adverse impacts on the otter, a qualifying interest associated

with the Lower River Shannon SAC (Site Code: 002165). Overall, it is considered that additional survey data is required to evaluate the use and importance of the site and surroundings by otter to determine any likely impact on this particular species. Furthermore, the Planning Authority is not satisfied that the potential for water quality impacts has been adequately addressed.

The AA submitted as part of the application has not specifically evaluated the significance of the proposed development being potentially located within the maximum foraging range of the Hen Harrier associated with the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mountain Eagle SPA site. The AA submitted as part of the application has not specifically evaluated the validity or significance of the movement between the Cashen Whooper Swan herd and the Lough Gill herd which forms part of the Tralee Bay Complex SPA. This issue is not adequately addressed in the EIAR submitted also.

Therefore in conclusion it is considered that there is reasonable scientific doubt that the proposed development if permitted would adversely affect the integrity of the three Natura 2000 sites in the vicinity namely:

- The Lower River Shannon SAC.
- The Stack's to Mullaghareirk Mountains, West Limerick Hills and Mountain Eagle SPA.
- The Tralee Bay Complex SPA.

Section 5 of the report contains the planning assessment.

In relation to the principle of development the report acknowledges that there is a need for increased renewable energy projects nationally and that the subject site is located in an area designated as open for consideration for windfarm development. However, it is noted that the landscape character assessment which underpins the Kerry Renewable Energy Strategy outlines particular constraints associated with the landscape in question including listed protected views from the Ferrybridge, Rattoo Round Tower and potential flood issues.

With regard to procedural matters Kerry County Council are satisfied that the applicant did erect notices securely in accordance with requirements and that the

applicant was of the opinion that some of these signs were being purposely removed.

Concerns expressed in the planner's report in relation to the potential impact of the proposed development on water quality and biodiversity and the fact that the Council cannot conclude with certainty that the proposed development will not have an adverse impact on European sites. Furthermore, the planning authority considers that the proposal would be seriously detrimental to the archaeology and cultural heritage and landscape of the area and that the information submitted with the application did not adequately consider the visual impact of the windfarm proposal particularly in respect of residential amenity and the likely impact of the proposal in terms of operational noise and general disturbance. Thus, the planning authority does not consider that the proposal would be in accordance with the proper planning and sustainable development of the area. Having regard to the above, it is recommended that planning permission should be refused for the proposed development. On this basis Kerry County Council refused planning permission for the proposed development based on the reasons and considerations set out below.

5.0 **Planning History**

Details of the relevant planning applications within the red line boundary of the application site are set out in the table below:

PL. Ref	Description of Development	Decision
94/1484	Erection of a dormer bungalow dwelling	Granted 03/02/1995
05/1608	2 dwellings, septic tanks and percolation areas	Granted 21/10/2005
05/2036	House and domestic garage/storage area and associated site works	Granted 12/09/2005
05/3509	House and domestic garage/storage area and associated site works	Granted 24/01/2006
06/264	House, domestic garage and septic tank	Granted 31/07/2006
06/550	Construction of house, domestic garage and septic tank	Granted 09/10/2006
07/879	Demolish 2 existing slurry pits. Construct an easy feed wintering unit for livestock incorporating underground slurry tanks and ancillary concrete hardstanding. Construct a milking parlour and dairy complex.	Granted 01/06/2007
08/1431	Permission consequent on outline permission to build a house, septic tank and percolation area (planning ref no. 05/1608).	Granted 10/09/2008

In relation to wind energy applications within 20 km of the subject site, the following applications are of relevance:

Planning Ref.	Development Description	Decision
Ballylongford Windfarm		
17/902	Windfarm consisting of 8 turbines	Refused by KCC, decision to refuse upheld by ABP (300368-17) 08/01/2019
19/381	Windfarm consisting of 6 turbines	Refused by KCC Granted by ABP (304807-19) 06/01/2020 Not constructed to date
Shronowen Windfarm		
SID 08.309156	12 Turbines, substation and grid connection	Decision pending
Tullahennel Windfarm (comprising of Tullahennel South, Tullahennel North and Larha windfarm)		
08/2086	Two Turbines	Granted KCC 11/05/2009 constructed
08/2500	Two Turbines	Granted by KCC 11/05/2009 Constructed
09/1175	9 Turbines substation anemometer and access roads	Granted by KCC 29/09/2009 Constructed
15/725	Extend the operational life of the windfarm from 20 to 25 years granted under 09/1175	Refused by KCC 12/10/2015
17/1146	Extend the operational life of the windfarm from 20 to 25 years granted under 09/1175	Granted by KCC 22/02/2018
Tylagh Windfarm		
02/2133	4 wind turbines meteorological mast, associated access road and control building	Granted 21/11/2003 4 turbines constructed
02/92123	Extension of duration for permission granted under 02/2123	Granted 10/11/2008
12/169	Construct 2 turbines with a max blade tip height 79.6m	Granted KCC, decision to grant upheld by ABP 01/05/2013 (08.241171) No Turbines constructed
Ballincollig Hill		

02/3135	15 wind turbines (total height not exceeding 76m)	Granted by KCC, decision to grant upheld 18/06/2004 (08/204645) 8 Turbines constructed
02/93135	Extension of duration for 02/3135	Granted KCC 08/06/2009
Stacks Mountain		
03/1749	4 wind turbines, meteorological tower, control building and access roads	Granted by KCC 09/01/2004
03/91749	Extension of duration for 03/1749	Granted by KCC 08/01/2009
Knocknagoum/Maghanknockane		
03/886	Construction of 7 no. 2MW turbines (78 m hub height and 80m blade diameter)	Granted by KCC 24/02/2004
03/2676	6 no. 2 MW turbines (78m hub height and 80m blade diameter)	Granted by KCC 28/07/2004
03/9886	Extension of duration for 03/886	Granted by KCC 07/04/2009
03/92676	Extension of duration for 03/2676	Granted by KCC17/09/2009
10/874	Construction of 9 turbines	Granted by KCC 05/07/2011
11/912	Construction of 15 turbines	Granted by KCC 06/06/2012 Constructed
Beennageeha		
98/487	6 Turbines	Granted by KCC 26/04/2016 Operational
Pallas/Clahane		
01/2720	26 turbines and ancillary works	Granted by KCC upheld by ABP (08.130918) 17/04/2003 26 Turbines Constructed
01/92720	Extension of duration	Granted by KCC 22/02/2008
01/87220	Second extension of duration granted under Ref 10/2720	Granted by KCC 21/06/2013
08/471	Single turbine hub height 65m rotor diameter 72m	Granted by KCC 28/05/2008
08/1461	3 turbines hub height 65m rotor diameter 72m	Granted by KCC 22/05/2009
11/571	Relocate proposed turbine granted under 08/471 to a new location 127m to the west	Granted by KCC 19/01/2012
Beale Hill		

97/2365	7 Turbines, control house, anemometer and access road	Granted by KCC 19/10/1998 6 constructed
99/30	Change of turbine to a 1.65 MW turbine from that granted under 97/2365	Granted by KCC 05/03/1999
04/1065	Erect 2 vesta v52 wind turbines and extension to existing substation infrastructure	Granted by KCC 09/06/2004
04/91065	Extension of duration of permission	Granted by KCC 17/07/2009
09/689	2 no. vesta v52 turbines with 55m towers and substation	Granted by KCC 09/11/2009 2 turbines constructed
09/9689	Extension of duration for 09/689	Granted by KCC 17/11/2014
14/163	Erect 2 turbines (vestas v52) having a maximum ground to blade height of 91m	Refused by KCC 23/05/2014
Cahercullanagh		
03/1284	17 Turbines and ancillary works	Granted by KCC 17/02/2004 11 Turbines constructed
03/91284	Extension of duration of 03/1284	Granted by KCC 30/03/2009
03/991284	2nd extension of duration of permission of 03/1284	Granted by KCC 08/10/2012
05/1961	Construct 5 vesta v52 turbines and all works	Granted by KCC 25/10/2006 Not constructed
05/3286	Construction of 1 vesta v52 turbine with a power output of 0.85mw	Granted by KCC 31/01/2007 Not constructed
05/991961	Extension of duration for 05/1961	Granted by KCC 25/10/2006
07/595	Construction of 2 turbine and ancillary works	Granted by KCC 16/05/2007
07/9595	Extension of duration for 07/595	Granted by KCC 19/12/2011
Muingnaminane		
01/635	Construction of 21 turbines, access roads anemometer mast and control house.	Granted by KCC and decision upheld by ABP (08.130019) 05/11/2002
01/9635	Extension of duration for 01/635	Granted by KCC 08/01/2008
Windfarm at Urlea		

98/3014	4 wind turbines and associated electrical and control building	Refused by KCC, the decision to refuse was upheld by ABP (08/119245) 27/11/2000
Aghamore North		
15/341	Single Turbine 92.5 m in height	Granted by KCC, decision to grant upheld by ABP under (08.245921). Not constructed
Drommadda Beg		
01/2719	Windfarm consisting of 3 no. 1MW turbines	Granted by KCC 19/06/2002
01/92719	Extension of duration for 01/2719	Granted by KCC 09/09/2007
01/992719	Extension of duration for 01/2719	Granted by KCC 20/07/2012
13/544	Windfarm comprising of 3 turbines and ancillary works	Granted by KCC decision to grant upheld by ABP under 08.243573 on 08/12/2014
Dromadda More		
04/2947	Erect 10 no. 2 MW turbines with hub height of 82m and a rotor diameter of 82m max. 1 60 m wind monitoring mast, access roadway and a control house	Granted by KCC 11/11/2005
04/92947	Extension of duration for 04/2947	Granted by KCC 04/10/2010
10/571	Construct 10 turbines with max overall height of 145m with electrical substation and all associated works	Granted by KCC 20/05/2011 10 Turbines constructed
10/692	Construction of 28 turbines with a maximum height of 135m and ancillary works.	Refused by KCC decision overturned and granted by ABP (08.239473) on 11/05/2012
12/623	Provision of an additional turbine to development granted under 10/692	Granted by KCC 22/11/2012 1 turbine constructed
Knocknacaheragh		
03/562	Construct 2 turbines and all ancillary works	Granted by KCC 22/12/2003 2 Turbines constructed
Moyvane		
11/293	Erect 2 no. 500kw wind turbines	Refused by KCC 07/06/2011
13/106	Erect 2 no. 500kw wind turbines, electrical substation, access roads and ancillary works	Granted by KCC decision to grant by ABP upheld (08.242798) 30/04/2014

		1 turbine constructed
13/9106	Extension of duration for 13/106	Granted by KCC 26/03/2019
Beenananaspuck		
14/571	Construct 3 Turbines with max height of 125m, new site service roads, underground cabling and all associated infrastructure	Granted by KCC decision to grant upheld by ABP under (08.245464) on 09/09/2015
Kilathomoy-Toberatooreen		
12/431	Construct 7 turbines with max height of 125m, a met mast, substation upgrading of access roads and underground cabling.	Granted by KCC, decision to grant upheld by ABP (08.242170) on 12/11/2013. 4 turbines constructed
Curraghderrig		
06/3997	Construction of 2 turbines with hub height of 64m and rotor diameter of 71m	Refused by KCC decision overturned and granted by ABP (08.211493) on 01/10/2007.
06/93997	Extension of duration for 06/3997	Granted by KCC 27/11/2012 2 turbines construction
Cloghaneleskirt		
02/2011	Erect 5 no. wind turbines, 40m wind monitoring mast (temporary) service roadways and control house	Refused by KCC 03/10/2002
03/1264	Construct 5 no. 2 mw wind turbines 1 no. 60m wind monitoring mast (temporary) service roadway and control house	Granted by KCC 15/12/2003 5 turbines constructed
03/991264	Extension of duration for 03/1264	Granted by KCC 07/10/2015
Tursillagh 1		
97/1865	Construction of 23 turbines and ancillary works	Granted by KCC decision to grant upheld by ABP (08.105339) 14/07/1998 23 turbines constructed
Tursillagh 2		
01/390	Construction of 8 turbines and ancillary works	Granted by KCC decision to grant upheld by ABP (08.126623) 09/05/2002 8 turbines constructed
Leanamore		
11/299	Erect 9 turbines with a max height of 125m, met mast, substation, upgraded internal access roads and underground cabling.	Refused by KCC, decision overturned and granted by

		ABP under (08.239233) 09/05/2002
Toberatooreen		
12/431	Construct 7 turbines with a max height of 125m and all associated infrastructure	Granted by KCC decision to grant upheld by ABP (08.242170) granted on 12/11/2013 4 turbines constructed (3 turbines omitted by ABP by condition)
Ballyhorgan		
14/13	Erection of 10 wind turbines with a max height of 156.5 m and all ancillary works	Refused by KCC decision overturned and grant by ABP under (08.244066). Subsequently quashed by JR. Subsequent application under ABP 301852-18 granted by ABP 23/12/2021
Meenbannivane		
11/771	Construct 1 turbine	Refused by KCC 10/11/2011
Cloghboola		
00/4099	Construct 24 wind turbines, service roadways, switchgear/ transformer compound, borrow pit, control house and meteorological mast	Granted by KCC 10/06/2002
00/84099	Extension of duration of 00/4099	Granted by KCC 12/01/2007
00/94099	Extension of duration for 00/4099	Granted by KCC 05/05/2010
00/994099	Extension of duration for 00/4099	Granted by KCC (date ?)
08/1454	Erect 20 wind turbines of 125m overall height, extension of existing site roads and control building as an amendment to planning reference 00/4099	Refused by KCC 01/07/2009
10/616	Erect 20 wind turbines of 125m overall height, extension of existing site roads and control building as an amendment to planning reference 00/4099	Granted by KCC 30/03/2011 16 turbines constructed
Breehva (Co. Clare)		
00/2417	Construct 4 turbines control building and ancillary works	Granted by CCC, decision to grant upheld by ABP on 03/09/2004
09/911	Extension of duration	Granted by CCC 13/10/2009

6.0 **Grounds of Appeal**

6.1. The decision of Kerry County Council to issue notification to refuse planning permission for 6 separate reasons was the subject of a first party appeal on behalf of the applicants by MKO Environmental Consultants. The grounds of appeal are summarised below.

6.2. Section 1 of the grounds of appeal sets out an introduction providing details of the site location and planning history associated with the subject site. Details of the development layout and national local policy as it pertains to the development and renewable energy in general is also set out in the grounds of appeal. In relation to the draft Kerry County Development Plan, it is noted that following a review of the draft plan, the subject lands which were previously open for consideration for wind farm development are now not covered by any wind energy zoning objective. The Council have in fact reduced the area zoned for wind energy to the west of the N69. It is noted that the Office of the Planning Regulator has made a submission on the draft plan and recommends that Kerry County Council review this draft plan in the context of the government's commitment in the Climate Change Action Plan (2021) to achieve 80% of electricity from renewable sources by 2030.

6.3. The grounds of appeal go on to set out the reasons for refusal cited by the Planning Authority and the various internal reports prepared by the County Archaeologist, the Conservation Officer, the Environment Section and the Listowel Roads Department all of which informed the planning report[2].

6.4. Section 4 goes on to specifically address the issues raised in each of the Planning Authority's reasons for refusal and these are set out in more detail below.

6.5. **Reason for Refusal No. 1**

6.5.1. The first reason for refusal primarily relates to archaeological issues and concerns that the proposed development would be contrary to various objectives contained in the development plan H26, H27 and H29 in that the proposed development would have a significant adverse visual impact on ecclesiastical sites and the wider

[2] Details contained in these report are summarised above.

medieval landscape and could also result in a possible adverse noise impact on Rattoo Tower.

6.5.2. In relation to the potential noise impact at Rattoo Tower it is stated that AWN Consultants carried out the noise assessment chapter in the EIAR and it is considered that the noise assessment undertaken is wholly robust. It is considered that the amenity of the tower would not have a higher noise sensitivity than a residential dwelling. Applying this criteria the results show that the predicted turbine noise levels are 10 to 12 dB below the comparable noise criterion. It is therefore considered that no noise impacts would arise on the tower as suggested in the reason for refusal.

6.5.3. With regard to the impact of the proposed development on the old medieval roadway/togher, it is stated that this physical link between two ecclesiastical sites is a medieval roadway identified in the first edition of the ordnance survey map (1829 to 1842). However, a site visit carried out in March 2022 determined that there is no obvious visible remains of this togher or any other remaining vestiges of a physical link within the existing landscape. The route cannot be seen or physically experienced within the proposed development site. To insinuate that the proposed development will have an impact on something that cannot be currently experienced in any physical or visual sense is a tenuous statement. The only current physical or visual indication of the togher within the landscape is a very faint line visible on aerial satellite imagery towards the north-west of the route. The togher road itself is not currently distinguishable on the ground given the level of modification of the landscape within which it is located. A recent site investigation found no evidence of physical trails existing along this part of the route.

6.5.4. The footprint of the proposed development overlaps the route of the togher road at two locations. The proposed hardstanding for T1 is also located in close proximity to the monument. The other location is the access road to Turbine 2. The impacts will be localised and relatively minor in comparison with other previous modifications which have taken place including cutover peatland, provision of local roads and use of the land along the alignment for agriculture. Furthermore, the use of a floating roadway will avoid the necessity to excavate the existing landform and land cover. Therefore, no excavation is required in the vicinity of the togher as a result of this

road construction. There will therefore be no excavation required in the vicinity of the togher as a result of the road construction. The mitigation measures in the form of pre-development archaeological testing and an implementation area around the buffer zone at T1 will ensure that no adverse impacts arise on the togher. A 10 metre buffer zone will be established between the unclassified togher and the hardstanding for T1.

6.5.5. With regard to the wider medieval landscape, it is noted that the presence of a togher/road and physical link between two ecclesiastical sites has not caused Kerry County Council to designate the area as being of significant archaeological interest. It is reiterated that the area to which the site is located has been heavily modified through peat cutting, agricultural land use, commercial forestry etc. While it is acknowledged that the togher/road does have cultural heritage value, its value is substantially reduced as it is not visible and not accessible to the visitor.

6.5.6. If the Board deem it suitable and appropriate, the applicant is willing to provide interpretive information boards which could help inform local residents, tourists and archaeological enthusiasts about the existence of the road.

6.5.7. The grounds of appeal go on to access the Rattoo site in the context of the proposed development site. It is argued that due to the topography and dense vegetation, there will be limited visibility of the proposed development in conjunction with the Rattoo Tower from receptors to the south and east of the Rattoo site. Attached are additional photomontages taken from various locations around Rattoo Tower demonstrating that the visual impact from a number of perspectives show that there is little visual relationship or visual connectivity between the Round Tower and the proposed site. The extent to which the proposed development such as a windfarm can impact on the visual amenity of the area depends on multiple factors including a combination of the nature of the visual receptors, the nature of the visual effects and the magnitude of visual effects. It is suggested that the photomontages and overlaid wire frames as depicted in the grounds of appeal demonstrate that the large landscape setting of Rattoo Round Tower and the ecclesiastical site is capable of accommodating a wind energy development of the scale proposed. From locations in close proximity to the Round Tower such as that shown in the photomontages, it is clear that the turbines of the proposed development do not appear taller than the

tower and this eliminates the potential for domineering effects from vantage points in the vicinity of the tower. It is stated that the landscape where the proposed development is located and the contribution this area makes to the setting of the Rattoo site is of low value. The site cannot be considered a sensitive landscape. While it is acknowledged that the addition of the proposed development will change the character and setting of the Rattoo site, this is an acceptable level of change given the baseline conditions of the area and the policies contained in the Kerry County Development Plan pertaining to the area.

6.5.8. The Dysert ecclesiastical site is located approximately 1.8 metres to the east of the nearest proposed turbine (T4). It is argued that the road leading up to this site is heavily screened by roadside vegetation. The addition of the proposed development will change the setting of the site through the addition of tall vertical elements in the form of turbines. However, it is argued that the proposed turbines are only visible within background views of the site and do not obstruct the view of the site.

6.5.9. It is therefore concluded that key features associated with the wider medieval landscape will not experience a significant visual impact as a result of the proposed development. It is noted that there are no designated archaeological landscapes located within 15 kilometres of the proposed development. It is also noted that the subject site, notwithstanding the fact it is referred to as a medieval landscape is an area which is open for consideration for windfarm development.

6.5.10. With regard to previously unrecorded archaeological features, it is acknowledged that there is the potential for the existence of subsurface archaeology within the proposed development site. Pre-development archaeological testing of all elements of the proposed development is recommended as a mitigation and this is clearly identified in Chapter 12 of the EIAR.

6.6. **Reason for Refusal No. 2**

6.6.1. The second reason for refusal considers that the visual impact arising from the proposed windfarm would seriously interfere with views of the historic landscape and its component constituents.

6.6.2. It is stated that the proposed development will not cause significant residual visual effects from various protected structures referred to in the Conservation Officer's report including, detached house, Bushmount House, the Old Court, Lixnaw Bridge

and St. Michael's Catholic Church. Furthermore, in relation to the Kerry monument, (which is located on the northern outskirt of Lixnaw), it is stated that this is no longer an existing structure and the site of the structure is currently an active quarry. This feature offers little by way of contributing to the uniqueness or value of the historic landscape. The grounds of appeal go on to assess the visual impact of the proposed development on the setting and context of:

- The thatched house at Finuge crossroads c.5 kilometres to the east of the subject site.
- Bushmount House c.3.4 kilometres from the nearest turbine.
- The Old Court in Lixnaw and Lixnaw Bridge and St. Michael's Catholic Church all of which are located in the environs of Lixnaw.

6.6.3. It is argued that there are no clear cut views of the wind turbine from many of these vantage points and the Old Court House and canal do not have public access and their sensitivity as visual receptors are substantially diminished. It is argued that some of the locations within Lixnaw Village are screened by the existing built environment of the surrounding village and that the wind turbines located in excess of 2 kilometres away and will not provide a dominant feature within the landscape when viewed from the confines of the village.

6.6.4. Views from Rattoo House (adjacent to Rattoo Tower) is also well screened from the proposed development resulting in the development not having a significant impact.

6.6.5. The second reason for refusal also argued that the proposal would be detrimental to the visual landscape and tourist amenities of the area particularly views to and from Rattoo Tower, the R551 Regional Road which forms part of the Wild Atlantic Way and from Ferrybridge which is a protected view. The Board are requested firstly to note that the proposed development is not located in an area deemed to be important for scenery, tourism or recreation as designated in the development plan. The grounds of appeal go on to assess the impact of the proposed development from views to and from Rattoo Tower. It concludes that the impact of the proposal on the tourism value of Rattoo Tower would not be significant. It is also noted that the R551 Regional Road forms part of the Wild Atlantic Way between Ardfert and Ballyheigue. It is evident that there are likely to be intermittent views along this

section of roadway. It is considered that the proposed development will not have a significant effect on the Wild Atlantic Way. There will be 'extremely limited' to 'no visibility' of the proposed development from sections of the Wild Atlantic Way in the vicinity of the site.

6.6.6. The view from Ferrybridge was assessed in detail in the EIAR and the residual visual effect was deemed to be moderate. The Renewable Energy Strategy for County Kerry notes that the area in which the subject site is located is 'open for consideration'. It notes that the view from Ferrybridge should be considered as a constraint rather than a barrier to wind development. As it stands the turbines are approximately 3.2 kilometres from the bridge and this substantially reduces any potential impact for domineering effects.

6.6.7. On the basis of the above, it is not accepted that the proposed development located in an area where manmade structures and development exist would detract from the character and setting of protected structures or that irreparable damage would be caused to the landscape. It is clear that the landscape in which the site is located is a landscape of change and ongoing development. There is no overriding reasons to justify a refusal of the proposed development on the basis of the reasoning set out in the second reason for refusal.

6.7. **Reason for Refusal No. 3**

6.7.1. The third reason for refusal stated that the proposed windfarm and its proximity to existing dwellings notwithstanding the mitigation measures proposed would result in a serious injury to the amenities of property in the vicinity by reason of operational noise, visual impact and general disturbance. In response the applicant argues that the EIS comprehensively demonstrates that the proposed development will not have an adverse impact on residential amenity and can be adequately accommodated in the landscape without significant effects. While visual amenity is a more subjective, shadow flicker noise or quantifiable aspects have been modelled as part of the EIAR.

6.7.2. In relation to shadow flicker the 2006 Wind Energy Guidelines recommend that shadow flicker at dwellings within 500 metres of a proposed turbine should not exceed a total of 30 hours per year at 30 minutes per day. The closest occupied residential property is located c.677 metres from the nearest turbine location.

6.7.3. Assuming worst case conditions, a total of 39 residential properties may experience daily shadow flicker in excess of the current DoEHLG Guideline threshold of 30 minutes per day. The total annual guideline limit of 30 hours is not exceeded at any occupied property under a worst case scenario. Notwithstanding the above, Ballynagare Windfarm Limited is committed to zero shadow flickers at occupied residential receptors with 10 rotor diameters of the proposed turbines. This will be implemented by wind turbine control measures. No cumulative impacts will arise from other windfarms in terms of shadow flicker.

6.7.4. In relation to noise, AWN Consultant have provided a technical note at the end of the grounds of appeal (see Appendix 4 of grounds of appeal). While it is acknowledged that there will be an increase in noise levels in the vicinity of the proposed development during construction, the grounds of appeal set out the various mitigation measures contained in the EIAR to minimise the amount of noise generated during construction.

6.7.5. With regard to the operational phase, Section 11.3.2.2.1 of the submitted EIAR discusses the relevant guidance and best practice. The modelling indicates that the predicted operational turbine noise levels are within the noise criteria derived from background noise monitoring at noise sensitive locations fully in accordance with best practice.

6.7.6. With regard to visual amenity, it is noted that the current Statutory Wind Guidelines (2006) do not specify minimum setback distance for properties for amenity purposes. They do provide limits that could be conditioned on dwellings within 500 metres of a turbine in relation to shadow flicker and noise. It is noted that all turbines are located in excess of 500 metres from dwellings in the vicinity. The guidelines note that both Planning Authorities and An Bord Pleanála should ensure a setback distance of 4 times the tip height of the relevant wind turbine and the curtilage of any residential property in the vicinity of the proposed development subject to a mandatory minimum setback of 500 metres from that residential property. The proposed development is compliant with the 4 times tip height setback distance.

6.7.7. There is therefore more than adequate setback distances to ensure that the visual amenity of residential receptors is not significantly impacted upon.

6.8. **Reason for Refusal No. 4**

6.8.1. The fourth reason for refusal states that the Planning Authority is not satisfied that the proposed development would not negatively impact on the relevant water quality status required under the Water Framework Directive and is not satisfied that the excavation of the proposed borrow pit and infilling of same with large volumes of peat would not negatively impact on local hydrogeology. The reason concludes therefore that the proposed development would materially contravene Development Objective NE-15 of the Kerry County Development Plan 2015 and would be prejudicial to the protection of water resources and natural heritage in the area.

6.8.2. It is argued that the hydrology of the site is detailed in Chapter 9 of the EIAR. Furthermore Appendix 5 of the grounds of appeal contains a technical note prepared by Hydro Environmental Services. The grounds of appeal argue that this technical note demonstrates that the proposed development will comply with the objectives of the Water Framework Directive and that, with the implementation of mitigation measures outlined in the EIAR, designed to protect both surface and groundwater quality and quantity there will be no change in the Water Framework Directive status in any waters in the vicinity of the windfarm site.

6.8.3. As a result of the Planning Authority's concerns, it is now proposed that none of the excavation of the borrow pit will take place below the water table and it is proposed to line the base of the borrow pit with mineral subsoil spoil allowing the peat to be placed on top of the material thus creating a barrier between the peat spoil and the underlying bedrock aquifer. Limiting the depth of the borrow pit to 3.3 metres OD may result in a shortfall in the amount of material that can be extracted. Therefore additional required aggregates would be sourced from nearby licenced quarries. It has conservatively been estimated that an additional 35,000 m^3 of material may be required for the purposes of construction. On this basis it is estimated that approximately 2,900 additional HGV loads would be required over the 12 month construction period. This would result in an additional 11 HGV trips to and from the site per day. This, it is argued, would only have a small impact on the capacity of the local road network.

6.9.

6.10.

6.11. **Reason for Refusal No. 5**

6.11.1. The fifth reason for refusal stated that there were deficiencies in detail provided in the application in relation to use of lands by birds during and after times of flooding. It is noted that the need for compensatory Whooper Swan enhancement lands located outside of the identified site and landholding maps submitted has resulted in the Planning Authority not being satisfied that the proposal would not adversely impact on waterbird populations of importance in the area. As such, the proposal is contrary to Objective NE-13 of the Kerry County Development Plan.

6.11.2. It is stated that surveys were undertaken on the site when pluvial flooding was a common occurrence throughout 2019, 2020 and 2021 winter seasons. It notes that the majority of Whooper Swan in Ireland are recorded foraging on approved agricultural grassland and it is noted that the majority of the windfarm is sited on peatland habitats which, even during flood events, were noted to be less attractive to birds than surrounding grassland habitats. As noted in Section 7.5.2.4 of the EIAR, no significant collision risks effects are predicted for any species including the Whooper Swan.

6.11.3. The key foraging and roosting sites identified at Ballyouneen, were assessed to be sufficiently distant from the windfarm to avoid significant disturbance and displacement impacts. The nearest proposed turbine is located over 750 metres from key foraging and roosting sites at Ballyouneen. It is noted that there were however a smaller number of birds foraging in the vicinity of Turbines T5 and T7 that could be potentially impacted upon. As part of the grounds of appeal and to ensure that previous surveys remained valid a comprehensive suite of surveys were carried out from August, 2021 to January, 2022 (see Appendix 7 and Confidential Appendix 8) of the grounds of appeal. The additional surveys indicate that Ballyouneen continues to be the key site in the area for Whooper Swan and the grasslands in the vicinity of Turbines T5 and T7 continue to host foraging and roosting birds also. The results of the latter surveys submitted as part of the appeal are not significantly different from the results of the surveys undertaken between April, 2019 and March, 2021. Because of the separation distance between the foraging areas of the Whooper Swans and the nearest turbines at over 750 metres would not result in any disturbance due to shadow flicker.

6.11.4. It is also noted that concerns are expressed with regard to the practicality of implementing an enhancement plan on lands that are not within the boundary of the site. In this regard the applicant has secured agreement in principle with the relevant landowners for the implementation of an enhancement plan. It should be noted that the relevant landowners are involved in the project and fully support the implementation of the enhancement plan. Thus the applicant has no objection to the imposition of an appropriate worded condition requiring a Section 47 Agreement to be provided in the event of a favourable consideration of the current proposal. It is noted that the Board has previously included such conditions.

6.11.5. In terms of collision risk, the grounds of appeal suggest that the high embankments associated with the canal would not in any way impair the flight path of the Whooper Swan. The ability of the birds to avoid a collision is accounted for in the collision risk analysis provided in Appendix 7-5 of the EIAR. A Whooper Swan flying towards a windfarm will avoid a collision 99.5% of the time.

6.12. **Reason for Refusal No. 6**

6.12.1. The sixth reason for refusal issued by the Planning Authority related to the lack of details with regard to:

- The provision of effective construction stage water quality protection measures during times of flood.
- The use and importance of the windfarm site and the study area by the otter.
- The possible use and importance of the windfarm site and study area by Hen Harrier breeding in the Stack's and Mullaghereirks, West Limerick Hills and Mount Eagle SPA.
- The possibility of movement between the Cashen Estuary Whooper Swan herd and that associated with the Tralee Bay Complex SPA.

On this basis, the Planning Authority is not satisfied that the proposed development either individually or in combination with other plans or projects would not result in adverse effects on Natura 2000 sites in the vicinity and as such would be contrary to Development Objective NE-11 of the Kerry County Development Plan.

6.12.2. In relation to the provision of effective water quality protections during the construction phase the Board is again referred to the detailed technical assessment

undertaken by Hydro Environmental Services set out in Appendix 5. It is noted that a flood risk assessment has been prepared and accompanied the EIAR submitted. The risk posed by coastal flooding associated with tidal flooding along the Cashen River Estuary has been reduced with the construction of flood embankments around the proposed development site. The embankments in place have to date no record of a breach failure and appear to be fully effective. The probability of such an extreme flood event occurring the construction phase of the proposed development is considered to be infitismal.

6.12.3. The use and importance of the windfarm site for the otter was fully considered both the EIAR and the NIS. Over 3 kilometres of the main stream and rivers within the site were subject to detailed otter surveys and each of the watercourses crossed by the cable route were also surveyed. While evidence of otter was recorded during the surveys, the EIAR concluded that the project will not result in the loss of any aquatic habitat or mortality of qualifying interests aquatic species. No breeding, resting or foraging sites for otter will be impacted upon by the proposed development. Furthermore, sensitive hydrological features will be avoided where possible with the application of suitable buffer zones. The development therefore has been specifically designed to minimise effects on aquatic habitats.

6.12.4. With regard to the possible use of the windfarm site and study area by the Hen Harrier, it is stated that the site is located further than the core foraging range of the Hen Harrier species (up to 2 kilometres from this SPA). The NIS has taken an extremely precautionary approach to the assessment and assumes that birds recorded on the site may be associated with the SPA. The potential collision risk is considered to be negligible and would to have adverse effects on the SPA in this regard. Section 5.2.3 of the NIS assesses the potential for indirect effects on the SPA in the form of displacement and the barrier effect. The assessment finds that the works at the windfarm do not have the potential to result in adverse indirect effects on species with respect of the barrier effect and displacement. The separation distance between the windfarm site is such that the site would not be expected to be visited by any birds associated with the Stack's and Mullaghereirks, West Limerick Hills and Mount Eagle SPA with any regularity. Hen Harriers are shown to spend most of their time foraging with 2 kilometres of the nest.

6.12.5. With regard to the possibility of movement between the Cashen Estuary Whooper Swan herd and that associated with the Tralee Complex SPA it is stated that the Whooper Swans that were recorded during the surveys are likely to reside locally rather than associated with either SPA. Throughout the winter months the bird were recorded foraging and roosting in the same locations within 5 kilometres of each of the windfarm sites. No regular commuting or migratory flights were recorded that would constitute evidence of connectivity between the SPAs in either area. Given the very low levels of interaction between the flocks there is no potential for adverse effects on the flocks within any SPA as a result of the windfarm.

6.12.6. Section 5 of the grounds of appeal relates to other matters. It goes on to briefly comment on each of the submissions by the statutory consultee comments including those by the:

- Development Applications Unit.
- Transport Infrastructure Ireland.
- The Irish Aviation Authority.
- An Taisce.
- Inland Fisheries Ireland.

6.12.7. The response to the grounds of appeal also addresses many of the issues raised in the various third party submissions to the Planning Authority.

6.12.8. Section 6 of the grounds of appeal set out a summary of the conclusions reached in relation to each of the issues cited in the Planning Authority's reason for refusal. On the basis of the information contained in the grounds of appeal it is respectfully requested that the Board overturn the decision of the Planning Authority and grant planning permission for the proposed development.

7.0 **Appeal Responses**

7.1. It appears that Kerry County Council have not submitted a response to the grounds of appeal.

8.0 Observations

8.1. Observation submitted by the Lixnaw Wind Aware Group

8.1.1. The observation commences by stating that the observer had only 2 weeks in which to formulate an observation due to delays in administrative procedures.

8.1.2. It is stated that peat is an effective sequester of carbon in a more efficient manner than trees. Once the peat is dug it releases carbon adding to the greenhouse gases and climate change. It is estimated that natural peatlands sequestered 0.37 gigatonnes of carbon per annum. The construction of the windfarm will give rise to a significant carbon footprint.

8.1.3. The applicant should be asked to prove that they have the finances to carry out the works prior to any grant of planning permission being issued. Particularly with supply chain issues for raw materials to constructed turbines. Problems with the supply chain is making wind energy more expensive and less reliable as a renewable energy source.

8.1.4. Concern is expressed that the proposed development will adversely impact on the early medieval roadway/togher linking the ecclesiastical sites at Rattoo and Dysert. This view is supported by the County Archaeologist. The view from the church and round tower towards the ecclesiastical site at Dysert will be impacted by the turbines being constructed on flatlands. Currently the view of the round tower at Rattoo is unobstructed with the exception of some forestry but these trees will be harvested and the view of the tower from the garden at Old Court will be restored. The planned North Kerry Greenway linking Listowel with Tralee via Lixnaw will encourage tourists into the area to visit the historic sites. The round tower and Ballyduff are closer to the tourist route of the Wild Atlantic Way and the development will impact on views both from the village of Lixnaw and the tower.

8.1.5. Now that a revised proposal is submitted whereby the borrow pit will not breach the water table, this will result in an additional 11 HGVs using the local road on a daily basis during the 12-month construction period. It is suggested that the roads being local roads, are not sufficient to accommodate this HGV movement and this HGV movement will also have significant impact on the residential amenities of the area.

8.1.6. Concerns are expressed that noise impacts arising from the proposal will have a detrimental effect on residences closes to the windfarm and this could affect their livelihoods and health. The noise associated with the existing anemometer on site has already given rise to significant annoyance to the population in the vicinity of the site. Construction traffic will give rise to significant levels of noise pollution also. Construction traffic will also give rise to fumes and air pollution.

8.1.7. Noise generated by the proposed development will result in the absolute depletion of habitats particularly birds and fauna which frequent the site.

8.1.8. The applicants have not carried out appropriate community consultation in order to address these issues. The observers have always been involved in enhancing wildlife and biodiversity in the area. The proposed development will undermine these efforts.

8.1.9. Concerns are expressed that the proposed development will have adverse impacts on local water bodies and as such the proposed development will be contrary to the EU Water Framework Directive. There has been no independent verification of the water table depth in the vicinity of the site and Kerry County Council are dependent on the developers for this information.

8.1.10. The proposal will have an adverse impact and significantly disrupt wildlife. The area is a breeding ground for marsh fritillary butterfly one of Ireland's few protected butterfly species. Little egrets nest in close proximity to the bog. Many bird species which frequent the area are currently on the red list which face the highest rate of extinction. Both curlews and kestrels are sited in the area which would be affected by the proposal.

8.1.11. Given the close proximity of construction works to the wintering feedings grounds of Whooper Swans it is to inconceivable that noise, vibration and fumes from the material will have an adverse effect on the swans. It is noted that Whooper Swans have a greater potential risk of collision than other bird species.

8.1.12. Both Inland Fisheries Ireland and Kerry County Council have raised issues with regard to flooding during construction. There is a risk of run-off from the borrow pits which could be rich in ammonia. Drained peatlands are rich in ammonia which is detrimental to aquatic life. There are concerns that the proposed development will adversely impact on the otter population of the area and could impact on Hen

Harriers habitat within the Stack's and Mullaghereiks, West Limerick Hills and Mount Eagle SPA. It is noted that the population of Hen Harrier in this SPA has declined by a third over the last 10 years. The disturbance caused by construction and the close proximity of the turbines to these habitats will put pressure on breeding pairs and the foraging of these birds. There is no report of the cumulative effect with other wind turbines in the area on the breeding and foraging areas associated with the species. GPS studies on Irish Hen Harriers show that females forage up to 7.5 kilometres and males up to 11.4 kilometres from nesting sites.

8.2. **Observation by An Taisce**

8.2.1. The An Taisce submission relates to archaeological concerns. It notes that the ecclesiastical site at Rattoo in North County Kerry is a notable and exceptional example of a round tower. It notes that round towers serve as bell towers. Their commanding heights would have carried the sound of ringing bells for considerable distances. They would have also provided refuge against Viking raiding parties. There are only 66 standing examples of round towers in Ireland. In County Kerry there are only three proven examples. The Rattoo Round Tower is in exceptional condition. The doorway of the tower is of particular interest as it is positioned 2.83 metres above ground level. The doorway is round headed with a semi-circular arch consisting of three stores ornamented with a simple curvilinear motif in relief. The tower at Rattoo has been dated by radio carbon methods to the latter 11th century. At the top left hand corner of the interior frame of the north window is a *sheela-na-gig*. These mysterious carvings have been described as fertility symbols or talismanic devices to ward off evil spirits. There are 80 known examples of these in Ireland and are to be found at late medieval and church sites. The presence of a *sheela-na-gig* in a round tower is unique to Rattoo. To the south-west of the tower stands the remains of a rectangular church located in a graveyard together with a 17th century inscribed stone all of which are recorded monuments.

8.2.2. To the east of Rattoo lies the early medieval site of Dysert. There is a recorded togher or roadway connecting the two ecclesiastical sites. This routeway crossed the intervening marshlands that occupied the terrain between the River Feale and the River Brick. The routeway is illustrated in the first edition of the ordnance survey maps referred to as a *'bohergarraunbaun'*. It is also known as '*the white horse ridge'*.

Its trajectory is still discernible over a distance of c.1.8 kilometres. The average width of the togher was 2.75 metres. It is the only contemporaneous proof of the inter-relationship between the two ecclesiastical sites. The integrity of this terrain must be protected. The Rattoo Round Tower is a magnificent example of this monument type. The environs of the host landscape are integral to a proper understanding of these ecclesiastical sites. The long range visual impact of the monument should not be compromised or diminished by any development.

8.3. **Observation from Steve Edwards, Lixnaw, County Kerry.**

8.3.1. This observation also supports Kerry County Council's decision to refuse planning permission for the proposed development. Concern is expressed with regard to the various access roads which will be need to be constructed over the bog to enable the digging of the turbine foundations and the pouring of concrete and the delivery of construction materials etc. This will severely impact on the hydrology of the area and therefore on the flora, fauna and aquatic life that rely on this habitat. There is no independent verification of the depth of the water table and Kerry County Council have relied on the information supplied by developers. The use of floating roads will lead to some areas of the bog becoming compressed and result in areas drying out. This is not addressed in the original planning application or appeal.

8.3.2. Eels are listed as critically endangered species on the International Union for the Conservation of Nature Red List. There is an obligation on countries to guard against pollutants to safeguard eel habitats. Attached to the observation is the IUCN UK Committee Peatland Programme Briefing Note No. 12 which relates to tracks across peatlands. It provides details of the required track structure and construction methods and also provides details of floating tracks which seeks to minimise the need for peat excavation. The briefing note also sets out some of the potential impacts of the long-term effects of constructed tracks across peatlands. These include hydrological impacts which result in the altering of drainage patterns and the creation of hydrological barriers. Details of restoration practices are also set out in the briefing note.

8.4.

8.5. **Observation from Thomas Dillon, Listowel, County Kerry.**

8.5.1. This observation also highlights concerns that the proposed windfarm would negatively impact on the archaeological and natural landscape of the area and greatly undermine future prospects of the area's tourist potential. Concerns are expressed in relation to the impact of the proposal on the ancient togher or roadway linking the two ecclesiastical sites. This roadway was built nearly 1,000 years ago. The observation goes on to detail the importance of the ecclesiastical sites and the roadway linking the two sites. It is noted that to date, these sites have not been excavated so it is vital to ensure that they are protected. The provision of a windfarm development into this area would completely destroy the integrity of the site and show complete disregard to our national heritage.

8.5.2. Should the windfarm be built, the view of Rattoo Round Tower would also be obscured by the wind turbines. These sites may also be connected with another ancient togher in the nearby townland of Killarida on the opposite side of the River Feale where the remains of a timber trackway across the bog were investigated in 1964.

8.5.3. Of the 120 round towers believed to have once existed across the country it is thought that only 18 – 20 survived today intact. The idea that one of these iconic buildings would be surrounded by windfarms and the context and setting would be obscured by these structures goes against all appreciation of our Irish heritage.

8.5.4. Kerry County Council refused planning permission for the proposed development siting Development Objectives H26, H28 and H29. With plans to extend the North Kerry Greenway from Listowel through Lixnaw and through Tralee in the coming years the tourism potential of the area will flourish. The proposed windfarm will undermine the potential for tourism to grow in the area. The Board will note that the Greenway is not just part of a route through West Limerick and North Kerry but is part of the Atlantic Coast Route "Eurovelo 1 Cycleway" which traverses the western coast of Europe. The fact that the only surviving round tower in Kerry is so near the Greenway at Lixnaw must ensure that its view in the landscape is protected.

8.5.5. The bog at Ballynagare, Dysert and Dysert Marshes bounds the River Feale, Cashen and Brick all of which form part of the Lower Shannon Special Area of Conservation. As a local to the area the presence of Whooper Swans is noted by the

observer in large numbers. These are not to be found in any other site in North Kerry apart from farmland around Fingue Graveyard. The Whooper Swans in the area form part of a nationally important wintering population. Kerry County Council expressed concerns in respect of the potential impact which the proposed development could have on the population of Whooper Swans.

8.5.6. Flooding is also a significant problem in the area and concerns must be raised regarding the construction of a windfarm in the area should such flooding take place during the construction phase. It is considered that concerns over rising sea levels may result in the area being subject to more frequent tidal flooding in the coming decades with a sea level rise of 1 metre.

9.0 Planning Policy Context

The following legislation and policy are relevant to the proposed development before the Board.

9.1. EU Legislation/Policy

<u>European Union Directive on the Promotion of the Use of Energy from Renewable Sources (Directive 2009/28/EC)</u>

9.1.1. The European Union Directive on the Promotion of the Use of Energy from Renewable Sources (Directive 2009/28/EC) was adopted on 23rd April 2009. It establishes the “20-20-20” targets, meaning:

- a minimum 20% reduction in greenhouse gas emissions based on 1990 levels,
- 20% of overall EU energy consumption to come from renewable sources by 2020,
- 20% reduction in primary energy use compared with projected levels to be achieved by improving energy efficiency.

9.1.2. Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal. The Directive legally obliges each Member State to ensure that the target is

met. It further requires that each Member State publish a national renewable energy action plan outlining how these binding commitments would be met and to submit the plan to the European commission.

9.1.3. The 2020 target for Ireland is to source 16% of all energy consumed from renewable resources. This will be met by 40% from renewable electricity, 12% from renewable heat and 10% from the renewable transport sector. The pathways to achieve this are set out in the National Renewable Energy Action Plan.

Climate and Energy Policy Framework 2030

9.1.4. The Climate and Energy Policy Framework 2030 was adopted in 2014 and includes EU-wide targets and policy objectives for the period between 2021-2030. It seeks to drive continued progress towards a low-carbon economy and build a competitive and secure energy system that ensures affordable energy for all consumers and increase the security of supply of the EU's energy supply. It sets targets of at least 40% reduction in green-house gas emissions and at least 23% share of renewable energy from all energy consumed in the EU by 2030.

The Effort Sharing Regulation (EU) 2018/842

9.1.5. It lays down obligations on Member States with respect to minimum requirements to fulfil the EU's target of reducing its greenhouse gas emissions 30% below 2005 levels in 2030 in the various sectors and contributes to achieving the objectives of the Paris Agreement. A GHG reduction target of at least 30% applies to Ireland.

Revised Renewable Energy Directive 2018/2001/EU (January 2019)

9.1.6. It sets out a new target for share of energy from renewable sources in the EU to at least 32% for 2030, with a review for increasing this target through legislation by 2023. A major shift within the revision is the way in which Member States will contribute to the overall EU goal. Where previously (for 2020 target) member states had an individual national binding target, the 2030 framework is solely based on an EU-level binding target of 32 per cent. It requires Member States to set national contributions to meet the binding target as part of their integrated national energy and climate plans.

9.2. **National Legislation/Policy**

Climate Action Plan 2021

9.2.1. This plan sets out a road map for taking decisive action to halve our greenhouse gas emissions by 2030 and reach net zero emissions by 2050. The plan emphasises the need to act now to build a cleaner greener economy and society. Among the most important measures in the plan is to increase the proportion of renewable electricity, up to 80% of all electricity generation by 2030. The government seeks to annually update the new climate action plan and the road map of actions to reflect developments of the previous year so as to ensure that required emission reductions are achieved.

9.2.2. In line with EU targets, the Programme for Government commits to achieving a 51% reduction in Ireland's overall greenhouse gas emissions by 2030. These legally binding objectives are set out in the Climate Action and Low Carbon Development (Amendment) Act 2021. This Act established legally binding frameworks and commitments to achieve targets.

9.2.3. Chapter 4 of the Plan (Choosing the Pathways which Create the Least Burden and Offer the Most Opportunity for Ireland) notes that in terms of electricity generation, the proposed pathway includes a more rapid build out of renewable energy capacity (wind and solar power generation technology), increased storage and the deployment of zero emissions gas. The decarbonisation pathway for the electricity sector is seen as challenging given the rapid growth in demand for power as well as the need to ensure security of supply through the decarbonisation journey. It is estimated that between €21 and €22 billion will be required in wind and solar energy.

9.2.4. The plan also seeks to provide carbon budgets and sectoral emissions ceilings with 3 five-year economy wide budget programmes setting a limit for the amount of greenhouse gas emissions that can be emitted for that period. Any failure to achieve targets will be rolled on and will be required to be achieved in addition to the new targets envisaged under the next five-year plan.

9.2.5. Chapter 10 of the plan highlights the importance of mobilising private sector investment in the transition to a low carbon economy.

9.2.6. Section 11 of the Plan relates to electricity generation. It notes that electricity accounted for 16.2% of Ireland's greenhouse gases in 2018. However, the share of electricity from renewable energy increased almost five-fold between 2005 and 2018 from 7.2% to 33.7%. It is noted however that in achieving decarbonisation of the electricity sector this will not be possible without the social licence given by local communities making it vital that we bring them with the State on the energy transition. The plan notes that there is a requirement for a significant step up in ambition and delivery in order to meet the new 2030 target. A share of 80% of renewable electricity will require a significant contribution through local community-based projects. At least 500 megawatts of renewable energy will be delivered through such local community-based projects. Action No. 100 seeks to ensure a supportive spatial planning framework for onshore renewable electricity generation development.

National Planning Framework (NPF)

9.2.7. The NPF contains a number of relevant strategic outcomes and a number of national policy objectives which are relevant to the current application before the Board. These are set out below.

9.2.8. The NPF includes a set out 10 National Strategic Outcomes. The National Climate Policy Position establishes the national objective of achieving transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050. This objective will shape investment choices over the coming decades in line with the national mitigation plan and the national adaptation framework. New energy systems and transmission grids will be necessary for a more distributed, renewables focused energy generation system, harnessing both the considerable onshore and offshore potential for energy sources such as wind, wave and solar and connecting the richest sources of that energy to the major sources of demand.

9.2.9. The transition to a low carbon and climate resilient society recognises that more diversified and renewables focussed energy systems will be necessary. It aims to deliver 40% of electricity needs from renewable sources by 2020 with further increases through to 2030 and beyond in accordance with EU/National Policy.

9.2.10. NPO21 seeks to enhance the competitiveness of rural areas by supporting innovation and diversification of the rural economy into new sectors and services, including those addressing climate change and sustainability.

9.2.11. The NPF also notes that in addition to legally binding targets agreed at EU level, it is a national objective for Ireland to transition to be a competitive low carbon economy by the year 2050. This will include:

- An aggregate reduction in carbon dioxide emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation-built environment and transport sectors, and
- In parallel, an approach to carbon neutrality in agriculture and land use sector, including forestry which is not compromising capacity for sustainable food production.

9.2.12. NPO54 seeks to reduce a carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emission reductions.

9.2.13. NPO55 seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objective towards achieving a low carbon economy by 2050.

9.3. **Wind Energy Guidelines 2006**

9.3.1. These guidelines still constitute the official strategy guidance on wind farms under the provision of Section 28 of the Planning and Development Act 2000 (as amended).

9.3.2. The guidelines set out advice in relation to the design, siting, spatial extent, and height of turbines in various landscape character types. Appendix 4 provides details in relation to best practice for wind farm development on peatlands and flatland areas. Guidance is also provided on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety, wind take and potential cumulative effects.

9.3.3. In terms of noise, a lower fixed rate limit of 45 dB(A) or a maximum increase at 5 dB(A) above background noise at nearby noise sensitive locations is considered to

be appropriate to provide protection to wind energy neighbours. However, in very quiet areas the use of a margin of 5dB(A) above the background noise level at nearby noise sensitive properties may unduly restrict wind energy developments which have wider national and global benefits. In low noise environments where the background noise is less than 30dB(A) it is recommended that the daytime level of $LA_{90\ 10\ mins}$ of the Wind Energy Development Noise be limited to an absolute level with the range of 35 to 40 dB(A).

9.3.4. The guidelines state that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres.

9.3.5. In relation to shadow flicker, it is recommended that at neighbouring offices and dwellings within 500 metres shadow flicker should not exceed 30 hours per year or 30 minutes per day.

9.4. Draft Wind Energy Guidelines 2019

9.4.1. The Board will note that these guidelines are still in draft form and have not been officially adopted as official guidance. The Supreme Court held in Balz & Anor v An Bord Pleanála [2016] IESC 134, that while statutory guidelines (in this instance the 2006 guidelines) still in force and may be out of date was not an irrelevant planning consideration, and the Board in setting out its reasons and considerations in determining the application, should have it's given reasons for not accepting the guidance set out in the 2019 Wind farm Guidelines.

9.4.2. Section 3.1 of these Guidelines emphasise the need for development plans to incorporate a plan led approach to wind farms identifying areas which are considered to be suitable or not suitable for wind farm development. There is an emphasis on any development plan highlighting how it is proposed to contribute to overall national renewable targets.

9.4.3. Section 4.3.2 of the Guidelines emphasise the need for community involvement and the need to take community views into account when establishing, siting and designing wind farm developments. Section 4.9 of the Guidelines set out general separation distance to ensure the appropriate siting of wind farms.

9.4.4. Section 5.7 relates to noise. The draft guidelines state that the preferred approach is to propose a relative rated noise limit of 5 dB(A) above existing background noise in the ranges of 35 to 43 dB(A) with 43 dB(A) being the maximum noise limit permitted day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.

9.4.5. In terms of appropriate setback from boundaries, the guidance suggest that four times the tip height or at least 500 metres between the wind turbine and the nearest point of curtilage of any residential property in the vicinity is most appropriate for visual amenity purposes.

9.5. Regional and Local Policy

The Southern Regional Spatial and Economic Strategy (RSES)

9.5.1. The primary aim of these regional project guidelines is to implement Project Ireland 2040 – the National Planning Framework. The guidelines recognise the need to safeguard and enhance the environment through sustainable development and to transition to a low carbon and climate resilient society. Chapter 7 of the Regional Guidelines provide objectives aimed at improving quality of life and safeguarding environmental and heritage resources within the region. The guidelines recognise and support onshore wind proposals at appropriate locations. The guidelines also support offshore wind energy development. Chapter 5 specifically relates to environment including responding to climate change. It places major emphasis on a transition to a low carbon economy and society. RPO87 states that the RSES is committed to the implementation of government's policy under Ireland's transition to a Low Carbon Energy Future 2015 – 2030 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced greenhouse gas emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across key sectors of electricity supply, heating, transport and agriculture.

9.5.2. RPO90 states it is the objective to develop a regional decarbonisation plan to provide a framework for action on decarbonisation across all sectors. The Regional Decarbonisation Plan shall include existing and future targets for each sector and

shall be prepared with key stakeholders, including the climate action regional offices, and shall identify the scope and role of the plan, the requirements for SEA, AA and timescale for its preparation, implementation, mechanisms and monitoring structures for the plan should also be established. RPO95 states it is the objective to support the implementation of the National Renewable Energy Action Plan, and offshore renewable energy plan and the implementation of mitigation measures outlined in the respect of SEA and AA and leverage the region as a leader and innovator of sustainable renewable energy generation.

9.5.3. RPO98 states it is an objective to support the development of a regional renewable energy strategy with relevant stakeholders.

9.5.4. RPO99 states it is an objective to support the sustainable development of renewable wind energy (onshore and offshore) at appropriate locations and related grid infrastructure in the region in compliance with National Wind Energy Guidelines.

9.6. **Kerry County Council Development Plan**

9.7. The new Kerry County Council Development Plan was adopted on 15th August, 2022. Section 12.5 of the development plan relates to renewable energy.

9.8. KCDP12-13 seeks to ensure that all projects shall be designed and developed in line with the draft Revised Wind Energy Development Guidelines and any update of these guidelines in terms of siting, layout and environmental studies.

9.9. It is the Council's policy to support in principle at appropriate locations the sustainable development of wind energy resources in County Kerry.

9.10. Section 12.5.4.1.2 relates to the identification of wind development areas. The areas which are open for consideration for wind energy developments are identified in Map 12.4. The Board will be aware from the grounds of appeal that the Council have drastically reduced the area zoned for wind energy with previous zoned areas to the west of the N69 now omitted including the subject site.

9.11. On 12th August, 2022 Kerry County Council received notification from the Minister of Housing, Local Government and Heritage of his intention to issue a direction pursuant of Section 31 of the Planning and Development Act 2000 consequent to a recommendation made to him by the Office of the Planning Regulator under Section

31AM(8) of the Planning and Development Act 2000 (as amended). The S31 notice included the following:

(a) *The draft Ministerial Direction related to the adoption of the Kerry County Council Development Plan directed the Planning Authority to reinstate Map 12.4 of Volume 1 and Map 5 of Volume 4 of the draft Development Act.*

(b) *Amend the reinstated Map 12.4 of Volume 1 and Map 5 of Volume 4 to change the designation of all areas identified as "open to consideration" to "permitted in principle".*

(c) *Amend the reinstated Map 12.4 of Volume 1 and Map 5 of Volume 4 to designate the following areas as permitted in principle.*

  (i) *those areas of the County identified as areas for further assessment in Map 6.25 of the Wind Zoning Methodology (Appendix 6 of the Development Plan) and identified as of low/medium or medium visual sensitivity in the Landscape Review (Appendix 7 of the Development Plan), and*

  (ii) *those areas identified as practical resource constraints relating to the 1 metre buffer zone identified within each settlement in the Wind Zoning Methodology.*

(d) *Replace references to open to consideration with permitted in principle throughout Volume 1 and 4 of the Development Plan consistent with (a) and (b) above.*

(e) *Delete material amendments MA14.20 and MA14.21.*

9.11.1. The Board will note that the permitted in principle areas as contained in the map attached to the Draft Direction does not include the subject site but does include lands surrounding the subject site.

9.11.2. Under the Kerry Renewable Energy Strategy (2012) the subject site was a site which was considered to be 'open for consideration' for windfarm development.

9.11.3. Section 12.5.4.1 states it is the Council's policy to support in principle and in appropriate locations, the sustainable development of wind energy resources in County Kerry. This policy document builds on previous policies in place to develop

an updated tool for identifying potentially suitable locations for wind energy development and to guide future assessment of wind energy planning applications in the county. The Planning Authority is cognisant that renewable energy technology is constantly changing, and policy responses will need to adapt as necessary.

Chapter 11 relates to the environment.

9.12. KCDP11-1 seeks to ensure that the requirements of all relevant EU and National Legislation are complied with by the Council in the undertaking of its functions, including the requirements of the EU Birds and Habitats Directive.

9.13. KCDP11-3 seeks to work with all stakeholders in order to conserve, manage and where possible enhance the county's natural heritage including all habitat species, landscape and geological heritage of conservation interest and to promote increased understanding and awareness of the natural heritage of the county.

9.14. It is also the objective of the Council under KCDP11-72 to preserve views and prospects identified in maps contained in Volume 4. The Ferrybridge at the Cashen River looking south-eastwards towards the site is designated as a listed view and prospect.

9.15. Section 8.3 of the development plan relates to archaeological heritage.

9.16. KCDP8-22 seeks to secure the preservation in situ of all sites, features and objects of archaeological interest with in the county. In securing such preservation, the Council will have regard to advice and recommendations of the National Monument Service, the Department of Culture, Heritage and the Gaeltacht, the National Museum of Ireland and the County Archaeologist.

9.17. Ensure that proposed development (due to its location, size or nature) which may have implications for the archaeological heritage of the county will be subject of an archaeological assessment which may lead to further subsequent archaeological mitigation – buffer zone/exclusion zones, monitoring pre-development archaeological testing, archaeological excavation and/or refusal of planning permission. This includes areas close to archaeological monuments, development sites which are extensive in area (half a hectare or more) or length (1 kilometre or more) and the development that requires an environmental impact assessment.

9.18. KCDP8-23 seeks to ensure the protection and preservation of all archaeological monuments and features not yet listed in the Record of Monuments and Places, Sites and Monuments Record and such unrecorded, through on-going review of archaeological potential of the plan area. In securing such protection the Council will have regard to the advice and recommendations of the National Monuments Service, the Department of Culture, Heritage and the Gaeltacht and the County Archaeologist.

9.19. KCDP8-25 seeks to ensure that development (including forestry, renewable energy developments and extractive industries) within the vicinity of the Recorded Monuments, Zone of Archaeological Potential or Archaeological Landscape does not detract from the setting of the feature and is sited and designed appropriately and sympathetically with the character of the monument/feature/landscape and its setting.

9.20. KCDP8-26 to ensure the active protection of the 19 identified significant archaeological landscape outlined in Volume 3 with particular emphasis on landscape settings, views to and from the landscape and monument/feature intervisibility within these landscapes. The Board will note that the subject site is not listed as one of these designated archaeological landscapes.

9.21. KCDP8-27 seeks to protect archaeological/historical graveyards within the county and to encourage and promote their maintenance in accordance with legislation, conservation principles and best practice.

9.22. KCDP8-30 seeks to promote awareness of the impact of climate change on archaeology of the county, and to promote appropriate identification, assessment and adaption measures to reduce climate risk and develop resilient strategies for the archaeology of the county.

9.23. In terms of built heritage it notes that Kerry's built environment is vulnerable to climate change particularly in terms of increased rainfall, warmer conditions, storm surges, maladaptation, pests and moulds, soil movement and storm damage. Policy KCDP8-32 seeks to prepare an architectural heritage plan for the county including marine, industrial and agricultural heritage.

9.24. In terms of recorded sites and monuments there are a number of monuments in the townland of Rattoo to the north-west of the site. These include KE009-056

(settlement deserted – medieval), KE009-056007 (font), KE009-089 (ecclesiastical enclosure), KE009-056003 (church), KE009-056005 (graveyard), KE009-056006 (memorial stone), KE009-056002 (Sheela-na-gig), KE009-056001 (round tower).

9.25. On the subject site the following recorded monument is located KE009-008 (white horse ridge roadway or bohergarraunbaun – road/togher - unclassified).

9.26. To the east of the site in the townland in Dysert three recorded monuments are included in the record these include KE010-062 (church), KE010-062001 (graveyard) and KE010-062002 (ecclesiastical enclosure).

9.27. Near the southern boundary of the site between T7 and the substation a number of archaeological features are located. These include KE016-003 (mound), KE 016-005 (enclosure), KE016-076 (rath) and KE016-013 (rath)

10.0 **Planning Assessment**

10.1. **Introduction**

10.1.1. I have read the entire contents of the file, visited the site and its surroundings, have had particular regard to national and local policy in respect of windfarm and renewable energy development. I have also had regard to the Planning Authority's reasons for refusal and the submissions from the various third party observers. All three sections of this report (Planning Assessment, EIAR Assessment and Appropriate Assessment) should be read in conjunction so as to avoid unnecessary repetition. I consider the following issues to be pertinent in determining the current application and appeal.

- Principle of Development
- Policy and Development Plan Issues
- Archaeological/Heritage Issues
- Visual Amenity Issues
- Impact on Residential Amenity
- Impact on Water Bodies
- Other Issues raised by Third Party Observers

- Appropriate Assessment and Ecological Issues
- EIAR Assessment
- AA Assessment

Each of these issues will be dealt with under separate headings below.

10.2. **Principle of Development**

10.2.1. The wealth of reports, guidelines and strategies which sets out targets, policies and objectives all of which seek to reduce dependence on fossil fuels whilst also seeking to encourage and expand the development of renewable energy are set out in the previous section of my report above. Perhaps the most important national policy document entitled “Climate Action Plan 2021” which sets out a road map for taking decisive action to half our emissions of greenhouse gases by 2030 and to reach net zero emissions by 2050 are referred to above. This document emphasises the need to act now in order to build a cleaner, greener economy and society. The most important measures set out in the Climate Action Plan is to increase the proportion of renewable electricity up to a target of 80% by 2030. These legally binding objectives are set out in the Climate Action and Low Carbon Development (Amendment) Act of 2021.

10.2.2. In terms of electricity generation, the plan envisages a rapid build-out of renewable generation capacity particularly in relation to wind and solar power generation technology. Chapter 10 of the Plan highlights the importance of mobilising private sector investment in the transition to a low carbon economy.

10.2.3. In addition to the Climate Action Plan, the National Planning Framework also highlights the national target of achieving transition to a competitive low carbon climate resilient and environmentally sustainable economy by 2050. NPO21 seeks to enhance the competitiveness of rural areas by supporting innovation and diversification of the rural economy into new sectors and services including those addressing climate change and sustainability. NPO54 seeks to reduce the carbon footprint nationally by integrating climate into the planning system in support of national targets for climate policy mitigation and adaption objectives as well as setting targets for greenhouse gas emissions reduction. NPO55 seeks to promote

renewable energy generation at appropriate locations within the built and natural environment in order to meet the national objective towards achieving a low carbon economy by 2050.

10.2.4. It is clear from the above, that national policy acknowledges that significant increases in wind energy capacity will be required to meet mandatory targets set out by the State in respect of climate change.

10.2.5. The proposed windfarm at Ballynagare will provide a rate electrical power output of between 35 to 42 megawatts and will therefore deliver and build upon the renewable energy resource available in Ireland and will assist in the progress to a low carbon economy thereby reducing dependents on fossil fuels. Additional wind energy by the proposed development will enable the decarbonisation of the electricity sector in line with European and National Climate Strategies. The proposed windfarm has the potential to produce up to 128,772 megawatt hours of electricity per year which would be sufficient to supply over 27,800 Irish households with electricity per year based on the average Irish household using 4,628 kilowatts of electricity (based on 2016 figures). This would produce sufficient energy for approximately half the private households in County Kerry.

10.2.6. The provision of such renewable energy is all the more important in light of recent geopolitical events in Russia and Ukraine which has undermined the supply of fossil fuels particularly in respect of gas and oil to the European Union as a whole. It is anticipated that these geopolitical events will create a severe and acute energy crisis in the European Union over the coming years. This accentuates the need to become more reliant on renewable energy sources and less reliant on exogenic sources of fossil fuels to serve the needs of the State.

10.2.7. The Southern Regional Assembly's Regional Spatial and Economic Strategy (RSES) seeks to support the aims and objectives set out in the National Planning Framework. RPO99 states that it is the objective to support the sustainable development of renewable energy (onshore and offshore) at appropriate locations and related grid infrastructure in the regional in compliance with the National Wind Energy Guidelines. RPO219 states it is the objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to

ensure the energy needs of future population and economic expansion within designated growth areas and across the region which can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet the future needs. RPO221 states that the local authority City and County Development Plans shall support the sustainable development of renewable energy generation and demand centres such as data centres which can be serviced by a renewable energy source (subject to appropriate environmental assessment and the planning process) to spatially suitable locations to ensure efficient use of the existing transmission network.

10.2.8. RPO222 states that it is an objective to support the development of a safe, secure and reliable supply of electricity and to support and facilitate the development of enhanced electricity networks and to facilitate new transmission infrastructure projects that might be brought forward in the lifetime of this plan under EirGrid's Grid Development Strategy to serve the existing and future needs of the region and to strengthen all Ireland energy infrastructure and interconnection capacity.

10.2.9. It is clear and unambiguous therefore that the Southern Regional Assembly strongly supports renewable wind energy development within the region subject to it being located in appropriate areas and in accordance with rigorous environmental assessment.

10.2.10. In terms of local policy the recently adopted Kerry Development Plan 2022 to 2028 also generally supports the development and provision of renewable energy. As mentioned above, the section of the development plan in respect of wind energy has been the subject of Ministerial Direction on foot of a submission made by the Planning Regulator. As a result the Wind Energy Section of the Development Plan us currently in abeyance subject to compliance with the Ministerial Direction. However, it is clear from the previous plan (2015 to 2022) that in general terms the energy strategy in the plan would support the provision and expansion of renewable energy including wind energy in the county. The most pertinent objectives contained in the 2015 to 2022 Plan include:

- Policy EP-1 to support and facilitate the sustainable provision of reliable energy supply in the county, with emphasis on increasing energy supplies derived from renewable resources while seeking to protect and maintain

biodiversity, archaeological and built heritage, the landscape and residential amenity,

- Policy EP-3 seeks to facilitate sustainable energy infrastructure provision so as to provide for further physical and economic development of the county.
- Policy EP-7 seeks to facilitate the sustainable development of additional electricity generation capacity throughout the region/county and to support the sustainable expansion of the network. It notes that national grid expansion is important in terms of ensuring adequacy of regional connectivity as well as facilitating the development and connectivity of sustainable renewable energy resources.

10.2.11. It is clear therefore based on national, regional and local policy that the proposed development, subject to qualitative safeguards is acceptable in principle and in accordance with the overall goal of reducing reliance on fossil fuels and promoting and developing more sustainable forms of renewable energy within the State. The Board can in my view conclude with certainty that subject to qualitative safeguards which are assessed in more detail below. The proposed development in principle is fully in accordance with Ireland's Renewable Energy Strategy and will contribute to achieving renewable energy targets set out in the Climate Action Plan.

10.3. Policy and Development Plan Issues

10.3.1. While the national and regional objectives are clear and unambiguous in terms of supporting renewable energy development on a nationwide basis the intended areas earmarked for windfarm development in the Kerry County Development Plan are less than clearcut. The area in which the site is located was an area designated as being "open for consideration in Map 7.6 of the Kerry Renewable Energy Strategy 2012". Map 7.6 of the Renewable Energy Strategy Wind Deployment Zones was incorporated in the 2015 Plan.

10.3.2. The current Kerry County Development Plan 2022 to 2028 adopted much more restrictive areas of the county that were considered to be either "open to consideration" or areas designated as "repowering areas". The vast majority of areas selected under these two zoning designations were located along the eastern border of the county and excluded the subject site. KCDP12-15 of the 2022 to 2028

development plan states that it is an objective of the Council to ensure that commercial wind energy projects will not be considered outside areas open to consideration or repowering areas. Thus the Kerry County Council Development Plan 2022 to 2028 as originally adopted did not include the subject site as an area suitable for windfarm development. As referred to previously in my report the adoption of the Kerry County Development Plan 2022 to 2028 was the subject of a draft Ministerial Direction requesting the Planning Authority to take the following steps:

(a) Reinstate Map 12.4 of Volume 1 and Map 5 of Volume 4 of the draft Plan (amended under MA12.9).

(b) Amend the reinstated Map 12.4 of Volume 1 and Map 5 of Volume 4 to change the designation of all areas identified as "open to consideration" to "permitted in principle".

10.3.3. The draft Ministerial Direction was issued on the basis that the windfarm policy adopted by Kerry County Council in the new development plan was inconsistent with the National Planning Framework specifically NPO55 which states "it is objective to promote renewable energy use and generation at appropriate locations to meet national objective towards achieving a low carbon economy by 2050".

10.3.4. I refer the Board to the reinstated and amended Map 12.4 as indicated in the Ministerial Direction showing areas which are 'permitted in principle' for wind development. This map is appended to my report (see Appendix 1). It is clear from the reinstated and amended map attached that the subject site is not included within the areas designated as being 'permitted in principle' for windfarm development.

10.3.5. It is also noted that the subject site is located in an area designated as being sensitive in landscape terms in the current development plan (see Map 4 'visually sensitive areas and views and prospects'). Therefore contrary to what is suggested in the grounds of appeal, the subject site is located in an area which designated as being sensitive in the current development plan.

10.3.6. The designation of whether or not the subject site is suitable for windfarm development in the adopted development plan is in my view a critical consideration in determining the current application. While national overarching objectives seek to promote and support renewable energy in the State as a whole, this strategic

objective is predicated on the basis some sites maybe inherently unsuitable for development and areas that maybe suitable for development should be clearly earmarked and designated in the development plan. Determining which sites are suitable for wind energy is in my considered view the prerogative of the Planning Authority in adopting its development plan. The development plan has been described as an environmental contract between the Planning Authority and the public in determining appropriate planning policy and appropriate zoning designations within a county. It is apparent that there is a lacuna in the current development plan in respect of designating suitable areas in the development plan for windfarm development. This gap in strategy regarding windfarm location is the subject of ongoing consultation and consideration. While the Office of the Planning Regulator has sought a reinstated and amended map showing areas where windfarm development would be 'permitted in principle', the Board will note that the subject site is not included as an area designated as being permitted in principle for windfarm development. Again this reinforces the conclusion that the proposed development may in fact be premature pending a resolution of issues regarding the appropriate location of windfarm development in County Kerry.

10.3.7. The critical important of location for windfarm developments is reflected in National Policy Objective 55 in the National Planning Framework which seeks to promote renewable energy use generation **at appropriate locations** (my emphasis) within the built and natural environment to meet the national objective towards achieving a low carbon economy by 2050. The National Planning Framework therefore emphasises the need to develop windfarm development at "appropriate locations within the built and natural environment". The appropriate locations within the county of Kerry have yet to be determined under the current development plan. The originally adopted Development Plan 2022 to 2028 did not include the subject site as an area open for consideration and the reinstated and amended Map 12.4 as issued under the Ministerial Direction did not include the subject site as an area in which windfarm development was permitted in principle. On the basis of the above therefore I would consider that the Board exercise a precautionary principle in the absence of a formerly adopted windfarm energy strategy in the development plan and deem that the proposal be premature on this basis.

10.4. **Archaeological/Heritage Issues**

10.4.1. Impact on the Bohergarranban, White Horse Ridge or Monks Road/togher.

The togher or roadway in question is not readily visible on the ground but part of the alignment is visible in aerial photographs. The discernible alignment in the aerial photographs consists of the central portion of the roadway which traverses the site in a north-west, south-east direction for a distance of approximately 1 to 1.5 km through the central portion of the site traversing the exposed cutover bog in the northern portion of the site. This routeway originally traversed the marshlands that occupy the terrain between the River Feale and Brick linking the ecclesiastical site of Rattoo and Dysert to the south-east. Having inspected the site I could find no physical evidence of the togher on the ground. Notwithstanding this point the roadway is recorded as a national monument under KE009-088 and is marked on the 1841-1842 Ordnance Survey Map.

The first reason for refusal issued by Kerry County Council stated that the proposed development would have the potential to adversely impact on previously unrecorded archaeological features, strata and artefacts on the national monument which would be contrary to Development Objectives H26, H28 and H29 of the Kerry County Development Plan 2015 and would therefore be contrary to the proper planning and sustainable development of the area.

The grounds of appeal state that a recent site investigation found no evidence of physical trails existing along the part of the route coinciding with the togher. The footprint of the proposed development overlaps the route of the Bohergarranban Road at two locations. The proposed hardstanding for Turbine No. 1 is located in close proximity to the recorded monument. The access road leading to Turbine No. 2 will also traverse the alignment of the ancient roadway. Chapter 12 of the EIAR indicates that the use of a floating roadway will avoid the necessity to excavate the existing land cover and will therefore minimise the physical impacts on the road in question. The use of a floating road therefore will avoid the need to excavate any peat below or in the vicinity of the ancient road footprint. The grounds of appeal also indicate that no excavation is required in the vicinity of the togher as a result of the road construction. Furthermore, in respect of the hardstanding proposed to facilitate the construction of Turbine No. 1, the grounds of appeal suggest that pre-

development archaeological testing of all elements of the proposed works to be carried out will be undertaken on foot of the results of the pre-development testing and a buffer zone of 10 metres will be established between the ancient road and the hardstanding for T1. Furthermore, no groundworks or storage of peat/topsoil will take place within the buffer zone.

It is my considered opinion that the mitigation measures to be employed in the form of the construction of a floating road, where it traverses the togher, the implementation of pre-development archaeological testing and the incorporation of a 10m buffer zone would be sufficient to ensure that the integrity of any archaeological remains which may occur in respect of the roadway are kept intact. Any potential impacts therefore would be avoided or at worst minimised.

An important consideration as pointed out by the applicant in the grounds of appeal is the fact that the togher/ancient road in question is not readily discernible on the ground and cannot be physically experienced as an archaeological feature on the site. To suggest therefore that the proposed development will in some way adversely affect or distort the physical or visual presence of the road is not accepted. It is my considered opinion that the proposed windfarm development will have a minimal impact on the physical historical landscape as the feature is not readily discernible on the ground. In view of the existing energy and climate change crisis, it may not be appropriate to refuse planning permission for a windfarm development solely on the basis that will be located adjacent and proximate to an ancient track which is not readily discernible or visual on the ground. Particularly as mitigation measures will be put in place to ensure that any impact on the roadway would be negligible. If the Board disagree with the above conclusion and consider it appropriate to grant planning permission for the windfarm it could consider omitting Turbine No. 1 in order to protect the archaeological feature in question rather than refusing planning permission for the development outright.

10.4.2. <u>Impact on Rattoo and Dysert Ecclesiastical Sites</u>

Rattoo Ecclesiastical Site and Round Tower is located approximately 1.25 kilometres from the nearest wind turbine on the site (T1). Dysert Ecclesiastical Centre is located further to the east of the site. At its closest point it is located c.1.8 kilometres to the east of Turbine 2. Rattoo Round Tower was built around 1100AD and is considered

to be an exceptionally well preserved round tower the best example of its kind in the county. Its doorway has a round arch and is surrounded by a plain flat curved moulding capped with an unusual curvilinear design. A *Sheela-na-gig* is carved in the north window facing into the inside of the tower. These were explicit carvings of females which were often placed on the walls of churches and castles as protective symbols. The Rattoo Round Tower possesses the only example of a *Sheela-na-gig* to be found in an Irish Round Tower. The small ruined church in the cemetery possibly dates to the 15th century and is partly built with stones from a more ancient church. The nearby Rattoo Abbey was founded in 1200 as a hospital and later became a monastery.

The ecclesiastical enclosure at Dysert is listed as an early ecclesiastical enclosure situated to the west of the River Feale. The site is mentioned in the Ui Fiachrach genealogies and would appear to have a family name connected with it. It is a smaller ecclesiastical enclosure and, while probably the less important of the two enclosures, it is still an important recorded monument.

Both sites are undoubtedly important archaeological sites and are located approximately 3.5 kilometres apart. The Dysert Ecclesiastical Enclosure is not readily visible from Rattoo while the Rattoo Round Tower is discernible from the Dysert Enclosure when viewed from an elevated position within the enclosure. Treelines and canopy obscure the view of the Round Tower at ground level. While both ecclesiastical sites are of historic and archaeological importance, that the ecclesiastical sites in question are not listed as one of the identified scientific archaeological landscapes within the county as depicted on Map 8.2 of the Development Plan. This would suggest that the historical landscape in question is not considered to be one of the premier archaeological landscape sites within the county.

Notwithstanding the above point, there can be no doubt that the ecclesiastical sites in question are of importance, if not premier importance within the county and that the proposal will undoubtedly impact on the setting and context of both ecclesiastical sites. However, it is important to note that with the potential exception of the ancient roadway linking the sites, the proposed development will not in any way physically impinge upon either ecclesiastical site. The size and scale of the turbines proposed

will alter the context and setting of both sites to a significant and material extent in my opinion. The size and scale of the turbines will be readily visible from vantage points within both sites and it could be reasonably argued that the size and scale of the project proposed will alter the quiet seclusion, peacefulness and solitude associated with the sites in question. The Board can assessment the material extent to which the turbines will alter the setting and context of the ecclesiastical sites by the photomontages submitted with the grounds of appeal.

Whether or to this in itself is a justifiable reason to refuse planning permission is a moot question. The Board will be fully aware that there are thousands of recorded monuments throughout the State many of which are of similar importance to the two ecclesiastical sites in question. If all turbine development were ruled out on the basis that the turbines would be located within a kilometre of archaeological, cultural or architectural significance this would significantly curtail the potential to develop onshore windfarms in Ireland and would seriously undermine the potential for delivering on the State's renewable energy targets.

The Board in my view should also have regard to the fact that the windfarm developments represent relatively temporary interventions on the landscape with an operating licence of approximately 35 years. It is likely after this time the wind turbines will be decommissioned and removed from the site and the historic landscape and setting of the existing ecclesiastical enclosures will be reinstated to the current environment that exists.

Therefore, while I fully acknowledge that the proposed development will adversely impact on the context and setting of the existing Round Tower and Ecclesiastical Enclosures. It does not necessarily follow that the proposed development should be refused on this basis alone. However it would be entirely appropriate that the sensitivity of the site in historical and archaeological terms would inform any adopted windfarm zoning map, in determining where the most suitable sites for windfarm development within the county would be designated. This would support my view that granting planning permission for the proposed development in the absence of and adopted wind deployment strategy would be premature.

10.4.3. Rattoo Tower as a Noise Sensitive Receptor

The first reason for refusal issued by the Planning Authority also made reference to the possible adverse impact on Rattoo Tower in respect of noise generation. Noise Monitoring Location E is located approximately 400 metres to the south-east of Rattoo Round Tower and is located in close proximity to the windfarm than the tower. The derived background noise levels for Noise Monitoring Location E indicates that the LA_{90} 10 minute levels at various speeds between 3 metres per second and 10 metres per second range from 24.3 dB(A) to 43.1 dB(A). The modelled omnidirectional rated power noise contour map for Ballynagare Windfarm is presented in Appendix 11.5. It clearly indicates that the anticipated noise levels during the day period in the area in the vicinity of Rattoo Round Tower directly attributed to the windfarm development will be less than 35 dB(A) and therefore will not give rise to any excessive or elevated noise levels in an around the tower. Furthermore, any elevated noise levels to be experienced at the ecclesiastical site at Rattoo would only be experienced by visitors frequenting the attraction for a short period of time. The windfarm would not have the same adverse impact as that which would be associated with a permanent noise sensitive location such as a residential dwelling. The impact in amenity terms from noise generated during the operational phase therefore would not in my view be detrimental.

10.4.4. Impact on the Historic Landscape

I have concluded above that the proposed windfarm development will have a material impact in visual terms on the context and setting of both ecclesiastical sites in question. The impact in my view is clearly depicted in Photomontage No. 1. The visual impact will be to a considerable extent be accentuated by the proposed Ballyhorgan Windfarm to be located in the vicinity. The visual impact arising from the proposed windfarm from vantage points around Dysert Church and Ecclesiastical Enclosure is indicated on Photomontage 9. Again the impacts are significant. Notwithstanding these points I would agree with the applicant in the grounds of appeal that the area outside the ecclesiastical enclosures including the subject site cannot be considered a pristine historic landscape. There have been significant anthropological intervention with the incorporation of roads and access tracks and the extensive cutover bog which exists in the area. I would reiterate that the

landscape in question was not deemed to be of such importance to merit its inclusion in the designated archaeological landscapes as presented in Map 8.2 of the Development Plan. While the proposed development will impact on the setting and context of the ecclesiastical centres in question it will not physically impinge on the features. I would also reiterate that any impact can be considered temporary in nature albeit for a period of 35 years after which case it is likely that the windfarm will be decommissioned and the landscape will be reinstated post decommissioning. I would again reiterate that any temporary impact on the historic landscape resulting from the proposed development must be balanced against the urgent need to boost renewable energy supply in Ireland in order to address the wider strategic challenges associated with energy security and climate change which in my view are more important considerations when assessing the application.

On the basis of the above I do not consider that the proposed development will contravene Policy H25 which seeks to protect and preserve features and objects of archaeological interest within the county, will result in an adverse impact on the protection and preservation of archaeological monuments and features not yet listed in the Record of Monuments and Places or the Sites and Monuments Record and therefore will not contravene Objectives H27 and H28 of the Development Plan. It is acknowledged that the proposed development will detract from the setting and character of the ecclesiastical sites at Rattoo and Dysert. However, any such impact needs to be balanced against the wider strategic and urgent objectives which seek to enhance and secure renewable energy infrastructure in Ireland and therefore notwithstanding Objective H29 in the Development Plan I do not consider that planning permission should be refused purely on this basis alone. Thus, I reiterate there are cogent arguments for and against development a windfarm at this location, and it would be premature to make a decision pending the identification of the most suitable areas for windfarm development within the county.

10.4.5. Impact on Setting of Protected Structures

I note that the second reason for refusal stated that it is considered that the visual impact arising from the proposed windfarm would detract from the character and setting of protected structures. These concerns were highlighted in the Conservation Officer's report which identified a number of protected structures in the wider area of

the proposed turbine development. The majority of these protected structures are located within the village of Lixnaw and include Lixnaw Bridge, the Old Court Lixnaw, St. Michael's Catholic Church and the Kerry Monument[3]. The turbines in question are located c.2 kilometres to the north of these protected structures. The extent to which the setting and context of these protected structures will be affected by the proposed windfarm development are in my view tenuous. The turbines in question are not located in such close proximity to the structures as to have a profound or significant impact on the setting of the structures. The protected structures referred to above are all located within the settlement of Lixnaw which is visually distinct and unconnected with the rural setting in which the turbines are to be located. Protected structures located further afield referred to in the Conservation Officer's report including the Thatched House at Finuge are located even further afield and will be less affected by the presence of the turbines in question. Again to refuse planning permission for a windfarm development on the basis that the proposal could adversely impact on the setting and context of protected structures located 2 kilometres from the windfarm in the view of the urgent and pressing need to develop renewable energy infrastructure within the State would in my view be disproportionate, tenuous and inappropriate.

10.4.6. Impact on Scenic Views

The Planning Authority's reason for refusal also made reference to the impact of the proposed development on the protected scenic view at Ferry Bridge over the Cashlawn River c.3 kilometres to the north of the site. The Board will note that the designated scenic view along the R551 primarily point in an northerly direction towards the coast. The one exception to this is viewed southwards along the bridge. Views of the proposed turbines from the bridge are depicted in Photomontage No. 3 submitted with the application[4]. It is clear that the wind turbines in question will be prominent from the vantage point on the bridge. The visual impact will to some

[3] It appears that the Kerry monument operates as a quarry and according to RMP records no surface trace of this monument can be seen today.

[4] Also see vantage point 3 of my photo's which accompany my report in order to assess the baseline environment looking toward the site from Ferrybridge.

extent be offset by the blanket of coniferous forest located between the bridge and the subject site. However, the rotor blades of the individual turbines will be a significant feature in the landscape when viewed from the bridge. Again, whether or not this constitutes reasonable grounds for refusal having regard to the urgent need to augment existing renewable energy supply is a moot point. The more important views in my opinion from an amenity perspective are the views looking west and north-westwards towards the coast along the R551. Furthermore, views southwards from the bridge are somewhat diminished by the presence of a plethora of windfarm developments and turbines located along the ridge of the Stack Mountains further south. On balance, and notwithstanding other considerations I consider that the Board could contemplate granting planning permission for the proposed development notwithstanding the fact that it will have a significant and material impact from the protected view on Ferry Bridge southwards.

10.5. **Impact on Residential Amenity**

10.5.1. Noise Impacts

The Planning Authority's report makes reference to the submission by the Environmental Health Service in relation to noise impact on a number of dwellings. The EIAR in Section 11.3.2.2.1 assesses the operational noise emanating from the proposed development in accordance with national guidance. The predicted operational turbine noise levels are within the noise criteria derived from the background noise monitoring at noise sensitive locations in accordance with the guidance. It appears therefore that the noise and vibration assessment was carried out in accordance with national guidance and best practice and that the operational turbine noise levels experienced at the nearest sensitive locations are predicted to fall within the noise criteria set out for windfarm developments nationally. It is not altogether clear based on the evidence presented what the specific concerns the Planning Authority had in respect of operational noise during the operation of the windfarm. Any elevated noise levels during the construction phase are short-term and temporary and do not in my view constitute reasonable grounds to refuse planning permission. I would also refer the Board to Appendix 11.4 of the EIAR which sets out predicted operational noise levels at all the nearest residences in the vicinity of the windfarm. Circa 250 houses in the vicinity have been assessed and on

no occasion has either the daytime or night-time criteria been exceeded under the various standardised wind speeds between 3 and 9 metres per second. I can only conclude on the basis of the detailed analysis undertaken as part of the EIAR that the proposed development will not in fact give rise to noise levels which would (a) exceed the guidelines or (b) give rise to material adverse amenity at the nearest noise sensitive locations.

10.5.2. Visual Impact arising from the Proposed Development

As with most developments, particularly windfarm developments, the visual impact arising from the proposal is somewhat an objective assessment. Any conclusions that the Board may reach in relation to visual impact would in my view be greatly assisted by the Book of Photomontages submitted which depicts the visual impact arising from the proposed turbines from various vantage points in the vicinity including particularly sensitive vantage points such as Rattoo Round Tower, Ferry Bridge and Dysert. The size of the proposed turbines are substantial at c.170 metres in height. The landscape in which the proposed windfarm is situate can be described as a relatively sparsely populated area (although the areas surrounding the site has a relatively high density of one-off housing along the roadways) of low flat lying land generally devoid of largescale structures which could provide a reference in terms of the development of the size and scale proposed. There are few large buildings and tall spires, masts and chimneys etc. that could be used as a visual reference that significantly protrude above the skyline. While there are a large number of windfarms in the wider area these windfarms are located a significant distance to the north-west and south-west, for the most part being over 10 kilometres from the subject site. While the Ballyhorgan Windfarm is located in close proximity (4 to 7 kilometres from the site) these turbines have yet to be built and therefore do not offer a precedent in terms of a visual reference point. The tallest buildings in the immediate area include Rattoo Round Tower (30 metres in height) and the Spire of St. Michael's Church in the centre of the village of Lixnaw. There are a number of conifer plantations in the lands surrounding the site and in some cases this planting will screen the turbines from public vantage points particularly where this planting is located in proximity to roadways such as along the R557 to the south of the site and the planting along the Lixnaw Canal to the south-west of the site. A patchwork of conifer forests are also

located to the north of the site adjacent to the River Feale at Ballyhorgan and Dysert Marshes.

In terms of surrounding settlement there are two major settlements located in close proximity to the site namely the village of Lixnaw c.2 kilometres to the south of the site and the village of Ballyduff 2 to 3 kilometres to the north-west of the site. There is a relatively high density of housing along the local road network surrounding the site. The windfarm will in most cases be readily visible from vantage points from roadways and settlements in the vicinity.

In terms of landscape character, the proposed windfarm is located in a designated sensitive landscape as per the current development plan and this in my view is an important consideration before the Board particularly in the absence of any adopted strategy in the Kerry County Development Plan for the preferred location of windfarm developments.

Having inspected the site and viewed the development from various vantage points within and around the site I would conclude that the overall character of the landscape will be altered to some extent either profoundly or less so by the visual prominence of the wind turbines. Having regard to the relatively flat nature of the land and the fact that the proposed turbines will protrude significantly above the existing skyline distance views of the turbines will be afforded across extensive flat open fields and peatbogs over large areas surrounding the site. The impact will be mitigated to some extent by the treelined field boundaries particularly the mature linear hedgerows and trees along access road in the case of middle distant views. The visual impact will also be mitigated to some extent from the blocks and strips of conifer woodland surrounding the site. However, this will only mitigate the visual impact to a modest extent.

As already mentioned, the lands in which the site location cannot be considered a pristine historic landscape as there has been largescale anthropological intervention over the years.

There is little doubt that the impact of the proposed development in the immediate vicinity of the subject site will be significant and material due to the height and scale of the proposed turbines at c.170 metres. However, as in the case of other planning considerations, such adverse visual impacts are an inevitable consequence of

windfarm development and the visual impacts must be assessed against the national strategic needs and objectives of providing such windfarms in order to meet our renewable energy targets.

However, the fact that the subject site is designated as being visually sensitive in landscape terms together with the proximity of sites of archaeological importance and that fact that there are designated scenic views which would be adversely affected by the proposed windfarm developments makes the case more pressing for the proposed development to be assessed in the context of a detailed and agreed strategy for future windfarm development locations within the county. The visual impact from visual and historical sensitive receptors will in my view be material and whether or not the materiality of the visual impact is deemed to be acceptable can only in my view be assessed in the context of a detailed and adopted wind energy strategy for the county. In this regard I would again come to the conclusion that any definitive conclusion in respect of the acceptability of the proposed development can be deemed premature in the absence of such a strategy.

10.6. **Impact on Water Bodies**

10.6.1. The fourth reason for refusal stated that the Planning Authority cannot be satisfied that the proposed development would not negatively impact on the ability of water bodies in the vicinity of the proposed windfarm to achieve the relevant water quality status required under the Water Framework Directive and it is not satisfied that the excavation of the proposed borrow pit and infilling of same with large volumes of peat would not negatively impact on local hydrogeology. This reason for refusal appears to be predicated on the report prepared by the Environment Department on behalf of Kerry County Council. The environmental report expressed concerns that the potential impact of temporary storage of such large volumes of peat on peatland could lead to heavily sediment laden water runoff. There are also concerns in relation to the placement of such large volumes of peat into the proposed limestone borrow pit and the potential this could have on local hydrogeology. The environmental report also expresses concerns that the proposed development could impact on the water quality status of surrounding rivers including the River Brick and the River Cashen. On foot of these concerns Kerry County Council Environmental Department have strong reservations in relation to the issues raised above.

10.6.2. In the response to the concerns highlighted by the Planning Authority in reason for refusal no. 4 the applicant proposes a series of mitigation measures which will control the release of suspended solids to surface waters in the vicinity. Furthermore, accidental spillage during refuelling of construction plant constitutes a major pollution risk. The applicant sets out a series of mitigation measures which include a suite of general SuDS drainage controls available for surface water management. These include:

- The application of 50 metre buffer zones around the natural watercourses,
- Using small working areas and working in suitable weather and suspending certain work activities in advance of forecasted wet weather.
- It is also proposed to use interceptor drains, cover stockpiles and control silt laden waters through the provision of sandbags, oyster bags, filter fabrics, straw bales, silt fences and other similar equipment.
- Attenuation ponds, temporary storage lagoons, sediment traps and proprietary settlement systems will also be used.
- A self-contained portaloo will ensure adequate wastewater is discharged to a suitable off-site treatment location.

10.6.3. It is anticipated that if the above mitigation measures are put in place, the proposal will not result in any deterioration of surrounding water bodies. A suite of mitigation measures are also included in the applicant's response to ensure the containment of any potential hydrocarbon spills or release of cement based projects.

10.6.4. In terms of extreme flood events, I am satisfied that a windfarm development during the operational phase cannot be considered a particularly vulnerable development to flooding in accordance with the Flood Risk Management Guidelines. Any electrical equipment associated with the operation of the turbine will be located well above the maximum extent of flooding.

10.6.5. Major damage could occur however from a largescale inundation of a profound flood event during the construction phase and this is a significant concern of the Kerry County Council Environmental Department. The fact that both the Feale and Brick Rivers are tidal and notwithstanding the provision of levies along the site boundary

any tidal surge could exacerbate a flooding event on site. In order to counteract the adverse effects it is proposed that all major earthworks will be completed during the summer months (May to October) when the risk of combined fluvial and coastal flooding is at its lowest. Large excavations and movements of subsoils will be suspended if heavy rain, high tides and the possibility of flooding is forecast. The applicant further states that the extent to which the works will be scaled back or suspended will relate directly to the amount of rainfall forecast and the predicted high tides on the rivers adjacent to the site. The response also points out that the potential for such an extreme flood scenario to occur on site is very low and that if that scenario were to occur, the potential for the proposed development to cause significant effects to the Lower River Shannon SAC is miniscule.

10.6.6. In the unlikely event that an extreme flood event occurs during the construction phase of the proposed development the mitigation measures to protect adjoining surface water would largely become redundant. The susceptibility of the site to largescale flooding having regard to the potential for coastal flooding is a significant and material consideration in determining whether or not the subject site is suitable for largescale development including largescale earth movements and excavations. The OPW Flood Maps clearly indicate that almost the entire site has a high probability of flooding. On this basis I would recommend that the Board exercise precaution in developing the subject site for a windfarm in the absence of more detailed analysis of the suitability of the location for such a development in the contest of an overall wind deployment strategy for the county. Flooding of this site during the period when large scale earth excavations and peat movements are taking place during to construction period could have a significant adverse impact on waterbodies in the area in terms of pollution and potential contamination.

10.6.7. In relation to storing of peat materials in the borrow pit, the applicant has indicated that there will be no excavation below the local groundwater table (estimated at -3.3 metres Ordnance Datum). Furthermore a layer of soil will be placed in the bottom of the borrow pit to ensure that the water table is proptected. If the Board are minded to grant planning permission it is considered that any hydrogeological concerns relating to the placing of peat in the borrow pit can be adequately addressed by way of condition ensuring that no peat is laid at a depth below the maximum water table within the borrow pit.

10.6.8. In conclusion therefore while it is acknowledged that a largescale flooding event during the construction phase may not necessarily occur, it cannot nevertheless be ruled out in its entirety. A largescale flood inundation over the entire site during the construction phase has the potential to adversely impact on adjoining waterbodies which could in turn adversely affect the status of the waterbodies in question. This is another consideration which should be assessed in the context of identifying the most suitable lands to accommodate any future windfarm development in the county of Kerry. On this basis again it can be reasonably concluded in my view that the proposed development before the Board may be premature pending the adoption of an agreed windfarm strategy for the county.

10.7. **Ecological Issues**

Impact on Water Bird Populations in the Area Particularly the Whooper Swan

10.7.1. Reason No 5 of the planning authority's reason for refusal argues that the development of a wind farm at this location could jeopardise the use of the site, particularly during times of flooding, the use of the site for the whooper swan associated with the Cashen Estuary pHNA and as such would materially contravene Objective NE-13 of the Kerry County Development Plan 2015.

NE -13 seeks to '*Maintain the nature conservation value and integrity of all Natural Heritage Areas (NHAs), proposed Natural Heritage Areas (pNHAs), Nature Reserves and Killarney National Park. This shall include any other sites that may be designated at national level during the lifetime of the plan in co-operation with relevant state agencies'.*

A similar objective is contained in the more recently adopted development plan 2022-2028 namely KC DP 11-2 which seeks to '*maintain the nature conservation value and integrity of Natural Heritage Areas (NHA's) and proposed Natural Heritage Areas (pNHA's). This shall include any other sites that may be designated at national level during the lifetime of the plan in cooperation with other relevant state agencies'*.

10.7.2. In response to this assertion, the applicant argues that the bird surveys undertaken as part of the assessment commonly coincided with periods of flooding to the north of the Cashen Estuary and the north of the application site and these areas attracted the majority of the Whooper Swan that were attracted to the area. It is clear from the information contained in the EIAR that Whooper Swan flight paths do traverse the

area in and around the subject site. The is indicated graphically in the various survey maps contained in Appendix 7.4. Much of the flight path distribution centres along the River Brick contiguous to the western boundary of the site, and therefore in close proximity to the turbines. It is also clear from Fig 7-4-21 that the Whooper Swan also frequents the to the immediate north of the site, the marshlands to the immediate north of the River Feale, adjacent to the north eastern boundary of the site.

10.7.3. The applicant suggests that the Whooper Swan mainly confines itself to the flooded areas of the improved agricultural grasslands and that the majority of the site comprises of peatlands. A cursory look at the habitat map shows that 4 of the 7 turbines are located proximate to, or within areas of improved agricultural grassland and as such could present a potential threat to feeding and foraging grounds to the Whooper Swan both in terms of collision risk and potential disturbance through noise and vibration. While the applicant stresses that Ballyouneen to the north of the site continues to be a key site, the grasslands in the vicinity of T5 and T7 ‘continues to host foraging and roosting birds also’ (p74 of grounds of appeal).

10.7.4. Again, issues such as that raised in the reason for refusal no.5 should in my view feed into studies indicating the preferred location for windfarm developments on a strategic county level. This in my view would support the conclusion that the proposal may be considered premature pending the formal adoption of preferred wind deployment areas within the county and windfarms in this lowland location in proximity to estuaries and marshes could impact on migratory paths and roosting and foraging habitats for wetland birds.

Other Ecological Issues

The Planning Authorities final reason for refusal made reference to various ecological issues which were a source of concern. Some of these issues are dealt with in a separate section of my report under the Appropriate Assessment heading below and for this reason are only briefly dealt with in this section of my report.

(a) *The provision of effective construction stage water quality protection measures during times of flood*.

These concerns were raised in the planning authority’s fourth reason for refusal and are dealt with in more detail above. It is sufficient to reiterate that while appropriate mitigation measures can be put in place to control water quality issues generally, the

situation becomes somewhat more complex because of the frequent flooding issues experienced on the site. I concur with the planning authorities concerns, that should flooding event occur during the construction period (c18 month period) the implications for water quality control from the site could be significant and challenging given the large scale excavation and soil disturbance associated with the construction phase. This should feed into studies indicating the preferred location for windfarm developments on a county level.

(b) The use and importance of the windfarm site and study area by Otter.

This issue is assessed in the Appropriate Assessment section below. The evaluation concluded that the proposed development is very unlikely to impact on the habitat of the otter, which is a qualifying interest of the Lower River Shannon SAC (Site Code 2165).

(c) The Possible use and importance of the windfarm site and study area by Hen Harrier breeding in the Stack's and Mullaghereirks, West Limerick Hills and Mount Eagle SPA.

This issue is assessed in the Appropriate Assessment section below. The evaluation concluded that the proposed development is very unlikely to impact on the habitat of the Hen Harrier, which is a qualifying interest of the Stack's and Mullaghereirks, West Limerick Hills and Mount Eagle SPA.

(d) The possibility of movement between the Cashen Estuary Whooper Swan flock and that associated with the Tralee Bay Complex SPA.

These concerns were raised in the planning authority's fifth reason for refusal and are dealt with in more detail in the section 11.7.1 to 11.7.4 above. It is sufficient to reiterate that in my opinion, the studies undertaken do not sufficiently allay concerns that the proposed turbines could potentially impact on foraging and roosting sites associated with wetland birds, particularly the Whooper Swan. This should feed into studies indicating the preferred location for windfarm developments on a county level.

10.8. **Other Issues**

10.8.1. Procedural Issues

Concerns were expressed in one observation that insufficient time was allocated to the observer in submitted that application due to the time it took for the Board to distribute the appeal documentation to the Kerry County Council. While the time to lodge an observation may have been truncated, the observer nevertheless manged to submit a valid observation to the Board and the issues raised in the observation and indeed in the various other submissions, included those submitted to Kerry County Council, have been given due consideration by myself in making a recommendation and will also no doubt be given due consideration by the Board in determination by the Board in determining the application.

10.8.2. Peat Sequestration

It is accepted that peatlands are important and efficient sequesters of carbon. However, the amount of peat to be removed as a result of the proposed windfarm development would be modest as only 4 of the 7 turbines are located on peatlands. Table 10.10 of the EIAR sets out the expected carbon losses (tonnes CO_2 equivalent) as a result of the proposed development amounts to 105,798 tonnes over the 35 year lifespan of the project. On the other hand, it is estimated that that 1,967,770 tonnes of CO_2 will be displaced from traditional carbon-based electricity generation over the period of the development. To refuse planning permission on the basis that the proposal will remove a modest amount of peat, having regard to the overall savings on CO_2 emissions arising from the windfarm development, would in my view be disproportionate in the extreme.

10.8.3. Economic Considerations

Likewise, any inflationary pressures associated with the cost of raw materials associated with the windfarm turbines together with the problems associated with the global supply chain do not constitute valid reasons to terminate or reduce renewable energy projects in my opinion. There is no reason to believe that the applicant does not have the financial resources to carry out the proposed development as suggested in the observation submitted.

10.8.4. Traffic Considerations

Concerns were expressed in one of the observations that the reduction in depth of the Borrow Pit would result in additional HGV importing aggregate to the site during the construction period. This, according to the information in the appeal would result in an additional 11 HGV trips per day over the period of a year (255 days). It is acknowledged that the additional HGV traffic would impact on the road network and could give rise to additional noise for sensitive receptors along the haul route. However, I do not consider that such a temporary impact to be so material or significant and would not in itself constitute reasonable grounds for refusal having regard to the urgent need to expand and augment renewable energy infrastructure in the State.

10.8.5. Other Ecological Concerns

Concerns were expressed that the proposed windfarm development could on a variety of species using the site, including the Marsh Fritillary Butterfly. I am satisfied that the Biodiversity Chapter has adequately assessed the potential impact on biodiversity on the site including the Marsh Fritillary Butterfly. Surveys undertaken as part of the EIAR did not indicate the presence of this species on site.

10.8.6. Impact of Floating Roads

Concerns are expressed in one of the observations, that floating roads will lead to some areas of the bog becoming compressed and drying out. Floating roads are only proposed to be used in the interest of protecting the potential archaeological remains on site, particularly the area in the vicinity of the unclassified togher/road traversing the site and linking the ecclesiastical sites at Rattoo and Dysert. Protecting undisturbed archaeological sites is a positive mitigation measure in protecting archaeological remains and should be recognised as such. The proposed floating road will be laid over a small portion of the peat which has been heavily modified through turf cutting activities which in turn has significantly altered the drainage patterns of the peatland. I do not anticipate that floating roads will have a significant impact on the drainage patterns on peatland which has already been

heavily modified, but will have a positive impact on protecting the archaeology of the area.

10.8.7. Applicability of the Provisions of S.37(2)(b)

A number of reasons for refusal specifically refer to the concept of the development "materially contravening" the development plan. Under such a scenario the Board can only grant planning permission if it is satisfied that one or more of the criteria set out under the provisions of S37(2)(b) of the Act apply. It is my considered view that the proposal accords with a number of the criteria set out under the provisions of S37(2)(b) principally that the development of renewable infrastructure such as that proposed would be of strategic or national importance. It could also be reasonably argued that there is a lacuna in the windfarm strategy for Kerry and in this context, it could be concluded that the objectives in respect of windfarm development are not clearly stated and are somewhat ambiguous, having regard to the sought alterations on wind energy policy in the development plan being put on abeyance on foot of the S. 31 Ministerial Direction. Regional planning policy guidelines and Section 28 Planning Guidelines on Windfarm development would also support the development of windfarms as a valuable source of renewable energy. Finally, it could be reasonably argued having regard to the proliferation of windfarms surrounding the site, including those granted during the life of the previous development plan, under which the current application was determined by the planning authority, that the provisions of S37(2) (b)(iv) could also apply.

Thus, if the Board were minded to grant planning permission for the proposed development, I consider that various criteria would apply under the provisions of S37(2)(b) which would enable it grant planning permission.

11.0 **Overall Conclusions and Recommendations**

11.1. Arising from my assessment above, I consider that firm conclusion cannot be reached as to whether or not a windfarm development is suitable on the subject site in the absence of a detailed adopted wind energy strategy for the county, indicating preferred areas for renewable energy development. Any development for wind turbines on the subject site should be assessed in the context of such an adopted

strategy and not in the absence of such a strategy. It is my considered view that a number of issues arise regarding the suitability of the site in terms of the proposal's impact on the historic landscaping, particularly the setting of Rattoo Roundtower and ecclesiastical centre. Concerns also arise regarding the sites propensity to experience flood events and the site's attractiveness for certain bird species in terms of roosting and foraging. However, such concerns may not be necessarily fatal to the application, particularly having regard to the urgent need to develop renewable energy in the State to achieve specified targets. Therefore, any decision on whether or not to develop the subject site for wind energy development should be made in the context of an adapted county-wide strategy.

12.0 Environmental Impact Assessment

12.1. Statutory Provisions

12.1.1. The European Union Directive 2014/52/EU, amending Directive 2011/92/EU, on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority carries out an appraisal of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project. The EIA Directive was transposed into Irish law under the Planning and Development Regulations 2001 to 2018 (as amended). Part 1 of Schedule 5 of the 2001 Regulations, includes a list of projects for which mandatory EIA is required. Part 2 of Schedule 5 provides a list of projects where, if specified thresholds are exceeded, an EIA is also required.

12.1.2. The proposed development falls within the definition of a project under the EIA Directive as amended by Directive 2014/52 and falls within the scope of Class 3 (j) of Part 2 of the Fifth Schedule of the Planning and Development Regulations 2001, as amended:

> *Energy Industry*
>
> *(j) 'Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output of greater than 5 megawatts' require EIA.*

12.1.3. The proposed development with a total of 7 no. turbines with an estimated installed capacity of with a maximum total rated output greater than 5 megawatts exceeds both the thresholds referred to in Class 3(j) and is therefore subject to mandatory EIA.

12.1.4. Directive 2014/52/EU amending the 2011 EIA Directive was transposed into Irish legislation on September 1st, 2018 under the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. The EIAR was submitted to the Board with the application on the 14th of December 2021 and is therefore assessed under the newest Directive.

12.1.5. The EIAR submitted with the application consists of 3 separate volumes;

- Volume 1: Main Text which is set out in a grouped format structure whereby the various environmental factors as prescribed in the Directive is presented and assessed in an individual chapter. It also includes a non-technical summary.
- Volume 2 (In 2 separate folders): Comprises as a range of annexes and reports including technical data relating to each of the chapters in the main volume.
- A Photomontage Booklet is also submitted as standalone document. It includes photos of the baseline environment, together with the proposed windfarms and existing windfarms in the wider area at a 90° and 53.5° angle.

12.2. **Compliance with legislation**

12.2.1. The impact of the proposed development is addressed under all relevant headings with respect to the environmental factors listed in Article 3(1) of the 2014 Directive, which include:

(a) population and human health

(b) biodiversity, with particular attention to the species and habitats protected under Directive 92/43EEC and Directive 2009/147/EC

(c) land, soil, water, air quality and climate

(d) material assets, cultural heritage and the landscape

(e) the interaction between the factors referred to in points (a) to (d).

12.2.2. There are also separate chapters on and noise and vibration, ornithology, and material assets. The environmental factors listed in Article 3(1) of the Directive are discussed in Chapters 5 to 14. Chapter 15 sets out the interaction of effects and Chapter 16 sets out mitigation and monitoring measures

12.2.3. Chapter 1 includes an introduction to the EIA process, and the legislative context for EIAR and the need for the development specifically in the context of climate change and greenhouse gas emissions, and the nations renewable energy targets. The chapter also sets out details of the purpose and the structure of the EIAR as well as how the likely significant effects are assessed. In compliance with the provisions of Article 5(3), the EIAR tabulates the inputs and qualifications of the study team and contributors under Section 1.8 of the document. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality. I also consider that the information contained in the EIAR is up to date. It is stated that there were no difficulties encountered in preparing the EIAR.

12.2.4. Article 3(2) of the Directive requires the consideration of effects deriving from the vulnerability of the projects to risks of major accidents and/or disasters that are relevant to the project concerned. This is addressed in Chapter 5 (Population and Human Health) in section 5.5.5 of the EIAR.

12.2.5. The EIAR complies with Article 5 of the Directive and Schedule 6 of the Planning and Development Regulations 2001, as amended. It provides a comprehensive description of the project comprising information on the site, design, size, construction and operation of the project and other relevant features associated with the development of the project (Chapter 4). It describes the likely significant effects of the project on the relevant environmental factors (Chapters 5 -14) and it provides a description of the measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant effects on the environment.

12.2.6. The Directive requires that the description of likely significant effects should also include an assessment of cumulative impacts that may arise from the proposed development in combination with other plans or projects. Section 2.7.2 and Table 2.5 of the EIAR sets out the projects which were included for the purposes of assessing cumulative assessment. Cumulative effects are also considered, (where applicable),

under the various environmental factors in the individual chapters of the EIAR. The main impacts in terms of cumulative effect were identified as other wind farm developments. In terms of cumulative impacts, the most significant cumulative impacts are identified as other windfarm developments within a 20km radius of the development. All 29 windfarm developments comprising of 208 turbines are identified are set out in the Table below:

Windfarm	County	Planning Status	Number of Turbines
Pallas- Clahane	Kerry	Existing	20
Pallas Clahane Extension	Kerry	Existing	6
Ballincollig Hill	Kerry	Existing	8
Clohaneleskirt	Kerry	Permitted	5
Beale Hill	Kerry	Existing	6
Ballylongford	Kerry	Permitted	6
Beenageeha	Kerry	Existing	6
Cloghboola	Kerry	Existing	16
Knocknagoum/Maghanknockane	Kerry	Existing	15
Tursillagh I	Kerry	Existing	23
Tursillage II	Kerry	Existing	8
Tylagh	Kerry	Existing	4
Tullahennel South	Kerry	Existing	9
Tullahennel North	Kerry	Existing	2
Larha	Kerry	Existing	2
Curraghderrig	Kerry	Existing	2
Stack's mountain	Kerry	Existing	4
Domadda Beg	Kerry	Under Construction	3
Dromadda More	Kerry	Existing	11
Knocknacaheragh	Kerry	Permitted	2
Moyvane	Kerry	Existing	2

Muingnaminnan	Kerry	Existing	18
Leanamore	Kerry	Existing	9
Cahercullanagh/Muingnatee	Kerry	Existing	11
Beenanaspuck	Kerry	Existing	3
Kilathmoy-Toberatooreen	Kerry	Existing	4
Aghanamore North	Kerry	Existing	1
Breahva	Clare	Existing	2

12.2.7. The EIAR includes a standalone Non-Technical Summary of the information referred to in Article 5 (a) to (d) and additional information specified in Annex IV. It provides an adequate description of the forecasting measures used to identify and assess the significant effects on the environment. The Non-Technical Summary is concise and comprehensive and is written in a language that can easily be understood by a lay member of the public. It is contained as a preface to the main document.

12.2.8. Chapter 2 sets out the background to the proposed development setting out the specifics of the policy and targets of the EU renewable energy sector. National and International Policy and Guidelines are also detailed with specific reference made to the following documents:

– National Renewable Energy Action Plan 2010
- White Paper on Energy Policy in Ireland
- Ireland's Transition to a Low Carbon Energy Future 2015-2030
- Electricity Support Schemes: I-SEM Arrangements Decision Paper 2017
- Draft National Energy & Climate Plan 2021-2030
- Renewable Electricity Support Scheme RESS 2020 and
- The Programme for Government 2020
- United National Framework Convention on Climate Change
- Kyoto Protocol Targets
- Doha Amendment to the Kyoto Protocol

- Conference of Parties (COP) 21 – Paris Agreement
- COP 25 Madrid – Current Progress
- National Climate Change Adaptation Framework 2012
- National Policy Position on Climate Action and Low Carbon Development 2014
- Climate Action and Low Carbon Development Act 2015
- National Adaptation Framework – Planning for a Resilient Ireland 2018
- Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action 2019
- Climate Action Plan 2019: and
- Draft Climate Action and Low Carbon Development (Amendment) Bill 2020.

12.2.9. In terms of the strategic planning context the EIAR makes reference to the following documents:

- The National Planning Framework 2018
- Regional Spatial and Economic Strategy for the Southern Region – Regional Spatial and Economic Strategy
- Kerry County Development Plan
- DoEHLG Wind Energy Guidelines 2006
- Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change 2017
- Department Circular PL5/2017
- Draft Revised Wind Energy Development in Ireland 2019
- IWEA Best Practice Guidelines for the Irish Wind Energy Industry
- IWEA Best Practice Guidelines for Community Engagement and Community Commitment 2013
- Code of Practice for Wind Energy Development in Ireland – Guidelines for Community Engagement 2016
- IWEA Community Engagement Strategy 2018

- Commission for Regulation of Utilities: Grid Connection Policy
- Renewable Energy Support Scheme (RESS).
- Forest Service Guidelines

12.2.10. Details of the planning history of the site and its surroundings, and of wind energy applications within 20 km of the site and these are listed in Table 2-2 of the EIAR. Section 2.6 details the scoping and consultations undertaken as part of the proposal. Table 2.3 sets out all the responses received from the various stakeholders, and the key points contained therein on foot of the circulation of a scoping document sent out in February 2020. Details of the pre-application consultations which took place with The Board[5] and Kerry Co Council are set out. As part of the community consultations, the applicant appointed a Community Liaison Officer who was to act as a direct contact for the local community. The applicants also established a project website to inform the community and the public of the project. A number of webinars were also undertaken as part of the public consultation process.

12.2.11. Finally, the chapter details the projects which were assessed in terms of cumulative impacts. Other windfarm developments and other permitted applications within a 20 km radius have been assessed

12.2.12. I am satisfied that the information provided in the EIAR is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment.

12.3. **Alternatives**

12.3.1. Under the provisions of Article 5(1)(d) of the 2014 Directive it is a requirement that an EIAR contain:

[5] Two meetings took place to determine whether or not the proposal constituted SID, on foot of a number of changes to the proposal, the Board determined (ABP 309013-20) that the proposal fell below the threshold of development that qualified as SID

"(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment".

12.3.2. Chapter 3 of the EIAR addresses the matter of alternatives in terms of the 'do-nothing option', alternative locations, layout/design, numbers of turbines proposed /model and alternative renewable energy technologies.

12.3.3. In a 'do-nothing' option, the site would remain as it currently is and would be managed as commercial agricultural land and would be used as turf cutting. This alternative was rejected on the basis that it would represent a lost opportunity to capture the positive environmental effects arising from the project including the opportunity to harness Kerry's abundant renewable energy resource and it would fail to contribute to meeting Government and EU targets; including commitments under the current programme for Government for the production and consumption of energy from renewables and the reduction in greenhouse gases. It would also result in a lost opportunity to increase local employment and to allow the community to avail of the long term financial community funding.

12.3.4. With regard to alternative locations, the site analysis screening process was subject to a 'sieve analysis'. The wind regime and the distance to electrical grid infrastructure were key determinants in terms of location; as were the avoidance of environmentally protected areas and housing areas and commercial buildings. A buffer of 700m was applied to ensure that adequate setbacks were incorporated for environmental receptors. Based on the above analysis, 60 sites were identified throughout the country. Further investigations were carried out including an analysis of the commercial risks and other environmental constraints and on foot of this analysis the number of sites were whittled down to 4 – two in Kerry, one in Offaly and one in Kilkenny. The alternative site in Kerry was previously refused planning permission on visual grounds, on this basis it was less favoured than the preferred site. The site in Offaly was considered and it was concluded that the grid connection was not considered to be as preferable, and it was not a preferred location for windfarm development in the county development plan. The site in Kilkenny does not have one identified single land block that would be suitable for development. Instead

in comprises of separate parcels of land to the northeast of Kilkenny City. The Ballynagare site was considered to be preferential in terms of (a) Proximity to existing grid infrastructure, (b) proximity to designated sites, (c) average wind speed and (d) population density. The site is also located within an area designated in the development plan as 'open for consideration'. It is also located within close proximity to two grid connections.

12.3.5. In terms of alternative technologies, consideration was given to the development of smaller turbines, but in order to achieve the same energy output and to take advantage of the wind regime available, this would necessitate a greater number of turbines on site. This in turn would require a larger footprint and greater supporting infrastructure. A larger number of turbines could have greater adverse impacts in terms of shadow flicker, impact on biodiversity, archaeology etc. On this basis a reduced number of larger turbines were seen as being more preferable

12.3.6. The turbine layout and design considered a number of options which throughout the design process were subject to revisions and iterations. Each layout was subject to constraints mapping which is depicted on Figure 3.13 and a site investigation analysis. The layout also took into consideration wind, noise, and shadow flicker considerations etc. Buildable land was also identified to the north of the River Feale, however this was later discounted on the basis of the potential impacts on the Whooper Swan. The buildable area was therefore restricted to the south of the river. Various iterations in the design and layout were set out (Figures 3.16-3.19) and were discounted for various reasons, primarily relation to potential impacts on biodiversity. In terms of road layout, the preferred option sought to maximise the use of the existing road layout.

12.3.7. In terms of alternatives for supporting infrastructure, consideration was given to providing one large compound rather than multiple compounds. However multiple smaller compounds were considered preferable in terms of reducing vehicular movements. Alternative substation locations were also considered as part of the overall layout.

12.3.8. Overhead and underground lines were also considered. In accordance with the Draft Wind Energy Guidelines, underground lines were considered to be the preferred option. Two grid connections were also considered (a) the 38kV Electricity

Substation at Clahane c 9.4 km to the southwest of the site or (b) Triene 38 kV Electricity Substation 12.2 km to the east of the subject site. The longer route was deemed to be more expensive and would have a greater impact on a greater number of residential dwellings along its alignment. The extraction of material from an on-line borrow pit was considered to be the preferred option due to the reduction of transport costs associated with the importation of aggregate onto the site. In terms of port of entry for the turbines, the port of Shannon Foynes was considered to be the most advantageous due to its proximity to the site.

12.3.9. In terms of turbine delivery routes, two options were considered. The preferred option involved a route via the N69 and along the N21 to Tralee as opposed to an alternative route via Tarbert. Although longer, the former route will utilise the national and secondary road network which has a greater capacity to accommodate abnormal loads.

12.3.10. I consider that the matter of examination of alternatives has been satisfactorily addressed in the EIAR. I consider that the level of detail is reasonable and commensurate with the project. The EIAR sets out how the proposed development evolved and how it was adjusted to take into consideration environmental effects. I am satisfied that the process is robust and that the requirements of the Directive are fully complied with.

12.3.11. Chapter 4 sets out in detail a description of the proposed development. Details of the development is set out in section 3 of my report. It is not proposed to set out details of the proposed for the purposes of EIA assessment. It is sufficient to state that the proposed development has been described in sufficient and adequate detail as required in Annex IIA of the Directive. It includes a description of the physical characteristics of the whole project and the location of the project with particular regard to the environmental sensitivity of the geographical areas likely to be affected.

12.4. Likely Significant Effects on the Environment

This section of the EIA identifies, describes and assesses the potential direct, indirect and cumulative effects of the project under each of the environmental factors referred to in Article 3(1) of the Directive. The assessment follows the headings used in the EIAR which are as follows:

- Population and Human Health
- Biodiversity
- Birds
- Land, Soils & Geology
- Hydrology and hydrogeology
- Air Quality & Climate
- Noise & Vibration
- Landscape and visual
- Archaeological, Architectural and Cultural Heritage
- Material Assets.
- Interaction of the foregoing

12.5. **Population and Human Health**

12.5.1. Chapter 5 of the EIAR identifies, describes and assesses the impact of the proposed development in the context of population, employment, economic activity, changes in social and land use activity, rights of way amenities, health and safety. The potential impacts on population and human health arising from other environmental factors (air pollution, water contamination etc) are considered in other chapters of the EIAR.

12.5.2. The site, which extends across a number of townlands, is located in a rural area with a low population density. The small village of Lixnaw is located about 1.5 to 3 km to the south while the larger town Listowel c. 10 km to the east. The study area has a relatively low population density at c. 36 persons per sq.km which is approximately half the State average. Details of household statistics and age structure are also presented in the Chapter. The EIAR also provides details of employment by socio-economic group (Fig 5-3). The potential of the wind renewable energy sector to create employment is set out, as is the ability of wind energy to deliver savings on the wholesale wind energy market. How the proposed development will contribute to achieve renewable energy targets is also highlighted.

12.5.3. Details of the land use of the area is also detailed, with almost 77% of the land use under agriculture. A breakdown of the farmland in the study area is set out. The nearest services are located in at Lixnaw and Listowel.

12.5.4. It is stated that there are no tourist attractions in the primary study area. The nearest tourist attraction is Listowel where the various attractions are set out within the town are listed. It is noted that Rattoo Roundtower, Church and Graveyard and Dysert medieval ecclesiastical centres which are both located in close proximity to the site are not listed as tourist attractions. This is an oversight in my view.

12.5.5. The chapter also refers to various surveys carried out in respect of tourism and windfarms. Specific reference is made surveys carried out by the Scottish Tourism Board in 2016 and the Failte Ireland Surveys of 2007 and 2012. In the case of the Scottish survey, it demonstrated that there was no relationship between the development of onshore wind farms and tourism employment and that wind farm development is not detrimental to the Scottish tourism industry. In the case of the Failte Ireland Surveys, the results indicated that most visitors were broadly positive towards the idea of wind farm development in Ireland. Other surveys carried out in Ireland indicate that the public are generally 'in favor' are 'strongly in favor' of development of wind energy in Ireland. The main findings of SEAI survey indicate that overall attitude the wind farms in Ireland is "almost entirely positive".

12.5.6. With regard to the health impacts of wind farms, the chapter refers to anecdotal reports of negative health effects on people who live very close to wind turbines, however peer reviewed research has not supported the conclusion windfarms give rise to human health problems. References are made in the EIAR the various reports which support the view that there is no evidence to support such a conclusion.

12.5.7. In terms of turbine safety, the adopted 2006 Guidelines and draft 2019 Guidelines state there is very little remote possibility of injury to people from ice throw or damaged blades. The wind turbines will be fitted with anti-vibration sensors which will detect any imbalance caused by ice formulated on the blades. The sensors will cause the turbine to wait until the blades have thawed before resuming operation lightning protection conduits will be an integral part of the construction of the turbines.

12.5.8. With regard to electromagnetic interference, underground electric cables are to be laid as is the common practice throughout the country. All cables should be installed to the required specification and will not give rise to any health concerns. The extremely low frequency electric and magnetic fields associated with the operation of the proposed cables fully comply with international guidelines set by the International Commission on Non-Ionizing Radiation Protection. More generally in terms of human health, a wind farm is not a recognized source of pollution. It is not an activity which falls within any of the thresholds requiring EPA licensing. The various potential adverse impact on human health (noise water pollution etc.) are addressed specifically in the various chapters further on in the document.

12.5.9. In terms of the vulnerability of the project to natural disasters or a major accident, there is limited potential for significant natural disasters to occur at the proposed wind farm site. Ireland is geologically stable with a mild temperature climate. The potential natural disasters that may occur are therefore limited to flooding and fire. The risk of flooding is addressed in Chapter 9; whereas the risk of fire is extremely unlikely. The wind farm is not required to be regulated and is not connected to, or in proximity of any site regulated under the COMAH Regulations. SEVESO issues therefore are not relevant or applicable.

12.5.10. In terms of property values, a number of studies were undertaken regarding the impact of windfarms on property values in the United States and Scotland. Again, it found that there was no evidence of a consistent negative effect on house prices. While results vary across areas, the data does not provide sufficient information to form a rigorous conclusion on this matter. There have been no empirical studies carried out in Ireland on the impact of wind farms and property prices, but at international level, it is generally concluded that wind farms have not impacted on property values in local areas.

12.5.11. This chapter also deals with the issue of shadow flicker. It stated that the current adopted guidance for shadow flicker in Ireland is derived from the 2006 Wind Energy Guidelines. The Ballynagare wind farm is committed to zero shadow flicker at all occupied residential receptors within 10 rotor diameters of the proposed turbines. It is stated that there are a total of 80 dwellings located within 10 rotor diameters of the

proposed turbine locations (1.5km). There are no third-party dwellings located closer than 680 meters from the nearest turbine location.

12.5.12. Of the 80 properties modelled, it is predicted that 39 properties may experience daily shadow flickers in excess of the guidelines of 30 minutes per day. This prediction is based on the worst-case scenario (i.e. 100% sunshine on all days where the shadow of the turbine passes over a house, wind blowing in the correct direction and no screening present). Of the 39 properties, 37 are occupied and two are vacant/derelict. When the regional sunshine average of 29.5% sunshine on any given day is taken into account, the guideline limit of 30 hours per year is predicted not to be exceeded any of the inhabitable or derelict properties. Furthermore, the occurrence and duration of shadow flicker is likely to be eliminated are significantly reduced when the following is taken into consideration:

- The receivers may be screened by topography, cloud cover or be located in close proximity to be blocked by vegetation/ structures in the vicinity.
- Each receiver will not have windows facing in all directions onto the windfarm, as assumed in the model.
- Beyond 1 km the flicker will become less defined, and it is generally not necessary to consider shadow casting at such distances.

12.5.13. There are no wind farms within 3 kilometers of subject site which could contribute to a cumulative impact in terms of shadow flicker. Therefore, cumulative impacts will not arise as there are no residential properties within 10 rotor diameters of both the proposed development and the proposed Ballyhorgan windfarm c 5km away.

Likely Significant Impacts

12.5.14. Under a do-nothing scenario, the proposed development would not proceed, the land use will remain in the agricultural use and an opportunity to capture a valuable renewable energy resource would be lost.

12.5.15. During the construction phase, the construction site and the machinery use could pose a potential health and safety hazard for construction workers, if site safety rules are not properly implemented. In this regard a detailed health and safety plan covering all aspects of the construction process will be drawn up and implemented. With the implementation of the above measures, no residual impacts are anticipated.

The proposed construction of the windfarms we will have a positive impact on employment and investment where it is estimated that c.70 jobs will be created during the construction, operation and maintenance phases.

12.5.16. The proposed community benefit scheme will set aside approximately €200,000 for the benefit of the local community. The proposed development will have no adverse impact on land uses as the development has been designed to co-exist with existing rural land uses.

12.5.17. Given that there are no tourist attractions in the immediate area, there will be no impacts associated with the construction phase of the development. There will be an increase in noise level in the vicinity of the proposed development site during the operational phase, as a result of having machinery or construction work which has the potential to cause nuisance to sensitive receptors. A series of mitigation measures are set out to reduce the impact of the proposal in terms of noise and air pollution, specifically fugitive dust from the construction phase. Increases in traffic will also occur during the construction phase, however a traffic management plan will be developed and implemented to ensure that any impact will be minimised.

12.5.18. The likely significant effects during the operational phase will include the employment (up to 17 jobs) and investment in the area. No specific adverse impacts are anticipated in terms of health and safety. The applicant is committed to operating a community benefit fund in accordance with Wind Energy Ireland Best Practice. It will be available to the community at a rate of €2 per MWh, which will amount to approximately €200,000 per year. The fund will be administered by a committee which will likely include members of the local community to prioritise funding for local projects. The long-term nature of the income will allow the community to plan ahead where it can rely on a steady source of income to the community. There will be no material impact on population, land use or property values during the operational phase.

12.5.19. In terms of shadow flicker, a SCADA shadow flicker control unit will be incorporated into the operation design software to control and prevent shadow flicker where it could potentially occur. While shadow flicker could potentially have a long-term slight negative impact the applicant is committed to zero shadow flicker at occupied

residential receptors and therefore there will be no impact from shadow flicker on human beings.

12.5.20. The visual impact arising from the proposed development is assessed in chapter 13. It is acknowledged that the proposed development will be visible in and around the wider study area. However, the EIAR suggests that there is no evidence to support the conclusion that the proposal may adversely affect the visitor appeal of the area.

12.5.21. In terms of noise, a detailed noise assessment is presented in Chapter 11. The noise assessment determined that predicted operational noise effect at the closest noise sensitive receptor will be 'moderate' 'negative' and long-term in nature. In the majority of locations assessed, the operation of the proposed turbines will have a 'slight negative long-term effect'. Traffic impacts associated with the operational phase will be modest and will essentially comprised of infrequent maintenance trips.

12.5.22. Any impacts associated with the decommissioning phase will be similar to those associated with the construction phase. Cumulative impacts on human beings our assessed separately in the various chapters of the EIAR where relevant. Impacts on property devaluation are described as 'long term imperceptible' and 'neutral'.

12.5.23. No mitigation measures are required to reduce or remedy any adverse effect from a human health or socio-economic receptors point of view. Where potential impacts could occur on the population in the study area, these are dealt with separately under the various chapter heading described and assessed below.

12.5.24. Residual impacts in terms of the construction are considered to be short -term and 'slightly negative'. No adverse residual impacts are anticipated during the operational or decommissioning phase.

Assessment of the Population and Human Health Chapter

12.5.25. The main issues in the submissions raised relate to impacts on human health, shadow flicker, noise, traffic, cultural heritage and potential impacts on tourism in the area. While there is no scientific evidence that the operation of the wind farm would result in negative health outcomes, it is recognised there is potential for increased annoyance associated with noise and shadow flicker. Subject to compliance with the recommended noise levels for the protection of human health, which is discussed in more detail in the noise chapter, the potential for significant effects on human health

does not arise. The applicant is committed to zero shadow flicker on sensitive receptors during the operation phase.

12.5.26. While concerns have been raised regarding potential impacts on property values arising from the proposed development, having regard to the separation distances between the turbines and residential dwellings in the area, there is no evidence that adverse effects will occur. The community fund will assist in providing and contributing to new projects and infrastructure in the local area which will increase and improve facilities which could contribute to enhancing property values in the area.

12.5.27. I am not entirely satisfied that the assessment has identified the potential impacts of the proposal on tourist attractions in the area either with regard to the potential impact of the proposed development on the Wild Atlantic Way or more importantly the proximity of a Roundtower and ecclesiastical sites in the vicinity.

12.5.28. With the exception of the potential impact on tourist amenities in the vicinity, I consider that the information provided in the EIAR is sufficient to allow the impacts of the proposed development to be fully assessed. On the whole I am satisfied that the impacts identified on population and human health (with the possible exception of the impact on tourist amenites) can be avoided, managed or mitigated by the measures forming part of the proposed scheme. I am, therefore, satisfied that the proposed development would not have any direct, indirect or cumulative significant effects on population and human health.

12.6. **Biodiversity**

12.6.1. Biodiversity is addressed in Chapter 6 of the EIAR. It provides a brief description of the legislation, guidance and policy context guiding aspects of biodiversity. Details of the methodology, scoping and consultation undertaken is also set out in the Chapter.

12.6.2. Details of the existing baseline environment is set out from a range of surveys, which include desk-top and field surveys. The desk top study included a review of online web-maps, recognised data bases and records to establish baseline conditions. The field surveys included multi-disciplinary walkover surveys covering the entire study area. These included habitat surveys and surveys designed to detect the presence/likely presence of protected species and invasive alien species,

invertebrate habitat suitability assessments, aquatic and fisheries assessments amphibian and reptile surveys, bird and bat surveys. Details of the survey methodologies are also set out. A comprehensive series of surveys were carried out in May, July, and September 2020 and April, June, September and October in 2021. Details of the assessment criteria for each of the surveys undertaken are also set out. The potential for adverse impacts on European Sites is specifically assessed in the separate NIS submitted with the application. It is stated that there are no pNHA's within the likely zone of impact, (pNHA's in the vicinity are listed on Table 6-2 of the EIAR).

12.6.3. Details in respect of NPWS data sets (Article 17), vascular plants, bryophytes, national biodiversity data centre records, freshwater pearl mussel, inland fisheries data, invasive species and baseline hydrology is set out. The proposed development is located in the Tralee Bay- Feale catchment (Catchment 23) and the Brick sub-catchment (Brick_SC_010).

In terms of the water status, the watercourses on site with the relevant water status are set out below:

Name	Location	Status	Risk
Cashen River	Located to the northwest of the site	Poor	At risk
Upper Feale Estuary	Located to the southeast of the site	Poor	At risk

12.6.4. With regard to respective Q values for Rivers which flow through the site or along rivers which are fed directly by watercourses along the perimeter of the site, these are set out in the table below:

Watercourse	Sampling Station	Location	Sampling Year	Q-Value and water quality status
Feale [EPA Code 23F01]	Finue Bridge	E95135.87 N132124.31	2017	3-4 Moderate
	Feale weir SW of Grenville	E96131.9 N132867	1991	3-4 Moderate

	100m downstream of racecourse footbridge	E98160.87 N133598.58	2017	4 Good
	Feale 2km downstream of Listowel Bridge	E98726 N133771	1987	3 Poor
Galey [EPA code: 23G01]	Bridge downstream of Inch Bridge	E94164.38 N134362.52	2017	3 Poor
Brick [EPA code: 23B03]	Bridge West of Garrymore	E87828.34 N125477.46	2017	3 Poor

Section 6.5 sets out a description of the proposed development site and the baseline environment.

Habitats

12.6.5. Section 6.5.2 describes the main habitats within the study area. The main habitats identified within the proposed development site are (using Fossit's classification):

Habitat	Approximate Area Ha	Approximate % of Study Area
Improved Agricultural Grassland (GA1) (inc. drainage ditches)	243	43.1
Wet Grassland (GS4)	14.1	2.5
Amenity Grassland	0.04	0.007
Cutover Bog (PB4) (inc. drainage ditches)	236.5	41.4
Raised Bog (PB1)	6.3	1.1
Reed and Large Sedge Swamp (FS1)	11.4	2.4
Conifer Plantation (WD4)	20.3	3.5
Scrub (WS1)	5.2	0.9
Buildings and artificial surfaces (BL3)	3.2	0.56

Buildings and artificial surface (BL3)	1.8	0.32
Treelines (WL2)	1.2	0.21
Hedgerows (WL1)	10.3	1.8
Spoil and bare ground (ED2)	15	2.6
Depositing/lowland Rivers	3.1	2.6
Dry meadows and Grassy Verges	Associated with trackway and roadway verges	

12.6.6. The various habitats are described in the chapter and maps depicting the location of the habitats are set out in figures 6.4(a)&(b). Turbines T5 &T7, meteorological mast, construction compound, borrow pit and substation are all located on improved agricultural grassland. Three turbines T2, T4, T6 are located on cutover bog. T1 is located on reed and large sedge swamp and T3 is located on raised bog.

12.6.7. Habitats along the grid connection route are also described in the chapter. Japanese knotweed is located in places along the grid connection route. Details of habitats likely to be affected as a result of the improvements to take place along the transport haulage route are also detailed. It will involve the trimming back of hedgerows and treelines along the haulage route also.

In terms of the importance of habitats the following should be noted:

- Cutover bog and degraded bog habitats within and surrounding the development are classed as being of local importance (higher value).
- The Lowland depositing river streams were also assigned local importance (higher value).
- The estuaries that occur at the lower River Shannon are classed as international importance.
- Hedgerow and treelines were considered to be local importance (higher value).
- Buildings and artificial surfaces were classed as being local importance (lower value).

12.6.8. No botanical species protected under the Flora (Protection) Order, listed in the EU Habitats Directive or listed in the Irish Red Data Book were recorded on site.

12.6.9. In terms of fauna, a badger sett was recorded on site (local importance - higher value). Evidence of Otter was recorded during the target survey and also during other surveys of the proposed development site. Otter was sighted outside the proposed development site boundary within the Cashen Estuary and evidence of Otter was recorded within the proposed development site boundary (international importance).

12.6.10. No structures containing potential suitable bat roosts (local importance, higher value) features were identified within 200 meters of the turbine rotor radius of the proposed development footprint. One derelict structure was identified within the wider site area and was subjected to a roost assessment in May and July 2020. The proposed development was checked for potential tree roosts but no trees with significant roosting features were identified within the site. The surrounding habitats were assessed as largely unsuitable for boosting bats. Full details of the bat survey results are contained in Appendix 6-2 of the EIAR.

12.6.11. Dedicated surveys were undertaken in respect of the marsh fritillary (local importance, higher value). While the habitat was considered suitable for breeding by studies undertaken by the NPWS, no evidence of marsh fritillary (including larval webs were found). There was no evidence of common frog or smooth newt were recorded within the study area. However, it is likely that these species occur within the study area nonetheless. The proposed development will not result in a significant loss of suitable habitat for reptiles, amphibians are invertebrates.

12.6.12. Neither the proposed development site nor the grid connection route is located within a Freshwater Pearl Mussel catchment area. The field catchment is approximately 560 meters from the proposed development at its closest point. No in-stream works are required on any of the watercourse crossing locations along the grid connection route. Populations of aquatic species listed as qualifying interests of the lower River Shannon SAC are known to occur within the Cashen Estuary immediately adjacent to the site within the SAC.

Table 6.14 sets out the Key Ecological Receptors (KER's) in and around the site. They include:

- Designated Sites
- Aquatic habitats and related species.

- Peatland habitats
- Hedgerows and tree lines
- Otters, Bats and Badgers.

Likely Significant Impacts

Construction phase

12.6.13. Impacts on designated sites are assessed separately under the section below (Section 13) on Appropriate Assessment.

12.6.14. The percentage of the various habitats lost as a result of the turbine construction ranges from 4.7 ha in the case of Improved Agricultural Grassland (1.93% of the total), to 0.2 Ha in the case of scrubland (0.34% of the scrubland available on site). Improved Agricultural Grassland is deemed to be of low ecological value. The footprint of the proposed development has been specifically designed to avoid impacts on water courses within the study area. There is potential for construction activity to result in runoff of silt, nutrients and other pollutants such as hydrocarbons and cementitious materials into water courses including drainage ditches. This could result in a potential short-term negative reversible impact on water courses which act as a conduit to downstream habitats. This could, in the absence of mitigation measures, result in significant indirect effects on aquatic habitats. A summary of the water quality mitigation measures is set out in section 6.6.3.1.2 of the EIAR.

12.6.15. With regard to the potential effects on peatland habitats the majority of the Ballynagare bog has been significantly modified as a result of peat cutting activities and the hydrology has been altered via a network of drainage channels throughout. The extent of the bog the drainage channels have resulted in the drying out of the peatlands. There are two relatively small remaining uncut areas of bog within the study area boundary which are surrounded by larger areas of cutover peat. T3 is located just within the remnant intact bog approximately 3.5 ha in size. Approximately 1.8 hectares of cutover and 0.3 hectares of uncut bog habitat will be lost. Degraded peatland is classified as being of local importance. The overall loss of peatland associated with the development amounts to approximately 5.5% of the overall amount of the habitat recorded within the study area. The loss of non-annex 1 cutover bog and/or drained bog is negligible within the context of the site and similar

peat land habitat in the wider area. No potential for significant drainage related effects were identified given the highly altered local hydrology within the surrounding proposed development footprint. The proposed development has been deliberately designed to minimise loss of peatland habitat within the site. The loss of degraded and cut over bog habitat is not deemed significant on any geographic scale as the habitat has been assessed as remnant and degraded.

12.6.16. In terms of hedgerow and tree line loss, it is considered that the proposal will result in the direct loss of approximately 236m of hedgerow and 122m of habitat tree line. The turbine delivery routes will require the alteration of the roadway margins to include trimming and cutting back of tree line and hedgerow habitats. In some locations this will require the complete elimination of hedgerows. This impact is considered to be permanent but reversible on habitats that are of local importance (higher value) in ecological terms. The magnitude of this impact is slight as it only effects a tiny percentage of the overall habitat type that is widespread throughout the site. As a mitigation measure, hedgerows will be replanted along the internal farm trackways within the proposed development. It will be of a greater length then that which would be lost so as to ensure that there are no long-term negative effects.

12.6.17. Impacts on the otter are not considered significant as the surveys carried out indicated that there was no evidence of otter within the footprint of the proposed development. There will be no significant habitat destruction, no loss of breeding or resting places and no direct mortality related impacts on the species. No in-stream works are required along the grid connection route therefore there is no potential for the proposed development to result in any barrier to the movement of otters. Otters have been recorded downstream of the study area and there is potential for construction activity to result in runoff of silt nutrients and other pollutions into land drains and minor water courses. This represents a potential indirect effect on otters in the form of habitat degradation. Little impact is anticipated in terms of otter disturbance. Otters are predominantly crepuscular in nature, and it is considered that construction activity will mainly be confined to daylight hours. Furthermore, it is considered that otters generally remain unaffected by perceived levels of disturbance. Mitigation measures to protect water quality will ensure that there will be no significant residual effect on otters as a result of the development.

12.6.18. In relation to bats, it is stated that in the absence of appropriate design, the loss or degradation of commuting or foraging habitat has the potential to displace bat populations. However, the proposed development is predominantly located within cutover bog and open agricultural grassland habitats and there will be no net loss of bat foraging/commuting habitat associated with the proposed development. There are no large areas of forestry within the proposed development site. The removal of trees and hedgerows will be compensated with replanting. Furthermore, there is an extensive network linear landscape features in the general area that will be fully retained. Consequently, there will be no significant habitat fragmentation, loss of commuting habitat or loss of foraging habitat associated with the development.

12.6.19. While there are small areas of conifer forests within the proposed development site, these plantations do not provide suitable roosting habitat of significance for bats. One structure was identified within the proposed site boundary however it was assessed as being of low suitability due to the state of disrepair and the considerable influx of light into the structure. As a result, there is little potential for displacement of bat populations.

12.6.20. Notwithstanding the EIAR conclusions, a series of mitigation measures are proposed, and these are indicated on pp. 6-82 of the Chapter and in more detail in the bat report contained in Appendix 6.2. With the employment of appropriate mitigation measures, there is no potential for construction activities to result in significant effects on the local bat population at any geographic scale.

12.6.21. Badger setts and foraging activity were recorded within this study area. However, the proposed development has been designed and laid out in order to avoid all identified badger setts. The proposed infrastructure will pass approximately 115m within an identified badger sett. In the absence of mitigation/best practice there is the potential to result in disturbance and displacement and possible mortality. In addition, construction works in close proximity to the sett could prevent occupancy. Because of the modest nature of the development footprint, the proposal will not result in any material loss of foraging habitat. There will be no barriers to movement throughout the site as a result of the proposed work and the proposed development will not result in any fragmentation of badger habitat. Hence there is no potential for significant effects on this species. Notwithstanding this conclusion, a number of

mitigation measures will be undertaken, including the provision of an exclusion zone around the sett for the duration of construction works, and the works will be undertaken under the supervision of a qualified ecologist.

Impacts during the Operational Phase

12.6.22. The increases in hardstanding due to the foundations of the turbines could result in faster surface water runoff from the site two surrounding water courses. This could cause erosion and a deterioration in surface water quality. This is assessed as being negative in the absence of mitigation measures. However, the magnitude of this impact is considered slight because all major infrastructure will be located over 50 meters from any significant watercourse. Significant effects on water quality are not anticipated at any geographic scale during the operation of the proposed development. While no significant effects on water quality are anticipated, appropriate design and mitigation measures are fully set out in the EIAR, and these measures will be implemented in full.

The effects on fauna during operation phase are considered to be negligible as the proposal will not result in any additional habitat loss or deterioration. In terms of collision risk for bats, this issue was assessed, in the absence of mitigation measures, to be 'medium' except for the nathusius pipistrelle where the impact was considered to be low. Overall bat activity on the site is considered to be low although death may occur through collision or as a result of barotrauma. There will be a 50-meter buffer zone from the blade tip to all habitat features used by bats as recommended by English guidelines. In accordance with these guidelines, blade feathering will be implemented as standard across all proposed turbines when wind speeds are below the cut-in speed of the turbine. The proposed lighting will be in accordance with guidelines and activity on the wind farm size will be the subject of continued monitoring for at least three years post construction. Further details on these matters are contained in Appendix 6.2.

12.6.23. Protective measures to be undertaken when working in the vicinity of invasive species including rhododendron and Japanese knotweed are set out in the chapter.

12.6.24. It is stated that there will be no additional habitat loss associated with the decommissioning of the proposed development and therefore there will be no significant effects in this regard. The same suite of mitigation measures will be

employed to ensure the protection of water quality during the decommissioning stage.

12.6.25. The proposed development was considered in combination with other plans and projects in the area that could result in cumulative impacts on European Sites, nationally designated sites and protected species. These projects are listed in Chapter 2 of the EIAR. It is noted that there are a significant number of other wind turbine developments within a 20-kilometer radius of the subject site. No significant effects as a result of the proposed development are anticipated in relation to disturbance, displacement or mortality of species. Therefore, there is no potential for the proposed development to contribute to any cumulative effect in this regard. Thus, the proposed development will not result in any significant effects on any of the identified key ecological receptors (KER's).

Assessment of the Biodiversity Chapter

12.6.26. I consider that the potential impacts of the proposed development on the biodiversity of the site have been comprehensively assessed in the application and the surveys and assessments have been carried out in accordance with best practice and by competent experts. I consider that the nature and scope of the surveys is robust, acceptable and proportionate.

12.6.27. I accept that the impacts of the proposed development on habitats and species on the site have been reduced by avoidance and design. Habitats rated of higher ecological significance, including peatland species associated with the Cashen Estuary and are avoided by the development and the majority of the habitats that will be impacted upon, are of local importance and low ecological value. Most of the peatland is degraded and therefore of lesser ecological value. The proposed development occupies a very small proportion of a vast agricultural and cutover bog landscape, with large areas remaining undisturbed and creating opportunities for habitat enhancement.

12.6.28. The habitats present on the site are suboptimal for fauna identified as key ecological receptors including badger, otter in terms holts and setts. Known badger setts will be avoided. There is little potential for adverse impacts on foraging and commuting for otters, bats or badgers, during the construction and operation phase due to standard

mitigation and monitoring, management and habitat enhancement there will be no significant impacts on these species arising from the development.

12.6.29. The proposed development avoids watercourses, and no instream works are proposed. The surveys indicate that habitats present are suboptimal for aquatic species identified as key ecological receptors. The main impact would occur through sediment laden discharge during both the construction/operational phases. Subject to the mitigation measures proposed, which are standard best practice protocols, significant impacts on the water environment are not predicted. The EIAR has assessed the potential for cumulative impacts particularly through bat collisions risk. No major risks for bats are anticipated.

12.6.30. Having regard to the various submissions received in respect of the application raising concerns in respect to biodiversity, I consider that the information provided in the planning application documents is sufficient to allow the impacts of the proposed development to be fully assessed. Significant impacts are not anticipated as the proposed will result in a modest impact on existing habitats, most of which are of low ecological value. I am satisfied that the impacts identified on biodiversity would be avoided, managed or mitigated by the measures forming part of the proposed scheme. I am, therefore, satisfied that the proposed development would not have any direct, indirect or cumulative significant effects on the biodiversity of the site or the area surrounding the site.

12.7. Ornithology

12.7.1. Chapter 7 of the EIAR specifically relates to Ornithology. The chapter by way of introduction sets out details of the proposed development as well as the relevant legislation, guidance and policy context in relation to ornithology. Details of the consultation with relevant statutory and non-statutory organisations are set out in Table 7.1. Field surveys undertaken on various dates between April 2019 and March 2021 are detailed. These surveys sought to monitor flight activity on the windfarm study area to within a 500m radius of the proposed turbines. In addition, breeding walkover surveys, winter walkover surveys, breeding raptor surveys, hen harrier winter roost surveys, waterbird distribution surveys and grid connection walk

over surveys were also undertaken. Details of the surveys are indicated in Figures 7-1 to 7-7.

12.7.2. The potential impacts arising from the proposed development on the bird population are identified as

- Direct habitat loss
- Displacement of species
- Death through collision.

12.7.3. The criteria under which the impacts are assessed are set out. The collision risk assessment is assessed using the 'Band Model' as recommended by NatureScot Guidance. It determines the number of bird transits through the air space swept by the rotor blades of the turbines and subsequently calculates the collision risk for birds.

12.7.4. Four SPA's are identified within the 15km zone of influence of the windfarm development. Details of all breeding and wintering birds recorded in hectads Q83 and Q93 in the 3 Wintering Bird Atlas's of Britain and Ireland[6] are set out in Table 7-7. Details of wintering birds recorded in the same hectads in the two wintering atlases (1981-84 and 2007-11) are also set out. The chapter also details the data set out in the National Biodiversity Data Centre Records, the Irish Wetland Bird Survey Records and the survey results undertaken during the field surveys.

Bird Species	Season	Type of recording
Bar-tailed Godwit	Passage and Winter	1-2 birds foraging along the River Brick
Dunlin	Winter	Flock of 59 birds at the Clashen River Estuary
Golden Plover	Winter	Flocks of between 50 and 600 between 2-5 km from the site
Hen Harrier	Breeding and winter season	Recorded twice during vantage point surveys, once during a walkover survey, 30 during winter roost surveys
Kingfisher	Breeding and winter season	Observed once during the survey. There are 6 Kingfisher records in the supplementary data.
Little Egret	Breeding and winter season	Observed 29 times during the vantage point surveys, 11 times during the walkover survey and 26 times during the water bird distribution surveys.
Peregrine Falcon	Winter Season	1 observation and one record in the supplementary data.

[6] Breeding Atlas 1968-1972 Breeding Atlas 1988-1991 and Breeding Atlas 2007 2011.

Short-eared Owl	April	1 observation and one in the supplementary data flying 400m north of the windfarm.
Whooper Swan	Winter and Passage season	Observed 52 times during vantage point surveys, 14 times during walkover survey, 199 times during waterbird distribution surveys.
Black-headed Gull	Winter and Passage Season	Observed 5 times during vantage point surveys, 13 times during waterbird distribution surveys.
Brent Goose	Winter season	Observed 9 times during waterbird distribution surveys 3 records of Brent Goose during the supplementary data.
Common Gull	Winter and Passage Season	Observed once during the vantage point and walkover surveys. A flock of 13 birds partially within the windfarm study area.
Cormorant	Winter and Breeding Season	Observed 15 times during the vantage point survey, twice during the walkover survey
Curlew	Breeding and Winter season	Observed 54 times during vantage point surveys, 14 times during walk over surveys and 60 times during the waterbird distribution surveys
Grey Plover	Winter season	Observed twice during waterbird distribution survey. A flock of 656 birds were observed as the Cashen River 5km north of the windfarm study area boundary
Lapwing	Winter and passage season	Observed 8 times during vantage point surveys, twice times during walkover survey, 21 times during waterbird distribution surveys.
Mallard	Winter and Breeding season	Observed 16 times during vantage point surveys, 13 times during walkover survey, 25 times during waterbird distribution surveys.
Oystercatcher	August- November	12 times during waterbird distribution surveys of these 5 were within 500 north of the windfarm study area boundary.
Redshank	Winter and Breeding Season	Observed once during vantage point surveys, once during walkover survey, 6 times during waterbird distribution surveys, half of which were 500 m north of the site.
Shoveler	Winter Season	Once during the waterbird distribution survey at the Lixnaw canal
Teal	Winter Season	Observed once during vantage point surveys. A Flock of 5 birds were observed in agricultural fields approximately 250 west of the windfarm study area
Wigeon	Winter Season	Wigeon was observed twice during waterbird distribution surveys on the water in the Cashen Estuary 5km north of the site. A flock of 200 birds were observed in Nov 2019 and 269 in Dec 2019.
Barn Owl	Winter season	One incidental record of barn owl during vantage point surveys
Kestrel	Winter and breeding season	Observed 16 times during the vantage point surveys 4 times during the walkover surveys and 9 times during the breeding raptor surveys
Snipe	Winter and breeding season	Observed 4 times during vantage point surveys, 4 times during walkover survey, 6 times during waterbird distribution surveys.
Buzzard	Winter and Breeding Season	Observed 3 times during vantage point surveys, and 4 incidental records during the winter months.
Sparrowhawk	Winter and breeding season	Once during the vantage point surveys, once during the walkover surveys and once during the breeding raptor surveys at Ennismore 1.8 km to the west of the site

Meadow Pipet	Winter and breeding season	Observed 13 times during the vantage point surveys a maximum of 8 birds were encountered.
Grey Wagtail		There was 1 record of a grey wagtail in the supplementary data. A single bird was observed in December 2019.

Table 7-11 of the EIAR outlines the rationale for including or excluding each target species as a key species of importance in terms of its sensitivity. Based on this rationale the one species that was considered to be of very high sensitivity was;

- The Common Gull.

Species of high sensitivity include:

- Hen Harrier
- Whooper Swan
- Curlew

Species of medium sensitivity include:

- Golden Plover
- Little Egret
- Lapwing
- Oystercatcher
- Redshank
- Barn Owl
- Kestrel
- Snipe
- Black-headed Gull
- Cormorant
- Mallard
- Teal

Species of Low sensitivity include:

- Buzzard
- Sparrowhawk

Potential Impacts

Under a do-nothing scenario the ornithological conditions of the baseline environment would essentially remain the same.

Should the proposal proceed the impact on the various Key Ornithological Receptors are set out in the table below

Potential Impact					
	Construction Phase		Operational Phase		
	Habitat Loss	Displacement and barrier effect	Habitat loss	Displacement	Collision
Golden Plover	Not dependent on the area for roosting or foraging Impact: Very low	Low numbers utilising the study area Impact: not Significant	None, no species observed	Negligible	No impact
Hen Harrier	No roosting or foraging inside the site	Considered to be low	No Effect	Considered to be low	Long term imperceptible effect
Little Egret	No evidence of breeding activity direct loss of foraging area will be minimal	Usage of the development is minimal by this species the barrier or displacement effect is considered to be minimal	No Effect	Low	Long term imperceptible effect
Whooper Swan	There will be no loss to the habitat of the whooper swan	Impact is considered to be medium	No Effect	Medium	Long term imperceptible effect
Black-headed Gull	Not a suitable habitat for this species	Impact is considered to be low	No Effect	Low	Negligible
Common Gull	Not dependant on the windfarm area for foraging or breeding	Low level activity in the area impact determined as negligible	No Effect	While the species is considered to be of high sensitivity the impact on the species is considered to be negligible	Long term imperceptible effect
Cormorant	This species mainly	Low level activity in the	No Effect	Low	Long term imperceptible effect

	commutes and forages along the river	area where turbines are constructed impact determined as negligible			
Curlew	Mainly concentrated within the river corridor	The magnitude of the impact is considered to be low	No Effect	Long term slight negative effect	Likely long term slight effect
Lapwing	Occasionally recorded commuting along the river channel	Direct habitat loss is considered to be negligible	No Effect	Long term slight negative effect	Long term imperceptible effect
Mallard	Impacts on foraging and roosting will be minimal	The subject site is used for foraging however given the abundance of suitable habitat in the area the magnitude of the effect is assessed as low	No Effect	The subject site is used for foraging however given the abundance of suitable habitat in the area the magnitude of the effect is assessed as low	Non-significant
Oystercatcher	Species was recorded in the Cashen Estuary 500m to the north not regularly occurring in the area	Impact is assessed as very low	No Effect	Magnitude of the effect is negligible	No Effect
Redshank	The species was occasionally recorded foraging and roosting along the river channel	Impact is assessed as very low	No Effect	Magnitude of the effect is negligible	No Effect
Teal	This species was occasionally recorded within 500m of the windfarm site. It is not dependant on	The impact is assessed as very low	No Effect	The magnitude of the effect is assessed as negligible	No Effect

	the area for roosting and foraging				
Barn Owl (all seasons)	The species was recorded once 400m for the site boundary during the 2 year observation period	The magnitude of the effects is classed as low	No Effect	Likely long-term constant slight negative effect	No Effect
Kestrel	This species was regularly recorded hunting within the windfarm study area. There was no evidence of breeding activity.	The small footprint of the proposal will ensure a substantial and suitable hunting habitat will remain. The significance of the impact is deemed to be low	No Effect	Likely long term constant slight negative effect	Likely long-term imperceptible effect
Snipe (all seasons)	Snipe were occasionally recorded within the windfarm study area. Breeding displays were also observed	Snipe were generally observed in grassland areas as a large proportion of the site is cutover bog the significance of the potential effect is described as low	No Effect	Likely long-term constant slight negative effect	Likely long-term imperceptible effect
Buzzard (all seasons)	Occasionally recorded on the study area. The low level of activity limits the potential for ecologically significant impacts	Very low effect of significance	No Effect	The magnitude of the effect is assessed as low	Likely long-term imperceptible effect

Sparrowhawk	This species was occasionally recorded within the windfarm study area. There was no evidence of breeding activity	The significance of the potential effect is assessed as very low	No Effect	Likely long-term constant non-significant negative effect	Likely long-term imperceptible effect
Effects of Key Ornithological Receptors during Decommissioning					
Analysis of potential impacts during decommissioning phase of the proposed development			Significance of the potential effect (Percival 2003)		Significance of potential effect
Direct Habitat loss	Direct or indirect effects are not anticipated		No Effect		No Effect
Displacement	As above for the construction phase for each species listed		As above for the construction phase of each species listed		As above for the construction phase of each species listed

12.7.5. With regard to the potential impact of the grid connection route, the works are to be confined to the existing public road corridor and will not result in the loss of any supporting habitat for birds including the hen harrier. The delivery route will also require temporary junction accommodation for abnormal loads. These works are minor and are all located within the existing road corridor. Therefore, as with the grid connection, the impact of the on habitat along the turbine delivery route will be negligible.

12.7.6. The effects of the proposal on Natura 2000 sites is assessed in the next section of my report.

12.7.7. In terms of mitigation measures, the measures are set out in full in section 7.6 of the chapter. These include mitigation by design such as minimising the hard standing areas necessary to accommodate the turbines, utilising the existing roadways for the grid connection, maximising the separation distance between the identified hen harrier roost and the turbines to 1.4 km. A suite of mitigation measures are contained in the CEMP to minimise construction impacts. Works will take place outside the bird

nesting season. During the construction phase, noise limits, noise control measures hours of operation etc will be set. Water protection measures including the incorporation of silt fences will be used. Buffer zones will be put in place between water course and identified nesting spots. An Environmental Clerk of Works and Project Ecologist will be appointed to oversee all construction works. No significant mitigation measures were identified during the operational phase.

12.7.8. A total of 15.76 ha of land is proposed for enhancement as foraging habitat for the Whooper Swan. It comprises of two land parcels, one to the north and one to the south of the windfarm study area adjacent to known foraging sites.

12.7.9. Details of a monitoring programme prior to commencement and construction, post construction and decommissioning is set out in section 7.7 of the chapter.

12.7.10. For the purposes of cumulative assessment, the local scale is considered to be a 5km radius of the windfarm study area. There was only one permitted windfarm located within 5 km of the Ballynagare windfarm and this windfarm (the Ballyhorgan Windfarm) has yet to be constructed. The remaining windfarms were between 5-20km away from Ballynagare windfarm. The assessment of cumulative effects on key ornithological receptors is provided in Table 7-32. In particular, cumulative habitat loss and displacement associated with operational turbines is assessed. Short term impacts from construction are highly unlikely to give rise to significant cumulative impacts. The Cumulative operational impacts in the main relates to collisions. This is assessed for each of the key ornithological receptors as negligible. Therefore, cumulative impacts can be ruled out.

Assessment of Ornithology Chapter

12.7.11. The EIAR has carried out extensive surveys in respect of the bird population in the area within and surrounding the site. It has identified the various bird species of importance that frequent the area, noting particular species of importance (national importance, county importance, local importance (higher value). The impact of the proposed development on each of the species was assessed during the construction and operation phase. It was, based on the detailed and systematic assessment, concluded that no adverse impact would arise on bird populations of the area as a result of the proposed development. The cumulative impacts were also assessed

with other windfarms constructed within a 20km radius, only one of which is located within the 5km radius of the site. The cumulative impact is assessed on each of the species of importance, and it was, reasonably concluded, on the basis of the assessment carried out, that the impact would be negligible.

12.7.12. I am satisfied that the chapter has adequately assessed the impact of the windfarm on avifauna and that with the implementation of appropriate mitigation measures adverse impacts are not anticipated.

12.8. Land, Soil and Geology

12.8.1. The potential impacts of the proposed development on land, soils and the geological environment are assessed in Chapter 8 of the EIAR. Information on the existing environment was obtained from a desk top study, a walk over survey and site investigations. As part of the site investigations, a total of 180 peat probe depths were carried out to determine the depth and the geomorphology of the peat. A total of 11 shear vane tests were carried out to determine the strength and stability of the peat at the Ballynagare Wind Farm site. Mineral subsoils and peat were logged according to BS:5930. The existing site is described in detail including the existing land uses on the site. 6 of the turbines (T1-T6) are located on cut-away peat while T7and the met mast are located on mineral alluvium associated with the Brick River. Further south, the substation, borrow pit and construction compound are located on acid-dominated, deep poorly drained soils.

12.8.2. A summary of peat depths and subsoil lithology at the proposed development locations are set out below:

Development location	Average Peat Depth (m)	Summary of Underlying Mineral Subsoil Lithology
T1	4.83	Grey Silty Clay
T2	4.36	Grey Silty Clay
T3	4.78	Grey Gravelly Clay
T4	3.85	No returns - gravelly texture
T5	3.86	No returns
T6	3.40	Grey gravelly clay

T7	0	-
Met Mast	3.83	-
Substation	0	-
Borrow Pit	0	-
Construction Compound (north)	4.05	-
Construction Compound (south)	0	-

12.8.3. In terms of the grid connection route, poorly drained mineral soils and cut over peat dominate the northern section of the route. While the southern section of the route is dominated by acid deep poorly drained mineral soils. The underlying bedrock geology underlying the site is Dinantian Sandstones, Shales and Limestones in the northwest (Ballysteen Formation). The remainder of the site comprises of Dinantian Pure unbedded Limestones (Central Clare Group). The grid route is underlain by Visean Limestones (undifferentiated).

12.8.4. There are no IED or IPPC licenced waste facilities in the vicinity of the site. No large areas of soil contamination were identified during a walk over of the site. There are a small number of historic quarries pits and mines in the lands surrounding the site. There are no recorded audited Geological Heritage Sites within the windfarm site. The closest mapped geological heritage site is Lixnaw Quarry to the immediate south of the site in the townland of Monument.

12.8.5. In terms of peat stability assessment, it is stated that due to the virtually flat topography of the site and the fact that the site consist of a low lying peatland beside an estuary, it is considered that landslides are very unlikely. The proposed windfarm elements were found to have acceptable factors of safety and levels against peat instability. As the proposed wind farm development is located in areas of negligible risk the project will proceed with appropriate monitoring and mitigation.

12.8.6. The main characteristic of the proposed development that could impact on soils and geology are:

- the opening of the borrow pit with the excavation of approximately 144,000 m^3 of suitable rock for the construction of access tracks and hardstanding.
- The development of 2 construction compounds.
- The construction of an on-site substation. It will be constructed using the floated technique and will also involve the use of c.694m^3 of concrete.
- The upgrading and widening of access roads and the creation of new floating roads where no peat extraction will be required.
- Construction of cranage areas and turbine assemblage. This will require the removal of approximately 50,500 m^3 of peat.
- The six turbines on peat are likely to require piled foundations due to the depth of the peat.
- The construction met mast hard standing which will require approximately 1,986 m^3 of peat to be removed.
- Peat generated by the construction will be reused or re-instated and may be used for landscaping.
- The construction of turbine foundations which will require large volumes of concrete.
- Cabling between the turbine foundations and the substation and cabling between the substation and the 110 kV substation.

A summary of the volumes to be excavated on site are set out below:

Infrastructure Item	Excavated volume (m^3)		
	Peat	Non-peat	
		Overburden	Rock
Floated Road Access	0	-	-
Founded access roads	11,059	-	-
Turbine foundations	7,576	6,013	-
Crane hardstands	50,523	-	-

Construction Compounds (North and South)	0	-	-
Substation hardstand	0	-	-
Met Mast	1,968	-	-
Borrow Pit	0	-	144,000
Total	71,127	6,013	144,000

Likely Significant Effects

12.8.7. In the case of a do-nothing scenario local peat harvesting, agricultural operation and other existing land-use practices would continue on site.

12.8.8. The proposed development will involve to removal of peat soil and subsoil to facilitate the emplacement of access tracks, turbine foundations, crane hard standings, a substation and site compounds. Crushed rock to facilitate foundation structures will be sourced from the proposed borrow pit. Overburden and spoil will be utilised for reinstatement of excavated areas and for landscaping purposes. Excess material which cannot be used will be stored within the borrow pit. The trench within the proposed underground electricity line (grid connection) will be infilled.

12.8.9. This will result in a direct permanent loss of peat, soils, subsoils and perhaps some bedrock. The local bedrock to be extracted is classified as being of high importance with the existing quarry being located to the immediate south of the site. This will constitute the main impact in terms of land and soils.

12.8.10. The footprint of the development amounts to c.1.2% to 1.6% of the total site area. The proposal will result in the removal of approximately 2.04 ha of peat bog and c.7.63 of agricultural land. This is not deemed to be significant in land use terms.

12.8.11. There is also potential so contamination of peat soils and subsoil by leakages are spillages of hydrocarbons or other chemicals during the construction phase. A series of mitigation measures are proposed to counteract any potential impact from accidental spillages.

12.8.12. Erosion of exposed subsoils and peat during the access road and turbine base construction is also identified as a potential adverse impact. A series of mitigation measures to counteract this includes the implementation of a peat and overburden

management plan. Stripping of peat will not take place during extremely wet periods. Material will be moved over the least possible distance.

12.8.13. In terms of peat stability, the findings of the GDG Peat Stability Assessment Report shows that the site has an acceptable margin of safety and is suitable for the proposed development. Notwithstanding this, a number of control measures will be put in place to minimise any potential adverse impacts.

12.8.14. Very few (if any) impacts on lands and soils are anticipated during the operational phase. Hydrocarbon spillage as a result of maintenance of the turbines and the maintenance of roads and substations are the only identified adverse impacts which could potentially occur, but this impact is considered negligible. Nonetheless a suite of mitigation measures will be put in place to counteract any potential impacts.

12.8.15. Decommissioning impacts are considered to be similar to those associated with the construction phase.

12.8.16. In terms of cumulative effects, significant effects are unlikely to arise, predominantly due to the localised and near surface nature of the construction works. Given the small construction footprint and shallow earthworks, and the localised nature of the works to be undertaken, it is assessed that significant cumulative effects on land soils and geology are unlikely to arise.

12.8.17. The residual effects are identified as being the loss of land for agricultural and during the construction phase. No significant residual effects are identified as likely to occur during the operational or decommissioning phase.

Assessment of the Land and Soils Chapter

12.8.18. The findings of the geotechnical and peat stability assessment report in Annex 8.2 which has been prepared in accordance with best practice guidance suggests that the site is suitable for a wind farm development and is at low risk of peat failure. I would concur that the impact in terms of soil, subsoil and bedrock as a resource is negligible. Likewise, the loss of agriculture as a land use is negligible.

12.8.19. Notwithstanding to concerns raised in respect of peat removal in the observation submitted, I consider that the information provided in the planning application documents are sufficient to allow the impacts of the proposed development to be fully assessed. I am satisfied that the impacts identified on lands, soils and geology

would be avoided, managed or mitigated by the measures forming part of the proposed scheme. I am, therefore, satisfied that the proposed development would not have any direct, indirect or cumulative significant effects on these environmental factors.

12.9. **Hydrology and Hydrogeology**

12.9.1. The potential significant effects of the proposed development on the water environment, including groundwater are considered in Chapter 9 of the EIAR. This chapter outlines to scoping and consultation undertaken and the relevant legislation and guidance which was taken into account in preparing the chapter. The existing environment is set out and the information in the chapter identifies the potential likely significant effects on surface water and groundwater during the construction, operational and decommissioning stages of the proposed development. It also sets out a suite of mitigation measures to offset any potential impacts. The EIAR also assesses potential cumulative impacts where they might arise.

12.9.2. Desktop studies and site investigations are set out to describe the existing baseline environment. The desk top study involved collecting all relevant geological, hydrological, hydrogeological and meteorological data for the area using recognised data bases, records, reports and map viewers. Site investigations included walkover surveys, peat probes and the continuous use of water loggers. Hydrochemistry measurements of electrical conductivity, pH and temperature were taken to determine the origin and nature of surface water flows. No difficulties were encountered in preparing the chapter.

12.9.3. In terms of regional hydrology, the site and grid connection route are located in the Tralee- Feale surface water catchment within Hydrometric Area 23. On a more local scale the site is located in the Brick River sub-basin water catchment area. The Brick River (EPA Code 23B03) forms the western boundary of the site. The Cashen River Estuary discharges into the mouth of the Shannon 6km northwest of the site. 5 of the Turbines (T2, T4, T5, T6 & T7) as well as the sub-station, the southern construction compound, borrow pit, met mast the southern peat repository and associated access roads are located within the Brick_040 WFD sub-basin. The north-western and eastern portions of the site are located in the Knoppoge South _010 WFD River sub-

basin. This includes the area where T1, T3, the northern temporary construction compound and the northern peat repository area are all located. The local hydrology regime within the site is indicated on Figure 9-2. Water loggers at the bridge near T3 reveal a distinctive tidal regime on this river along the boundary of the site.

12.9.4. The cut over bog is drained by a network of field drains. These drains are generally orientated northwest to southeast. The surface run-off is conveyed to larger drains which run perpendicular to the smaller field drains. The main drains direct surface water to a boundary drain that discharges via sluice gates to the bounding tidal rivers. There are 8 outfalls to the west that discharge to the Brick River with an additional 7 outfalls to the River Feale.T5 and T7 are located on agricultural land with field drainage discharging to boundary drains. The drainage map of the site is indicated in Figure 9-4. The water catchment areas associated with the grid connection route are indicated in Figure 9-3. The WFD sub-basins in which the grid connection route is located are Brick_030, Brick 0_40 and Mountcoal_010.

12.9.5. The base line run-off for the entire windfarm site is as follows:

Area (ha)	Baseline runoff per day (m^3)	Baseline runoff per month (m^3)
594	21,901	678,942

12.9.6. In terms of flood risk, several recurring flood incidents and historic flood events have been recorded in the vicinity of the site. This includes a recurring flood event associated with tidal flooding on the Feale River approximately 1km to the north of the site. A significant flood event in 1998 occurred which encroached upon the subject site. CFRAM mapping indicates that the site and grid connection route are situated outside the extents of the indicative 1 in 1,000-year fluvial and coastal flood zones. Embankments have been erected along the Brick and Feale Rivers to prevent floodwaters entering the site. The ICPSS flood maps show that the majority of the site is located within the 1 in 200-year event coastal flood zone, however these do not consider the presence of embankments in the flood modelling. A detailed flood risk assessment is set out in Appendix 9-1 of the EIAR. The flood resilience measures are proposed whereby the sensitive turbine elements will be placed on a platform at an elevation in excess of 7m above ground level and therefore above any

future flood level. Infrequent flooding will not impact on the management or maintenance of the windfarm.

12.9.7. In terms of Surface Water Hydrochemistry, no Q-ratings are available for any of the streams and drains that traverse the site. The nearest Q status on the Brick River c. 5km from the site returned a Q-value of 3-4 moderate. The closest EPA water quality sampling point on the Feale River c.4km upstream of the site was assigned a Q rating of 3-4 also. No biological Q-rating data is available downstream of the site due to the estuarine nature of the waters.

12.9.8. Grab samples were taken at surface water sampling locations in the vicinity of the site for various parameters and these results are indicated in Table 9-10 and 9-11. Most results were above the “good status” threshold set out in the Surface Water Regs. Elevated chloride can be attributed to the Cashen River Estuary. EPA water quality monitoring Q-Rating on sampling points in the vicinity of the grid connection route range from Q3-4 to Q4-5. Details of the hydrochemistry of the samples are set out in Table 9-13 and 9-14 of the chapter.

12.9.9. In terms of hydrogeology, the north-western portion of the site is located above a locally important aquifer, the poorly productive Kerry Head GWB (T1, T2, T3 T5). The south-eastern portion of the site overlies the Karstic Ballybunnion GWB (T4 T6 &T7). Groundwater vulnerability ranges from ‘Low’ to ‘Extreme’. In terms of groundwater body status, both the Kerry Head GWB and the Ballybunnion GWB both achieved ‘good status’. There are no mapped groundwater water supply schemes in the area of the site. There are a number of boreholes mapped on the site. Because of the nature of the soils and the flat topography within the site, hydraulic conductivity of the groundwater body is determined to be extremely slow. A total of 21 wells have been mapped within 2 km of the site all of which are for private use.

Likely Significant Effects

Construction Phase

The main impact during the construction phase is associated with sediment laden waters; the sources of which include

- Drainage and seepage water resulting from road and turbine base excavation.

- Stockpiling excavated material providing a point source of exposed sediment release.
- Construction of the grid connection cable trench resulting in entrainment of sediment from the excavations during construction.
- Erosion of sediment from emplaced site drainage channels.

12.9.10. These activities, if left unmitigated, will likely result in the release of suspended solids to surface water and could result in an increase in the suspended sediment load resulting in increased turbidity which in turn could affect water quality and fish stocks downstream of the water bodies including the River Brick and River Feale.

12.9.11. The key mitigation measures include the avoidance of sensitive aquatic areas by application of suitable buffer zones. The overarching objective of the proposed mitigation measures is to ensure that all surface water is comprehensively treated and attenuated so that no silt or sediment laden waters or deleterious material is discharged into the local drainage system. This will include source controls, in-line controls (silt busters, silt fences silt bags, management of runoff, soil deposition areas and swales).

Mitigation by avoidance.

- Mitigation by prevention (works will not be carried out during inclement weather).
- Mitigation by preemptive site drainage management.
- Timing of construction works.
- Specific plans to address potential release of hydrocarbons and cement materials during construction and storage.
- No in-stream excavation works are proposed and therefore there will be no impact on the stream at the proposed crossing locations.
- Morphological mitigation measures to surface water courses and drainage patterns (bottomless culverts, single span bridges, best practice construction methods etc).
- Self-contained port-a-loos will be paced on site during the construction phase.

12.9.12. In terms of potential impacts on groundwater it is noted that the proposed borrow pit is located in bedrock that is being classified as a regionally important aquifer. The hydrogeological setting of the proposed borough pit may result in some groundwater dewatering during the excavation phase. This in turn will require water volume and water quality control management. The borrow pit will be shallow and the potential for any groundwater level impacts to extend significant distances from the pit is negligible. The proposed underground table trench depth it will be approximately 1.2 meters and therefore no impacts on local groundwater table of flows will occur.

Operational Phase

12.9.13. During the operational phase, the main impact on the water regime relates to the increase in hardstanding areas which will increase the level of surface water runoff. The calculated increase in the overall area of hardstanding is 1.2% of the overall site. This amounts to c11m^3 per day and this is deemed to be negligible. A number of mitigation measures are to be put in place to ensure that water quality does not deteriorate. These measures are similar to the mitigation measures to be employed during the construction phase.

12.9.14. Drainage at the substation will include water harvesting. An on-site WWTS will be required during the operation phase of the substation, it will be periodically emptied by the waste contractor

12.9.15. The decommissioning phase is likely to give rise to the same impacts as the associated with the construction phase.

12.9.16. Under the do-nothing scenario there would be no alteration to the hydrological environment.

12.9.17. In terms of the cumulative impacts, other windfarm developments are identified within a 25km radius this amounts to an area of approximately 950 sq. km. It is estimated that there are approximately 167 turbines within the study area[7] – this equates to approximately 1 turbine per 6 sq. km. The impact therefore is considered

[7] Information elsewhere in the EIAR suggest that there are a total of 208 turbines within a 20 km radius of the site.

in cumulative terms to be negligible. No cumulative impacts are anticipated during the operational phase.

12.9.18. It is concluded therefore that overall, the proposed development presents no likelihood for significant effects on surface or groundwater following the implementation of the proposed mitigation measures furthermore there is no likelihood for significant cumulative effects arising from the construction operation or decommissioning phases.

Assessment of Water Quality Chapter

12.9.19. The main issues raised in the submissions relate to potential impacts on public water sources, impacts on water quality in rivers, flooding and potential impacts on public health.

12.9.20. The EIAR outlines significant measures to protect surface water. There will no direct discharges to any watercourse during any phase of the development. Mitigation will be achieved by avoidance and design. A 50m buffer zone will be maintained from the main watercourses during construction and proven best practice methodologies will be employed to mitigation impacts on water quality during each phase of the development. New settlement ponds and silt traps/busters etc. are proposed which will provide an increased level of treatment and attenuation. Subject to the implementation of these measures and appropriate monitoring, I do not consider that the proposed development will impacts on water quality in adjacent water courses, in the area.

12.9.21. I would have some concerns that the site is prone to flooding and should a flood event occur during the 18 month construction phase, this could result in contamination of adjacent water bodies. These concerns have been outlined in the main body of my assessment.

12.9.22. Overall however, I am satisfied therefore that the impacts identified can be avoided, managed or mitigated by these measures and through suitable conditions. I am, therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impact on surface water or groundwater in the area (subject to no catastrophic flood inundation). I do note however that the cumulative impact in terms of water quality would be directly related the possible of construction occurring simultaneously at a number of windfarm sites and discharging connected

watercourses for (example the Ballyhorgan Windfarm). As the main potential impacts arising on water quality relates to the construction phase, and the vast majority of windfarms are already operational, the cumulative impact in terms of construction impacts are likely to be very modest. However, this potential impact his was not assessed in the chapter. Other than this minor issue[8], I consider that the information provided in the planning application documentation is sufficient to allow the impacts of the proposed development to be fully assessed.

12.10. **Air and Climate**

12.10.1. The potential direct and indirect effects of the proposed development on air quality and climate from each phase of the development are considered in Chapter 10 of the EIAR. The document sets out the background to the proposal and the relevant legislation and guidance on air quality, including the limits set out in the CAFÉ Directive (2008/50/EC). It also provides details of the existing environment (based on the air quality monitoring station at Tralee). The site lies within Zone D of the Air Quality Zones for Ireland designated by the EPA, which represents rural areas located away from large population centres. Details of the recordings obtained at the Tralee monitoring station is set out for sulphur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide(NO_2), carbon monoxide (CO) and dust. The recordings at the Tralee Monitoring Station are on the whole below the limits set out in the Directive and given the rural location of the windfarm development, air pollution levels are likely to be lower on the subject site that those recorded at the monitoring station.

Likely Significant Impacts

12.10.2. In terms of potential impacts, the main emissions during the construction phase are identified as exhaust emissions from vehicles and dust emissions construction works. The potential nuisance of dust impacts in the absence of mitigation is in this instance considered to be high for ecology and generally low for humans. The risk of

[8] I remain of the opinion that with the implementation of the suite of mitigation measures proposed, that the proposal will not result in any cumulative impacts in conjunction with other windfarm developments specifically in respect of water and groundwater quality.

significant nuisance dust impacts as a result of vehicular movement prior to mitigation is assessed as being 'medium' with the overall risk to human health impacts predicted to be 'low'. A dust management plan will be formulated based on best practice measures. This plan will be reviewed at regular intervals. With the implementation of mitigation measures, which are set out for both dust and exhaust minimisation, it is considered that fugitive dust emissions and exhaust emissions will be negligible and will be imperceptible during the construction phase and will pose no nuisance to human health impacts at nearby receptors.

12.10.3. During the operational phase, the generation of electricity will result in result in a decrease in emissions. The proposal will decrease NO_x, SO_2 and CO_2 emissions. The predicted impact of the wind farm on Ireland's national emissions ceiling obligations and the greenhouse gas benefit from the proposed development as a result of the electricity generation will have a long-term positive impact.

12.10.4. It is acknowledged that vehicles and generators associated with the removal of the turbines during the decommissioning phase will cause a temporary negative impact on local air quality in the short term. This impact however is described as imperceptible.

12.10.5. In terms of climate change, reference is made to various international climate agreements to reduce greenhouse gas emissions including:

- The Doha Amendment to the Kyoto Protocol
- The COP Paris Agreement
- COP 25 Climate Change Conference
- United Nations Sustainable Development Summit 2015.
- Climate Action Plan 2019
- Climate Change Performance Index
- Climate Action and Low Carbon Development Amendment Act 2021

12.10.6. The relevant National Sustainable Goals 2018-2020 are set out in Table 10-8. Section 10.3.3 details the methodology for calculating carbon losses and savings from the proposed development. Over the period of the proposed development (35 years) it is estimated that 1,967,770 tonnes of CO_2 will be displaced over the lifetime of the proposed development.

12.10.7. Significant cumulative effects are not likely to occur. Any cumulative impacts are likely to be positive with the construction of other windfarms in the area. A series of mitigation measures in respect of dust control and best practice construction methods will minimise any construction impacts during the construction phase. During the operational phase the residual impacts are deemed to be positive and will result in the displacement of c.56,222 tonnes of CO_2 per annum which may have been emitted from fossil fuels to produce electricity.

Assessment of the Air and Climate Chapter

12.10.8. I consider that the information provided in the EIAR is sufficient to allow the impacts of the proposed development to be fully assessed. I am satisfied that the impacts identified in respect of air and climate would be avoided, managed or mitigated by measures forming part of the proposed scheme and I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts on air quality or climate. In fact, the provision of an additional windfarm development will contribute to the national renewable energy supply and this will have a positive environmental effect in reducing reliance on fossil fuels.

12.11. **Noise and Vibration**

12.11.1. The noise and vibration impacts associated with the proposed development are assessed in Chapter 11 of the EIAR. As part of the background assessment, the fundamentals of how acoustics is measured and assessed is set out. Details of the guidance documents and the assessment criteria used in the noise assessment are set out. In terms of construction noise, reference is made to the criteria set out in the *Code of Practice for Vibration Control on Construction and Open Sites – Noise (BS 5228-1:2009+A1:2014*. For vehicular activity, the EIAR adopts guidance from the *(DMRB), Highways England Transport Scotland, The Welsh Government and the Department of Infrastructure*. In terms of construction vibration, guidance was adopted from *BS 7385 and BS 5228*.

12.11.2. During the operation phase guidance is taken from the *Wind Energy Guidelines 2006, The Assessment and Rating of Noise from Windfarms – ETSU-R-97 and Institute of Acoustics Good Practice Guide*[9].

12.11.3. The special characteristics of turbine noise are set out with the infrasound and low frequency noise being a noted characteristic of turbine noise. However, with the design of modern turbines infrasound is not a major characteristic of current windfarm developments. It is also stated that studies carried out indicate that amplitude modulation is not a significant issue with turbine noise. Reference is also made to numerous health studies which have been carried out in respect of noise from windfarm developments. Each of the studies referred to support the conclusion that there are no negative long-term health effects on people with long-term exposure to wind turbine noise. Similar conclusions were reached in respect of studies carried out from vibration impacts from turbines.

12.11.4. Details of the special characteristics of wind turbine noise are set out, with specific reference to low frequency noise and amplitude modulation.

12.11.5. 5 no. noise sensitive locations were identified to establish typical background noise levels. The locations are indicated on Figure 11.2 of the EIAR. Details of the procedure undertaken to establish the background levels are set out. For the purposes of the assessment the turbine type assumed for the development is the Vestas V150 6.0MW turbine.

12.11.6. The Table below presents the various derived $L_{A90,\ (10\ mins)}$ for each of the monitoring locations for daytime and night-time quiet periods relating to an assessment hub height of 95m.

[9] In relation to the Draft 2019 Guidance, it is argued that a number of concerns have been expressed by acousticians working in the field of wind farm development regarding a series of technical errors, ambiguities inconsistencies in the content of the draft guidelines. So, for this reason, the draft guidelines were not used in the noise and vibration assessment

Location	Period	Derived $L_{A90\ 10min}$ Levels (dB) at various standardised 10m height windspeeds (m/s)							
		3	4	5	6	7	8	9	10
A (H064)	Day	23.6	24.1	25.5	27.5	30.2	33.4	36.9	40.7
	Night	18.7	19.4	21.0	23.4	26.6	30.5	35.0	40.0
B (H004)	Day	22.9	23.6	25.0	27.0	29.6	32.6	35.9	39.4
	Night	18.8	19.3	20.8	23.2	26.4	30.3	34.7	39.6
C (H011)	Day	30.5	30.9	31.9	33.6	35.7	38.3	41.2	44.3
	Night	22.4	23.4	25.5	28.5	32.1	36.0	40.1	44.0
D (H023)	Day	23.2	24.0	25.6	27.9	30.8	34.2	37.8	41.5
	Night	18.3	19.3	21.3	24.1	27.7	31.8	36.1	40.6
E (H042)	Day	24.3	25.0	26.6	28.9	31.9	35.4	39.1	43.1
	Night	19.9	20.4	22.0	24.5	27.9	32.0	36.7	41.9
Envelope	Day	22.9	23.6	25.0	27.0	29.6	32.6	35.9	39.4
	Night	18.3	19.3	20.8	23.2	26.4	30.3	34.7	39.6

12.11.7. Likely Significant Effects

Construction Phase

12.11.8. In terms of likely effects during the construction phase, construction activities (plant activity, vehicles) will all give rise to noise above background levels. The nearest noise sensitive location H001 is located 677 m from the proposed nearest turbine (T7). The predicted noise levels from the turbine construction activities are in the range of 30 to 43 dB(A) with a worst-case scenario of 47 dB(A). The nearest NSL to the substation is approximately 333m (H050), under a worst-case scenario construction works could give rise to noises levels in the range of 52 dB(A). Works along the grid connection route, at the closest point to noise sensitive receptors (c25m) will give rise to calculated construction noise levels of 65dB(A) which is within the construction noise level limits. Any work in such close proximity to dwellings is likely to last for 2-3 days only. Calculated changes in traffic noise levels on the

haulage roads to and from the site are indicated on 11.17. Traffic noise impacts on the whole, result in additional noise levels of less than 1 dB(A). The two local roads accessing the site will experience additional noise levels estimated to be between 5.4 and 6.4 dB(A) however these are estimated to last for approximately 7 days only.

12.11.9. Predicted operational noise levels from the borrow pit are assessed under two different scenarios. Both scenarios are well within the relevant construction noise criteria of 65 dB L_{AeqT}. It is accepted that individual blast events will be audible at certain locations, however mitigation measures will be put in place to limit the impact. There are no items of plant or machinery that would be considered out of the ordinary in terms of noise generation. This is assessed as being negative temporary and not significant.

12.11.10. With regard to vibration, having regard to the nature of activities and separation distance involved, any vibration impacts from the construction activities would be negligible. With regard to the upgrading of the existing site entrance and forestry track, the nearest noise sensitive location (NSL) is H17 c170m to the NW of the track. Again, any work carried out at such a separation distance would result in noise levels of less than 60dB(A) which is below the maximum permitted level of 65dB(A). Vibration levels will be also imperceptible.

Operational Noise Levels

12.11.11. The predicted noise levels for the proposed development have been calculated for all noise sensitive locations identified within the study area. Separately, the potential for cumulative turbine noise impacts is assessed in section 11.5.9.2. of the EIAR. A worst case cumulative omni-directional assessment of the proposed development has been completed assuming that all noise locations are downwind of all turbines at the same time (an impossible scenario). The result of the noise modeling undertaken have been compared against the turbine noise limits that have been assigned to each of the NSL's in accordance with criteria and with the background noise levels at NSL's set out above. The results of this exercise are presented in Appendix 11.4. The modelling indicated that omni-directional turbine noise levels are below the criterion curves. No impacts are anticipated from traffic or the sound power emanating from the substation during the operational phase.

12.11.12. The EIAR states in relation to the decommissioning phase, similar overall noise levels as those calculated for the construction phase would be expected as similar plant machinery and equipment will be used.

12.11.13. A range of mitigation measures are proposed, particularly in relation to plant and machinery during the construction phase.

12.11.14. During the operational phase it is stated that the predicted noise levels will be within relevant best practice noise criteria curves for windfarms. Therefore, noise mitigation measures are not required for the operational phase of the development. In the unlikely event that an issue with low frequency noise or potential amplitude modulation associated with the proposed development becomes an issue or a complaint is received, an appropriate detailed investigation by an independent acoustic consultant will be undertaken. No issues will arise in respect of significant vibration effects during the operational phase. Strict monitoring regimes will be undertaken during both the construction and operational phases.

12.11.15. In terms of residual effects, it is likely that some NSL's will experience an increase in noise levels arising from emissions from site traffic and other construction activities however these will be temporary in nature and will be within binding noise limits. The impact during the operational phase is classified as being 'slight, negative and long-term'.

12.11.16. In terms of cumulative effects, a review of existing proposed on permitted turbine developments in the wider area has been undertaken as required by the guidance. The operational noise impact assessment has considered the cumulative impacts of the proposed development in combination with the proposed Ballyhorgan development in the vicinity. The assessment has demonstrated that turbine noise emissions from the proposed development in combination with the proposed Ballyhorgan development will be within the noise criteria outlined in section 11.3.2. Therefore, potential cumulative noise impacts have been accounted for in the assessment.

Assessment

I consider that the noise assessment undertaken in the EIAR considered the noise impacts Arising from both the construction and operational phases. The assessment undertaken for the proposed wind farm represents a worst-case scenario and is

robust and identifies all of the potential impacts associated with the construction and operational stages of the development. I am satisfied that the wind farm proposed in itself, will have acceptable impacts on the surrounding community in terms of noise. I accept that subject to the mitigation measures outlined in the EIAR that noise associated with the development is not likely to result in significant effects on sensitive receptors and no significant vibration effects are predicted which would impact on nearby receptors.

12.11.17. While EIAR considers cumulative effects, and states that an assessment was carried out of the cumulative impact of the proposal in conjunction with the Ballyhorgan development in the vicinity, details of the assessment undertaken are not presented in the EIAR. In the absence of this information the Board may not be satisfied that it has been adequately demonstrated that cumulative impacts will not arise. I further note that no account has been taken on the guidance in respect of noise contained in the 2019 Draft Guidance on Windfarm developments[10]. While the applicant argues that a number of concerns have been expressed by acousticians working in the field of wind farm development regarding a series of technical errors, ambiguities inconsistencies in the content of the Draft Guidelines, the Supreme Court held in Balz Anor -v- An Bord Pleanála [2016] [IESC134] that the Board in setting out its reasons and considerations in determining the application should also have given reasons for not accepting the guidance set out in the 2019 Guidelines. Section 5.7 of these guidelines relate to noise. The draft guidelines state that the preferred approach is to propose a relative rated noise level of 5 dB(A) above the existing background noise in the ranges of 35 to 43 dB(A) with 43 dB(A) being the maximum noise limit permitted day or night. It is not altogether clear from the information contained in the EIAR as to how any cumulative impacts would comply with the Draft Guidelines in terms of noise. While is it acknowledged that the cumulative noise impact would be negligible, nonetheless this has not explicitly being demonstrated in the noise assessment and modelling undertaken.

[10] The reason for this is set out in footnote no.4 above

12.12. **Cultural Heritage**

12.12.1. Chapter 12 of the EIAR relates to cultural heritage. Details of the legislation and guidance in relation archaeology and cultural heritage are set out, including policies set out in the Kerry Development Plan. Details of the assessment methodology including the desktop assessment is also set out.

The sources consulted include:

- The Record of Monuments and Places.
- The Site and Monuments Record.
- National Monuments in State Care Co Kerry.
- The Topographical Files of the National Museum of Ireland.
- OS Maps.
- Down Survey Maps.
- Aerial Photographs.
- Excavations Database.
- National Inventory of Architectural Heritage
- Record of Protected Structures
- North Kerry Archaeological Survey.

A field Inspection was also carried out on site.

Six national monuments were identified between 1.1km and 7.6 km from the subject site. The closest being a number of early medieval ecclesiastical monuments at Rattoo, c 1.2km to the north-west of the site. All the monuments are described in detail in the EIAR. And a viewshed analysis of which turbines would be visible from each of the monuments is indicated in the chapter.

Recorded Monuments within the site are listed below:

RMP Number	Archaeological feature
RMP KE016-005	Enclosure
RMP KE016-004003	Ringfort

RMP KE016-003	Mound
RMP KE016-013	Ringfort
RMP KE016-013001	Souterrain
RMP KE016-076	Ringfort
RMP KE016-076001	Mound
RMP KE010-081	Redundant Record
RMP KE009-088	Road- Unclassified
RMP KE016-004001	Ecclesiastical Enclosure

12.12.2. A further 199 RMP are located within a 5km radius of the development. The chapter goes on the describe the area in which the site is located in terms of the prehistoric period and the early medieval period. Details of the excavation database and the history of the townlands and administrative boundaries in the vicinity of the site are set out. An analysis of all cartographic evidence relating to the site is set out. There are no protected structures on the site. There are 14 protected structures within 5 km of the site. Items of cultural heritage or merit within the site that were referred to in the historic mapping of the site are also set out in Table 12.8. Items of cultural merit along the grid connection route are set out in Table 12.10. There is one recorded monument within 50 m of the grid connection route (KE016-043), a Ringfort in the Townland of Lissahane which is located c30m from the grid connection route.

Construction Phase

12.12.3. In terms of likely significant impacts, the EIAR concludes that under a 'do-nothing' scenario there would be no change to the cultural heritage of the area. No direct impacts will occur on national monuments in State ownership or guardianship. Impacts on recorded monuments located with the EIAR boundary have, on the whole, been mitigated by avoidance and they will not be affected by the construction of the turbine foundations or any other infrastructure. The only exception be the unclassified road / togher (KE009-088) where the groundworks associated with the hardstanding of T1 have the potential directly impact on this archaeological feature. The exact location of the togher in the vicinity of the hardstanding of T1 could not be determined during a visual inspection of the site. Pre- development archaeological testing across the route adjacent to the hardstanding T1 should be carried out in

order to determine the extent of its location. The testing will be carried out under licence from the National Monument Service. On foot of the pre-development testing, a buffer zone of 10 meters should be established between the archaeological feature and the hardstanding at T1. Residual impacts will occur if the proposed mitigation measures are implemented.

12.12.4. It is considered that potential exists that the proposed development could uncover unrecorded subsurface sites and artifacts. Should new sites or features be present within the site that the potential impact is likely to be significant, negative and permanent, predevelopment licensed archaeological testing of all turbine bases hardstanding and other infrastructure will be undertaken. Archaeological monitoring of groundworks will take place during construction. If archaeological material are uncovered, the developer will be required to provide resources for the resolution of such features either by preservation by record (excavation) or by preservation in situ (avoidance). The significance of the impact with the implementation of mitigation is considered to be slight.

12.12.5. In terms of the potential impact on the grid connection route on any cultural heritage remains, it is noted that the proposed cable route from T1 to T2 will traverse the unclassified road / togher (KE009-088) and the grid connection route will come within 30m of a levelled enclosure (KE016-005) which no longer have any above ground traces. The construction methodology for the proposed new road where it crosses KE009-088 should be submitted to the National Monument Service and Kerry County Council archaeologist for approval prior to the commencement of any development. Pre-development licensed archaeological testing of the proposed cable route where it extends past KE016-005 should be undertaken. In addition, the testing should, where possible, determine the location of the outer enclosing element of the monument. A report on the results of the testing will be compiled on the completion of the work.

12.12.6. Further mitigation measures in the form of buffer zones, preservation in situ, our preservation by record, may be required depending on the results of the testing. No likely significant effects are anticipated on national monuments, recorded monuments or items are built heritage. Mitigation measures are also proposed in the form of predevelopment testing and licensed archaeological monitoring on any

potentially unrecorded subsurface sites. No potential impacts are anticipated with works associated with the electricity substation, construction compounds or the borrow pit. Similar predevelopment testing and licensed archaeological monitoring of groundworks will be carried out during the construction phase of these elements.

Operational Phase

12.12.7. During the operational phase, it is considered that there will be no direct effects from the windfarm on cultural heritage. Indirect effects will occur on the setting of features of architectural or archaeological heritage in the area. Monuments in state care are not located within 10km of the site and therefore will not be affected.

12.12.8. The development will have the potential to impact on National Monument No.55, the early medieval ecclesiastical site at Rattoo c.1 km to the north-west of the site. Six to seven turbines will be visible from the site. The introduction of the proposed turbines to the area will undoubtedly alter views of the tower from the wider landscape surrounding the site. In this regard a moderate/significant impact to the wider landscape setting of the ecclesiastical site at Rattoo as a result of the proposed development is identified. The impact on the settings of national monuments in the wider area including National Monument number 303 (Tonaknock Cross) and National Monument No 260 (Listowel Castle) will be negligible. The impacts on the recorded monuments within the site boundary and within 5km of the site during the operational phase are considered to be slight and not significant.

12.12.9. In terms of cumulative effects, an assessment with other developments within a 20 km radius was undertaken. It is assessed that there will be no likelihood of the constituent components of the proposed development to act in combination with each other to result in cumulative effects during the construction, operation or decommissioning phases of the proposed development.

Assessment of the Cultural Heritage Chapter

12.12.10. I consider that the information provided in the planning application documentation is sufficient to allow the impacts of the proposed development to be fully assessed. I am satisfied that the impacts identified on archaeology, architecture and cultural heritage would on the whole, be avoided, managed or mitigated to an acceptable extent by measures forming part of the proposed scheme. The only exception to this is the impact of the proposed development on the National Monument located at

Rattoo c.1 km to the north-west of the site. The impact can be considered, at best 'moderate' and at worst 'significant'. This is acknowledged in the EIAR. I am, therefore, satisfied that the impact of the proposed development has been adequately assessed in terms of the direct, indirect or cumulative impacts on the archaeological, architectural or cultural heritage of the area.

12.13. **Landscape**

12.13.1. Chapter 13 of the EIAR relates to landscape. The defined study area is predicated on the turbine height. A defined study area of 20km is included for visual and landscape effects and 15km from the proposed wind turbines for effects on landscape character. The methodology involved a desk study, fieldwork and a landscape appraisal. Details of the assessment criteria in evaluating the landscape impact is also detailed in this chapter.

12.13.2. The baseline environment is described with specific reference to, visual receptors, policies and objectives and landscape designation, landscape character etc. From a visual perspective the baseline landscape was informed by the Zone of Theoretical Visibility (ZTV) mapping, the route screening analysis and the identification of visual receptors. The zone of theoretically visibility is indicated on Figure 13.1. The views in the immediate area around the site are very small with short, enclosed views of pastureland and peatland view through mature and semi-mature hedgerows as the defining characteristics. Within and immediately surrounding the site, views are more open with little or no screening.

12.13.3. A route screen analysis was taken on all roads within a 3-kilometer radius to assess the level of screening afforded to the site. It ranged from open views / no screening to full screening. With little or no screening mainly confined to the roads surrounding the site. The outer perimeter roads (between 3 and 5km) incorporates on the whole intermittent/partial screening.

12.13.4. A summary of the landscape character areas that fall within the central and wider study area of the proposed development including, sensitivity and importance is contained on Table 13.5 of the EIAR. Areas where windfarm development is 'open for consideration' is also indicated on this map. Figure 13-6 includes the Half Blade ZTV and Landscape Baseline. Details of the landscape designations in the county

development plan are referred to. It is noted that to date, Kerry Co Council has not completed its Landscape Character Assessment. However the Renewable Energy Strategy prepared by Kerry County Council in 2012 (RESCK) characterized the area as 'LCA 3 – Cashen River' which is categorised as 'Hilly and Flat Farmland, - Coastal'. No explicit landscape value or sensitivity rating is designated in the RESCK for the area in which the site is located. In terms of landscape zoning, the site is located outside the Rural Prime Special Amenity Area or the Rural Secondary Special Amenity Area and is therefore located in the least sensitive rural area in terms of landscape zoning. Scenic Routes in the general area of the subject site are depicted in Figure 13.8. Many of the scenic routes in the wider area face towards the coastal area and not the windfarm development. Those that face towards the site are located a considerable distance from the site, in excess of 10km.

12.13.5. With regard to development plan policies in County Clare, it is stated that there are no landscape character (LCA's) areas located within the 15km study area for County Clare. The closest LCA is Loop Head c. 17km from the closest turbine. Details of the living landscapes/ heritage landscapes, scenic amenity views and prospects and wind energy policy as set out in the Clare Co Development Plan are referred to in the EIAR.

12.13.6. Only a small area of secondary special amenity on the northern bank of the River Feale estuary is the only designated sensitive landscape receptor[11].

12.13.7. The Chapter also makes reference to the 'Draft Revised Wind Energy Development Guidelines (2019)'. According to the classified landscapes contained in the Guidelines, the study area can most aptly be described as 'Hilly and Flat Farmland'. The site is primarily flat rising to a small peak in the centre of the site of 12 m OD. Changes in the topography of the site occur to the north and the northwest of the site where the elevation of the lands rise steadily towards the Knockanore Mountain. The elevation also steadily begins to rise towards the Stack Mountains to the south of the

[11] As pointed out in my main assessment, the of the recently adopted 2022 Development Plan which includes maps of visually sensitive areas, designated almost all of the subject site as a visually sensitive area. It is acknowledged that this information may not have been available to inform the landscape chapter at the time of preparing the EIAR.

site. Notwithstanding the proximity of the coastal area (at its closest point 6km away), there is no sense of the coastal plain in the vicinity of the site. Details of the vegetation and land use are also set out. In term of landscape value, the following is noted:

- The proposed development is not located in an area of county Kerry which is designated as prime or secondary special amenity and is located in an area designated as 'Rural General' which is considered to be of low landscape sensitivity (see footnote 11 on previous page).
- Due to its flat nature, the landscape does not have any outstanding landscape properties. The condition of the landscape is partially degraded due to intensive agricultural drainage and peat harvesting operations.
- The proposed development is in a highly managed rural landscape. The anthropological influences of agriculture, peat harvesting and roads are very visible within and around the proposed development site. Any sense of naturalness or wildness has been greatly diminished.
- The development site has no classified recreational value.

The impact of the proposed development on designated Scenic Routes are set out on Table 13-6. The following points are noted:

- The is only one designated a scenic route within 5 km of the proposed wind farm. The direction of views is predominantly to the west, away from the wind farm towards the coast.
- Virtually all designated scenic routes are located beyond 5km. The one designated scenic route to the north of the site (scenic route 1) is not directed towards the site.
- In terms of scenic routes 10 to 15 kilometers from the subject site, while some of these views are directed towards the site, the separation distance between the routes and the windfarm will result in zone theoretical visibility will be between partial and non-existent.

- most of the scenic routes between 15 and 20 km away are not directed towards the subject site and therefore the zone of theoretical visibility will be between partial and non-existent.

The visual impact of the proposed development on settlements within the study area is set out on Table 13-7 is set out in the Table it is summarised below:

Settlement	Settlement Hierarchy	County	Theoretical Visibility
Up to 5 KM			
Ballyduff	Village	Kerry	Full
Lixnaw	Village	Kerry	Full
5 to 10 km			
Abbeydorney	Village	Kerry	Full
Listowel	Regional Town	Kerry	Full
Ballybunion	District Town	Kerry	Full to Partial
Causeway	Village	Kerry	Full
Kilflyn	Village	Kerry	None
10-15km			
Ballyheige	District Town	Kerry	Full to partial
Ardfert	District Town	Kerry	Full
15-20 km			
Duagh	Village	Kerry	None
Ballylongford	District Town	Kerry	None
Carrigaholt	Large Village	Clare	None
Tralee	Hub Town	Kerry	None

12.13.8. The only major transport in the vicinity of the site is the N69 Limerick to Tralee National Secondary Route. There will be no theoretical visibility from the N21 or N22 National Primary Routes.

Visual Receptor Category	Description	Photomontage Viewpoint
Kerry County Council	SVP1	VP3
	SVP3	VP11
	SVP 23	VP16
Settlements	Ballybunion	VP6
	Ballyduff	VP01 and VP2
	Listowel	VP10
Recreational and Tourist Destinations	Ballybunion Beach Walks	VP4
	The Wild Atlantic Way	VP2 VP16, VP3
	North Kerry Way	VP15 VP16
	Loop Head Heritage Trail	VP5
	Shannon Way	VP6 VP7
	Listowel Village Walks – Sive Walk	VP10
Transport Routes	N69 National Secondary Road	VP12
	R5523	VP8

The Photomontage viewpoints are indicated on Figure 13-10 of the EIAR.

In terms of cumulative impacts, a total of c.30 existing and permitted windfarms are located within a 20 km radius of the proposed development. These windfarms are shown on a cumulative baseline map on figure 13-11 of the EIAR.

Likely Significant Impacts

A viewpoint assessment summary is set out on the table below:

VP No.	Description	Approximate distance and direction to turbines	Visual sensitivity at viewpoint	Magnitude of change	Residual significance of effect
1	View from Rattoo Church and Round Tower	1.3km NE	Very High	Moderate	Moderate
2	View from L-1032 Wild Atlantic way	4km SW	High	Slight	Slight
3	View from R551 and the Wild Atlantic way, scenic route 1 (ferry bridge)	3.2km N	Very High	High	Moderate

4	Local Rd in the townland of Ballyeagh in Secondary special amenity area	6.3km NW	High	Slight	Slight
5	View from L-2002 Cloonconeen Co Clare Heritage Landscape	17.9km NW	Medium	Negligible	Imperceptible
6	Local road on the Shannon Way in the townland Dromin	8.4km NW	Medium	Slight	Not significant
7	Local Road off the R553 in the townland of Farranastack – Scenic Route 5	8.7km NE	High	Slight	Slight
8	View from the R553 in the Townland Ballydonohough	6.5 NE	Low	Slight	Imperceptible
9	Local Road of the R557 in the townland of Dysert	1.3km E	Medium	Moderate	Slight
10	View from the great southern trail in the townland of Listowel	7.5km E	Medium	Slight	Not Significant
11	Local Road just of the R555 in the townland of Rathea	12.5km W	High	Negligible	Imperceptible
12	View from the N69 in the townland of Pallas	7.3km	Low	Slight	Imperceptible
13	Local Road off the R554 in the townland of Glanerdalliv	1.8 km E	Medium	Moderate	Moderate
14	View from Ballyduff local road townland of Aghabeg East	2.6 km SW	Low	Moderate	Not Significant
15	View from Bann Strand in the townland of Ballinprior Areas of Secondary Special amenity along the North Kerry Way	15.3 km NW	Medium	Negligible	Imperceptible
16	View from the local road off the R551 also part of the Wild Atlantic Way, North Kerry Way and Scenic Route 23	13.8 km W	High	Slight	Slight

12.13.9. It is noted that none of the impacts in the EIAR are described as ‘profound’, ‘very significant’ or ‘significant’. Two vantage points are considered to have a ‘moderate impact’, 5 are considered to be ‘slight’, 6 ‘not-significant’ and 2 vantage points ‘imperceptible’. The most notable impacts are from the north-east and west within 10km of the site. The EIAR goes on to comment on the visual impacts from, designated scenic routes settlements, recreational and tourist destinations where turbines will be visible.

12.13.10. It is argued that impacts will be most acute within the 5 km range, however these will be significantly mitigated against by the highly vegetated nature of the flat landscape within which the site is located.

12.13.11. In terms of cumulative effects, a total of c. 30 windfarm developments are located within 20km of the proposed development. The majority are located a considerable distance from the site. The visual impact of these windfarms are depicted in the photomontages submitted. Turbines from the Ballyhorgan and Pallas-Clahane windfarms are in closest proximity. A comparative ZTV shows that the cumulative visibility over the existing and permitted turbines within the LVIA study area. The proposed turbines contribute only a slight increase in a small number of tiny pockets where heretofore no turbines were visible within the ZTV.

12.13.12. The proposed grid connection is underground thereby eliminating any potential visual impact.

12.13.13. Finally, the EIAR examines the turbine envelope of turbine heights of 169.5m and 170m in height. The difference, as could be expected, would be minimal.

Conclusion in relation to the Visual Assessment

12.13.14. I consider that the EIAR has accurately assessed and demonstrated that proposed development can be accommodated without resulting in significant adverse effects on the overall landscape character and sensitivities of the area, as wind energy is a relatively familiar feature within the study area with c. 30 windfarms within a 20 km radius of the site. However, the impact in my view in my view maybe somewhat understated in the analysis undertaken. At the time of preparing the EIAR, the area immediately surrounding the site did not attract any landscape or sensitive designations. This has changed under the recently adopted plan, the vast majority of the site is now classed as ‘visually sensitive’. I consider that the applicant has demonstrated that there will be moderate to significant but not profound impact on the landscape. The moderate/significant effects will mainly be confined to the study area around wind farm, particularly at the Rattoo ecclesiastical centre c1.3 km to the NE of the site. While the proposed development will introduce tall structures into the landscape, the site is located on relatively lowland flat terrain, which limits the potential for open views over long distances which might be the case were the turbines located on elevated / upland areas. I accept that views will be pronounced from some locations and that most of the visual impacts will occur within close proximity of the site, particularly to the north, east and west of the site, and to a lesser extent the more elevated lands in the southern portion of the study area.

12.13.15. In terms of the key visual receptors identified in the EIAR, I accept that the proposed development will result in some adverse effects on views from designated amenity routes, settlements, recreational/tourist destinations, recreational routes or transport routes. The visual impacts are for the most part restricted to the central portion of the study area. The impact of the wind farm on areas located at distance greater than 5km, are assessed as being 'slight' and 'imperceptible'. The photomontages submitted with the application would support this conclusion.

12.13.16. The majority of views and lands in the vicinity at the time the EIAR was prepared under the previously development plan were classed as low sensitivity. Notwithstanding any landscape designation the site and its surroundings are reflective of a rural working landscape, with some agriculture and peat excavation. As a result of the flat landscape, and the numerous layers of hedgerows most views incorporate a degree of containment.

12.13.17. I accept that there is increased potential for cumulative visual impacts, particularly in relation to the Ballyhorgan and to a lesser extent, the Pallas/Clahane windfarm which is almost 10km away. However, in overall visual terms the wider landscape is well established as an area accommodating windfarms.

12.13.18. Overall therefore, it is considered that the major visual impacts will be confined to the inner study area within 5 km of the proposed wind farm development. The impacts within this range are considered to be 'moderate' or 'significant'. In the wider area and due to the flat nature of the study area and dense layers of vegetative screening, the impacts are considered to be slight or imperceptible. It is assessed therefore that the proposed development will give rise to significant impacts at some vantage points most notably at Rattoo Roundtower.

12.13.19. I consider that the applicant has provided a comprehensive assessment of the landscape and visual impacts of the proposed development on the landscape and visual amenities of the area. Detailed assessments and photomontages from 16 separate vantage points within a 20 km radius of the subject site has been undertaken. Each of these locations have been assessed in terms of visual receptor sensitivity, visual impact magnitude and the significance of the visual impact. While some of the visual impact from visually sensitive receptors may have been understated to some extent, I consider that the information provided in the planning

application documentation and EIAR is sufficient to allow the impacts of the proposed development to be fully assessed. I am satisfied that the proposed development on the whole would not give rise to any unacceptable additional adverse visual impacts on scenic views, scenic routes, settlements, recreational/tourist destinations or transport routes.

12.14. **Material Assets**

Transport and Access

12.14.1. This assessment was carried out by Alan Lipscombe Transport Consultants. It provides an assessment on the local road network for construction, operation and decommissioning traffic including the turbine component haul route for the Port of Foynes. Details of the scoping and consultation that has been carried out with Kerry Co. Co. and TII is referred to in the chapter.

12.14.2. The likely turbine delivery haul route for the abnormal load will be via the entry point of the Port of Foynes, east to Limerick on the N69, south to Abbeyfeale and Castleisland via the M20 and N21 to Tralee and then north up the N69 to the exist towards the site at Mountcoal onto the L6055. The route with follow north-west for 4km to the priority junction with the R557. The route then heads southwest for 2.5km before turning onto an unnamed local road towards the site at Ballynagare. The delivery route for all construction traffic may vary depending on suppliers used for stone etc. but it is likely to be essentially the same route.

12.14.3. Details of the existing (Covid adjusted) traffic flows and the 2025 traffic flows are set out for the junction between the N69 and the L6055. Details of the articulated truck profile are also contained on file. Details of the existing daily traffic flows (two-way) along the road network to and from the site are set out in the table below:

Link	Year 2021 (observed)	Year 2021 (Covid 19 adjusted)	Year 2025
N69 south of Mountcoal	6,141	7,277	7,605
N69 north of Mountcoal	5,893	6,983	7,297
L-6055 west of Mountcoal	408	483	505
R557	2,408	2,853	2,982

Local Road	475	563	588

Estimated traffic flow increases between the years 2021 to 2025 are set out on Table 14.2. The estimated growth rate for 2025 is set out in the last column on the table above.

The estimated proportion of HGV traffic using the roads is set out in the table below:

Link	Estimated % of HGV's using the road in 2025
N69 south of Mountcoal	6.6%
N69 north of Mountcoal	6.9%
L-6055 west of Mountcoal	5.9%
R557	9.8%
Local Road	7.6%

12.14.4. The construction phase of the development will essentially comprise of two phases (a) Site preparation and groundworks (12 months). The total anticipated deliveries on site for this stage are set out below:

Material	Total Truck loads	Truck type	PCU Value	Total PCUs	PCU Movements per day[12]	2-way PCUs/Day
Concrete blinding and steel	77	Truck	2.4	184	0.7	1.5
Plant/fencing/compound set-up	17	Large artic	2.4	40	0.2	0.3
Forestry felling	25	Large artic	2.4	60	0.2	0.5
Rock and stone	35	Large artic	2.4	84	0.3	0.7
Ducting/cabling (spoil and backfill)	206	Large artic	2.4	494	2.0	4.0
Grid cable laying	1,804	Large artic	2.4	4,330	17.5	34.9

[12] Based on 248 working days

Cranes	11	Large artic	2.4	26	0.1	0.2
Substation components	79	Large artic	2.4	190	0.8	1.5
Refuelling/maintenance/misc	80	Large artic	2.4	192	0.8	1.5
Total	2,333	Large artic	2.4	5,600	22.6	45.2

The transportation movements associated with the second phase are set out in the table below:

Material	Units	Quantity per unit	Total Quantity	Quantity per truck	Total truck load	Truck type
Nacalle	7	1	7	1	7	Extended Artic
Blades	7	3	21	1	21	Extended Artic
Towers	7	5	35	1	35	Extended Artic
Transformer	7	1	7	1	7	Large Artic
Drive train and blade hub	7	1	7	1	7	Large Artic
Base and other deliveries	7	1	7	1	7	Large Artic
Total	42	12	84	6	84	

12.14.5. It is estimated that a maximum 65 staff members will be employed during the construction phase at any one time. Giving rise to between 40 and 65 pcu per day (assuming 2-person occupancy per car).

12.14.6. In terms of potential impact, it is stated that the turbines will be transported at night to minimise impact when traffic is lightest. A summary of the potential impacts in terms of increased traffic movement on roads, for the various stage of construction (groundworks concrete pouring, turbine construction) is set out in Tables 14.12 to 14.19. The impact in terms of construction vehicles, as can be expected is more

pronounced on the local road network in the vicinity of the site with on average between a 15 – 77% increase on the R557 and L6055. Overall the delivery of materials during the construction phase will not exceed the link capacity of the access roads serving the site.

12.14.7. With regard to junction capacity tests, details of the ratio to flow (RFC) capacities on the N69/L6055 are set out in Table 14.23. The impact on the capacity of the junctions in question ranges from 1.6% to 9.1% in the peak hours. The impact during the operational phase will amount to 2 trips per day which will be imperceptible on the road network.

12.14.8. In terms of the grid connection, works carried out on the connection will lead to localised closure of the work network along the 13.8 km route.

12.14.9. The greatest impact on the road network will be related to the large deliveries of turbine infrastructure. Consultation will take place with local authorities and the Gardai prior to delivery. While, the delivery of turbines will require the trimming of hedges, removal of powerlines lampposts and signage etc., it will not require road closures. A sweep path analysis has identified where some remedial works will be required these include:

- The N69/ L6055 junction at Mountcoal
- The left-hand bend on the L6055 at Mountcoal
- The crossroads on the L6055 with the L1027
- A number of bends on the L6055
- The R557 / L6055 junction
- The R557 / L6055 junction
- The R557 Local Road junction
- Access Junctions A to D providing access to the site.

12.14.10. Details of the remedial works required are detailed in the EIAR. The EIAR states that measures for the provision of sustainable modes of transport are not feasible in this instance. During the decommissioning phase it is stated that the total volume of traffic will be similar to that associated with the construction phase.

12.14.11. In terms of cumulative impacts, no such impacts are anticipated. If the development of the proposed wind farm was to coincide with the Ballyhorgan wind farm then

cumulative effects during the construction phase in the absence of mitigation and appropriate traffic management measures, could give rise to direct adverse cumulative impacts on a short-term basis as the access delivery routes to both windfarms are the same. These potential effects are assessed as imperceptible, temporary and negative.

12.14.12. A suite of mitigation measures is set out in the EIAR to reduce the impact of the development during the construction phase, these include measures to lessen the impact on road network from abnormal sized loads, the provision of a traffic coordinator, local consultation, delivery programme and liaison with the local authority. The residual effects, with the incorporation of the mitigation measures, is assessed as being not significant.

Telecommunications

12.14.13. Extensive consultation was undertaken with various stakeholders during the EIAR scoping process. The scoping consultation process is set out in Table 14.24. The RTE (2RN) transmission network requested that a protocol be signed between the developer and 2RN should the development go ahead. It requires that, should any interference occur as a direct result of the windfarm, the required measures as set out in the protocol be implemented to rectify this. The proposed development will not impact on transmission links associated with Virgin Media or Radio Kerry. A detailed technical analysis was carried out to predict interference on telecommunications infrastructure and the Ivertec wireless internet service network. A range of technical measures are available to mitigate any instances of interference.

Aviation

12.14.14. Consultation took place with Shannon Airport. The airport requested that consultations take place with the IAA should construction proceed. The IAA required that appropriate warning lighting be attached to the windfarm development, as well as accurate coordinates of the location of each of the turbines and to notify the IAA of the intention to commence crane operations on site. Therefore, no major impacts are anticipated during the construction or operational, or decommissioning phase in respect of aviation.

Other Material Assets

12.14.15. The proposed development may have the potential to impact on additional material assets such as water pipes, gas pipelines, and other underground services. Potential impacts to these material assets are limited to the grid connection cable route works and temporary junction accommodation works. Potential impacts to these material assets have been considered in terms of the construction phase and the operational phase impacts. All relevant bodies including ESB, Bord Gais, Eir, Irish Water, Kerry Co Council will be contacted and all drawings for existing services sought. A minimum clearance of 300mm is required between the bottom of the ducts and the extant service in question. All works undertaken will be required to comply with the Eirgrid/ESB Networks specifications current at the time of construction.

12.14.16. No cumulative impacts are anticipated in respect of telecommunications or aviation as a result of the proposed development.

12.14.17. I consider that the information provided in respect of material assets in the EIAR documentation is sufficient to allow the impacts of the proposed development on material assets to be fully assessed. I am satisfied that the impacts identified on material assets are not significant, and where they could potentially occur, they can be avoided, managed or mitigated by measures forming part of the proposed scheme and by relevant conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on material assets of the area.

12.15. **Interactions of the Foregoing**

12.15.1. Interactions between the various environmental factors are discussed in Chapter 15 of the EIAR. A matrix is provided in Table 15.1 which outlines potential interactions during the construction and operational phases.

12.15.2. The main potential for interactions which would give rise to negative effects on population and human health arise from impacts from air, climate and noise, land soils, air geology and climate, water, landscape and visual

12.15.3. With regard to biodiversity, the main potential interactions which would give rise to negative effects arise from land/soils/geology, water, noise and vibration, air and climate and landscape.

12.15.4. The main impacts on ornithology would arise from water, air and climate and noise and vibration.

12.15.5. The main potential interactions for land, soil and geology which would give rise to negative effects arise from water, archaeology,/architectural/cultural heritage and landscape.

12.15.6. With regard to air and climate, the main interactions likely to occur which would give rise to negative effects arise are from material assets (movement of construction vehicles around the site resulting in dust nuisance effects).

12.15.7. All of the potential impacts on the individual environmental factors have been assessed. I am satisfied that any such impacts can be avoided, managed and mitigated by the measures which form part of the proposed development and any recommended planning conditions attached to any grant of permission. Overall, it is determined that the proposed development will have a positive international, national regional and local impact particularly in relation to population, human health, air quality and climate.

12.15.8. **Mitigation Measures**

As per the requirements of the amending Directive, the final chapter of the EIAR sets out a schedule of mitigation measures for the pre-commencement stage, the construction phase and operational phase. A suite of monitoring measures are also set out in this final chapter.

13.0 Reasoned Conclusion on the Significant Effects

13.1.1. Having regard to the examination of environmental information contained above in the EIAR submitted by the applicant, together with the written submissions on file, I would conclude the following in relation to significant effects:

(a) The most significant effects will be the visual impact arising from the erection of 7 wind turbines of 169.5 and 170 meters in height. This will result in a moderate and in

some cases a more significant impact on the immediate receiving environment and will be discernible in an area of up to 15 -20km surrounding the site. However, the surrounding lands, particularly in the receiving environment in the immediate study area (within 5 km) are not considered to be particularly sensitive in visual amenity terms, with perhaps the exception of the ecclesiastical sites at Rattoo and Dysert. I reiterate that the EIAR has to an extent played down in the impact of the proposed development on the setting and context of these two sites. Furthermore, there are no designated scenic routes in the immediate vicinity of the subject site and there are a large number of operating windfarms in the wider area. Thus, the renewable energy industry is already firmly established in this area of North Kerry. A precedent has therefore been set for a development of this nature in the area where the proposal is to be situated.

(b) From a sustainable energy perspective, the proposal fully supports government policy to reduce reliance on fossil fuels and provide more sustainable sources of energy. The proposal will result in the displacement of c56,222 tonnes of CO_2 per annum which may have been emitted from fossil fuels to produce electricity. The proposal therefore will have a moderate positive impact on addressing climate change, and will contribute towards the national targets in respect of reducing greenhouse emissions and meeting renewable energy targets.

(c) In terms of potential impact arising from HGV traffic, noise, shadow flicker and water quality, the proposed windfarm could either during the construction or operational phase potentially give rise to adverse environmental impacts or impacts on sensitive receptors in the surrounding area. While the EIAR states that cumulative impacts arising from potential noise and water pollution if the proposed development was either constructed (in the case of water pollution) or operational (in the case of noise) in conjunction other windfarms has been adequately assessed, details of this assessment may not be adequately detailed or presented in the EIAR. Furthermore, the noise assessment undertaken is assessed in the context of the 2006 Windfarm Guidelines only and not the 2019 Draft Guidelines, this may not accord with the spirit of the Balz Anor -v- An Bord Pleanála Supreme Court Judgement [2016] [IESC134]. However, with the incorporation of appropriate mitigation measures, notwithstanding

the concerns above, I would be on the whole satisfied, that with the implementation of best practice, the cumulative impacts can be considered to be slight or more probably imperceptible having regard to the separation distance between the development which is the subject of the current application and extant and permitted windfarm developments in the wider area. A large scale flooding event during the construction phase would remain a slight concern.

(d) In terms of biodiversity, the majority of the habitats that will be impacted are of local importance and low ecological value. The proposed development occupies a very small proportion of a vast agricultural and peatland landscape, with large areas outside the footprint of the turbines, substation and construction compounds remaining undisturbed. There is potential for some impact on terrestrial mammals in terms foraging and commuting, particularly during the construction phase. Through standard mitigation and monitoring, management and habitat enhancement, there will be no significant impacts on these species arising from the development. The proposed development avoids watercourses and no instream works are proposed. The surveys indicate that habitats present are suboptimal for aquatic species identified as key ecological receptors including salmon, lamprey and white-clawed crayfish. However, there is some limited potential for cumulative impacts particularly downstream of the catchment area should the Ballyhorgan windfarm development be carried out around the same time as the current application. The main impact would occur through sediment laden discharge during both the construction phases. Again, mitigation measures set out in the EIAR will offset any potential adverse impact on water quality.

(e) Impacts, including cumulative impacts, in terms of potential bird collisions have been assessed and considered in EIAR. This included as assessment of potential impacts on the various bird species which frequent the area. The impacts on avifauna during both the construction and operational phases are assessed as being minimal. Concerns regarding the proposals potential to impact on roosting and foraging on bird species, most notably the Whooper Swan have not been fully allayed by the studies undertaken as part of the EIAR process.

(f) EIAR reasonably concludes in my opinion, having regard to the nature of the existing environment, that there will be little or no adverse impacts arising from the

proposed windfarm in terms of biodiversity, land soils and geology, and cultural heritage, other than the concerns regarding the setting and context of the Rattoo and Dysert ecclesiastical centres.

13.1.2. The EIAR has considered that the main significant direct and indirect and cumulative[13] effects of the proposed development on the environment. Following mitigation, no residual significant long-term negative impacts on the environment or sensitive receptors are likely to be experienced with the exception of the visual impact and other potential lesser impacts referred to above. The proposal will have a positive impact in terms of promoting and utilising more sustainable forms of renewable energy. I am, therefore, satisfied that the proposed development may not on the whole, have any unacceptable direct, indirect or cumulative effects on the environment during the construction or operational phase.

13.1.3. I am satisfied that the information provided is reasonable and overall is sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. Overall, I am satisfied that the information contained in the EIAR complies with the provisions of Article 3, 5 and Annex (IV) of EU Directive 2014/52/EU.

14.0 **Appropriate Assessment**

14.1. **Introduction**

14.1.1. Article 6(3) of the Habitats Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site.

[13] Subject to my reservations expressed above.

14.1.2. The application site is not located within but is adjacent to one Natura 2000 site, namely the Lower River Shannon SAC [002165]. Both the River Feale and the River Brick which run along the north-eastern and western boundary of the site form part of the River Shannon SAC. The Stage 1 Screening Assessment submitted with the application concludes that a Stage 2 Appropriate Assessment and an NIS is required. It predicts the potential impacts for this site within the zone of influence and provides a summary of potential effects.

14.1.3. The application was therefore accompanied by a Natura Impact Statement with included a screening for Appropriate Assessment (Appendix 1). The NIS contains a description of the proposed development, the project site and the surrounding area, characteristics of the receiving environment as well as details of the desk study and field surveys on site. The document then goes on to assess the potential effects (both direct and indirect) on the surrounding European Sites and an assessment of the residual adverse effects and the potential cumulative effects on the Natura 2000 sites in the vicinity. It concludes that with the implementation of the mitigation measures, and in light of the best scientific knowledge, there will be no significant effects either individually or with other plans or projects on the integrity or on species of conservation interest associated with Natura 2000 Sites in the vicinity. Appendix 2 provides a detailed description of the proposed development (as per Chapter 4 of the EIAR). Appendix 3 contained a CEMP.

14.1.4. Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge to assess any potential impacts. It also provides details of mitigation measures to ensure that no adverse impacts arise in respect of Natura 2000 Sites in the vicinity. I am satisfied that the information is sufficient to allow for an independent appropriate assessment of the proposed development.

14.2. **Stage One - Screening**

14.2.1. As the screening for appropriate assessment indicates, the proposed wind farm or grid connection is not located within but is located contiguous to Lower River Shannon SAC [002165] Natura 2000 Sites. The Screening Assessment also

identifies other Natura 2000 Sites which could be potentially affected by the proposed windfarm. These are The Stacks to Mullaghhareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161] and the Tralee Bay Complex SPA [004188].

14.2.2. The sites considered within the Stage 1 Screening and the distances from the wind farm site and the cable route are summarised below.

Site	Site Code	Distance from Development	With the zone of influence	Potential Impact?
Lower River Shannon SAC	002165	0 m Along boundary of the site	Potential water pollution due to accidental spillage, increase sediment run-off etc during the construction operation or decommissioning phase.	Yes
Moanveanlagh Bog	0022351	12.2 km	The site is designated for terrestrial peatland habitats. The SAC is located in a separate river sub-basin with no hydrological connectivity.	No
Akeragh, Banna and Barrow Harbour SAC	000332	13.0 km	This site is designated for coastal and shoreline habitats. The SAC is located in a separate river sub-basin with no hydrological connectivity.	No
Ballyseedy Wood SAC	002351	17.0 km	This site is designated for terrestrial alluvial woodland habitat. The SAC is located in a separate river sub-basin with no hydrological connectivity.	No
The Stacks to Mullaghhareirk	004161	4.8 km	The terminal section of the grid is located adjacent to	Yes / Maybe?

Mountains, West Limerick Hills and Mount Eagle SPA [004161]			the SPA. The Core foraging range of 2km the hen harrier is km. On a precautionary basis therefore there is potential for habitat loss displacement and collision	
Kerry Head SPA	004189	6.8 km	The Species for which the SPA is designated are coastal and do not commute or forage over terrestrial habitats.	No
Tralee Bay Complex	004188	12.9 km	The Common Gull can forage a distance of up to 25km from the SPA	Yes
River Shannon and River Fergus SPA	004077	13.8 km	Due to separation distance and the conclusion that the site has no connection with the SPA no significant impacts are anticipated.	No

14.3. **Screening Determination**

Based on my examination of the AA Screening report and supporting information, the NPWS website, aerial and satellite imagery, the scale of the proposed development and likely effects, separation distance and functional relationship between the proposed works and the European sites, their conservation objectives and, taken in conjunction with my assessment of the subject site and the surrounding area, I would conclude that a Stage 2 Appropriate Assessment is required for 1 of the European sites referred to above, Namely:

- The Lower River Shannon SAC [002165].

However out of an abundance of caution the Board may also wish include the following sites which were included in the NIS for the purposes of Stage 2.

- Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161]
- Tralee Bay Complex SPA [004188]

The remaining sites referred to in the Table above, can be screened out from further assessment because of the scale of the proposed works, the nature of the Conservation Objectives, Qualifying and Special Conservation Interests, the separation distances and the lack of a substantive linkage hydrological or otherwise between the proposed works and the European sites. It is therefore reasonable to conclude that on the basis of the information on the file, which I consider adequate in order to issue a screening determination, the proposed development, individually or in combination with other plans or projects would not be likely to have a significant effect on these 5 European Sites in view of the sites' conservation objectives and a Stage 2 Appropriate Assessment is not therefore required for these sites.

14.4. **Stage Two – Appropriate Assessment**

The Natura 2000 Sites are described, and the qualifying interests associated with the Natura 200 Sites are set out below:

Lower River Shannon SAC [002165]

This very large site stretches along the Shannon valley from Killaloe in Co. Clare to Loop Head/ Kerry Head, a distance of some 120 km. The site thus encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the freshwater lower reaches of the River Shannon (between Killaloe and Limerick), the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. Rivers within the sub-catchment of the Feale include the Galey, Smearlagh, Oolagh, Allaughaun, Owveg, Clydagh, Caher, Breanagh and Glenacarney. Rivers within the sub-catchment of the Mulkear include the Killeenagarriff, Annagh, Newport, the Dead River, the Bilboa, Glashacloonaraveela, Gortnageragh and Cahernahallia.

The Shannon and Fergus Estuaries form the largest estuarine complex in Ireland. They form a unit stretching from the upper tidal limits of the Shannon and Fergus Rivers to the mouth of the Shannon Estuary. In the innermost parts of the estuaries,

the tidal channels or creeks are fringed with species such as Common Reed (*Phragmites australis*) and club-rushes. Saltmarsh vegetation frequently fringes the mudflats. To the west of Foynes, a number of small estuaries form indentations in the predominantly hard coastline, namely Poulnasherry Bay, Ballylongford Bay, Clonderalaw Bay and the Feale or Cashen River estuary. Over twenty areas of estuarine saltmarsh have been identified within the site, the most important of which are around the Fergus estuary and at Ringmoylan Quay. The dominant type of saltmarsh present is Atlantic salt meadow occurring over mud.

The intertidal reefs in the Shannon Estuary are exposed or moderately exposed to wave action and subject to moderate tidal streams. Known sites are steeply sloping and show a good zonation down the shore. Well-developed lichen zones and littoral reef communities offering a high species richness in the sublittoral fringe and strong populations of the Purple Sea Urchin *Paracentrotus lividus* are found. The communities found are tolerant to sand scour and tidal streams. The infralittoral reefs range from sloping platforms with some vertical steps, to ridged bedrock with gullies of sand between the ridges, to ridged bedrock with boulders or a mixture of cobbles, gravel and sand. Kelp is very common to about 18 m. Below this it becomes rare and the community is characterised by coralline crusts and red foliose algae.

Freshwater rivers have been included in the site, most notably the Feale and Mulkear catchments. The Feale and Mulkear catchments exhibit all the aspects of a river from source to mouth. Semi-natural habitats, such as wet grassland, wet woodland and marsh occur by the rivers, but improved grassland is the most common habitat type. One grassland type of particular conservation significance, Molinia meadows, occurs in several parts of the site and the examples at Worldsend on the River Shannon are especially noteworthy. Here are found areas of wet meadow dominated by rushes (Juncus spp.) and sedges (Carex spp.), and supporting a diverse and species-rich vegetation, including such uncommon species as Blue-eyed Grass (Sisyrinchium bermudiana) and Pale Sedge (C. pallescens). Floating river vegetation characterised by species of water-crowfoot (Ranunculus spp.), pondweeds (Potamogeton spp.) and the moss Fontinalius antipyretica are present throughout the major river systems within the site. The rivers contain an interesting bryoflora with Schistidium alpicola var. alpicola recorded from in-stream boulders on the Bilboa, new to Co. Limerick.

In terms of bird populations overall, the Shannon and Fergus Estuaries support the largest numbers of wintering waterfowl in Ireland. The highest count in 1995-96 was 51,423 while in 1994-95 it was 62,701. Species listed on Annex I of the E.U. Birds Directive which contributed to these totals include: Great Northern Diver (3; 1994/95), Whooper Swan (201; 1995/96), Pale-bellied Brent Goose (246; 1995/96), Golden Plover (11,067; 1994/95) and Bar-tailed Godwit (476; 1995/96). In the past, three separate flocks of Greenland White-fronted Goose were regularly found, but none were seen in 1993/94.

Other wintering waders and wildfowl present include Greylag Goose (216; 1995/96), Shelduck (1,060; 1995/96), Wigeon (5,976; 1995/96), Teal (2,319; 1995-96), Mallard (528; 1995/96), Pintail (45; 1995/96), Shoveler (84; 1995/96), Tufted Duck (272; 1995/96), Scaup (121; 1995/96), Ringed Plover (240; 1995/96), Grey Plover (750; 1995/96), Lapwing (24,581; 1995/96), Knot (800; 1995/96), Dunlin (20,100; 1995/96), Snipe (719, 1995/96), Black-tailed Godwit (1,062; 1995/96), Curlew (1,504; 1995/96), Redshank (3,228; 1995/96), Greenshank (36; 1995/96) and Turnstone (107; 1995/96). A number of wintering gulls are also present, including Black-headed Gull (2,216; 1995/96), Common Gull (366; 1995/96) and Lesser Black-backed Gull (100; 1994/95). This is the most important coastal site in Ireland for a number of the waders including Lapwing, Dunlin, Snipe and Redshank. It also provides an important staging ground for species such as Black-tailed Godwit and Greenshank.

There is a wide range of land uses within the site. The most common use of the terrestrial parts is grazing by cattle, and some areas have been damaged through over-grazing and poaching. Much of the land adjacent to the rivers and estuaries has been improved or reclaimed and is protected by embankments (especially along the Fergus estuary). Further, reclamation continues to pose a threat, as do flood relief works (e.g. dredging of rivers).

Domestic and industrial wastes are discharged into the Shannon, but water quality is generally satisfactory, except in the upper estuary where it reflects the sewage load from Limerick City. Analyses for trace metals suggest a relatively clean estuary with no influences of industrial discharges apparent. Further industrial development along the Shannon and water polluting operations are potential threats.

This site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats lagoon and alluvial woodland, the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. A good number of Red Data Book species are also present, perhaps most notably the thriving populations of Triangular Club-rush. A number of species listed on Annex I of the E.U. Birds Directive are also present, either wintering or breeding. Indeed, the Shannon and Fergus Estuaries form the largest estuarine complex in Ireland and support more wintering wildfowl and waders than any other site in the country. Most of the estuarine part of the site has been designated a Special Protection Area (SPA), under the E.U. Birds Directive, primarily to protect the large numbers of migratory birds present in winter.

The qualifying interest associated with the SAC are as follows:

Sandbanks which are slightly covered by sea water all the time [1110]

Estuaries [1130]

Mudflats and sandflats not covered by seawater at low tide [1140]

Coastal lagoons [1150]

Large shallow inlets and bays [1160]

Reefs [1170]

Perennial vegetation of stony banks [1220]

Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]

Salicornia and other annuals colonising mud and sand [1310]

Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]

Mediterranean salt meadows (Juncetalia maritimi) [1410]

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]

Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]

Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]

Margaritifera (Freshwater Pearl Mussel) [1029]

Petromyzon marinus (Sea Lamprey) [1095]

Lampetra planeri (Brook Lamprey) [1096]

Lampetra fluviatilis (River Lamprey) [1099]

Salmo salar (Salmon) [1106]

Tursiops truncatus (Common Bottlenose Dolphin) [1349]

Lutra (Otter) [1355]

Stacks to Mullaghareirk Mts., West Limerick Hills and Mt Eagle SPA (004161)

The Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is a very large site centred on the borders between the counties of Cork, Kerry and Limerick. The site is skirted by the towns of Newcastle West, Ballydesmond, Castleisland, Tralee and Abbeyfeale. The site consists of a variety of upland habitats, though almost half is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. The principal tree species present are Sitka Spruce (Picea sitchensis) and Lodgepole Pine (Pinus contorta). A substantial part (28%) of the site is unplanted blanket bog and heath, with both wet and dry heath present. The vegetation of these habitats is characterised by such species as Ling Heather (Calluna vulgaris), Bilberry (Vaccinium myrtillus), Common Cottongrass (Eriophorum angustifolium), Hare's-tail Cottongrass (Eriophorum vaginatum), Deergrass (Scirpus cespitosus) and Purple Moor-grass (Molinia caerulea). The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (Juncus spp.) and some areas subject to scrub encroachment. The site

is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier. This SPA is a stronghold for Hen Harrier and supports the largest concentration of the species in the country. A survey in 2005 recorded 45 pairs, which represents over 20% of the all-Ireland total. A similar number of pairs had been recorded in the 1998-2000 period. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Birds Directive. The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. The Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier and is one the top sites in the country for the species. The presence of three species, Hen Harrier, Merlin and Short-eared Owl, which are listed on Annex I of the E.U. Birds Directive is of note

- *Hen Harrier (Circus Cyaneus)*

Tralee Bay Complex SPA

The Tralee Bay Complex SPA is located along the coast of north Co. Kerry between Ballyheige in the north, Tralee in the east and Stradbally in the west. The site includes the inner part of Tralee Bay, including Derrymore Island, the inlets of Barrow Harbour and Carrahane Strand, Akeragh Lough, Lough Gill, and much of the intertidal habitat from Scraggane Point at the northern end of the Magharees Peninsula around the coast to c. 2 km south of Ballyheige. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Light-bellied Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Scaup, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull and Common Gull. It is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as

these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. Tralee Bay Complex SPA is an internationally important wetland for wintering waders and wildfowl. It supports an internationally important population of Lightbellied Brent Goose (1,412) and nationally important populations of a further 21 species, i.e. Whooper Swan (101), Shelduck (220), Wigeon (1,634), Teal (623), Mallard (571), Pintail (54), Scaup (892), Oystercatcher (1,011), Ringed Plover (344), Golden Plover (6,393), Grey Plover (195), Lapwing (6,106), Sanderling (228), Dunlin (2,444), Black-tailed Godwit (139), Bar-tailed Godwit (608), Curlew (1,170), Redshank (635), Turnstone (229), Black-headed Gull (1,320) and Common Gull (599) – all figures are five year mean peak counts for the period 1995/96 to 1999/2000, except the gulls which are four year mean peak counts for the period 1996/97 to 1999/2000. Tralee Bay Complex SPA is of high ornithological importance as it annually supports over 20,000 wintering waterbirds, including an international important population of Light-bellied Brent Goose and nationally important populations of 21 other species. It is of note that three of the species that regularly occur, Whooper Swan, Golden Plover and Bar-tailed Godwit, are listed on Annex I of the E.U. Birds Directive. Tralee Bay is a Ramsar Convention site and parts of the Tralee Bay Complex SPA are designated as Nature Reserves. Lough Gill is a Wildfowl Sanctuary.

The qualifying interests associated with the SPA are:

Whooper Swan (Cygnus cygnus) [A038]

Light-bellied Brent Goose (Branta bernicla hrota) [A046]

Shelduck (Tadorna tadorna) [A048]

Wigeon (Anas penelope) [A050]

Teal (Anas crecca) [A052]

Mallard (Anas platyrhynchos) [A053]

Pintail (Anas acuta) [A054]

Scaup (Aythya marila) [A062]

Oystercatcher (Haematopus ostralegus) [A130]

Ringed Plover (Charadrius hiaticula) [A137]

Golden Plover (Pluvialis apricaria) [A140]

Grey Plover (Pluvialis squatarola) [A141]

Lapwing (Vanellus vanellus) [A142]

Sanderling (Calidris alba) [A144]

Dunlin (Calidris alpina) [A149]

Black-tailed Godwit (Limosa limosa) [A156]

Bar-tailed Godwit (Limosa lapponica) [A157]

Curlew (Numenius arquata) [A160]

Redshank (Tringa totanus) [A162]

Turnstone (Arenaria interpres) [A169]

Black-headed Gull (Chroicocephalus ridibundus) [A179]

Common Gull (Larus canus) [A182]

Wetland and Waterbirds [A999]

Potential Impacts on Key Species and Key Habitats

Lower River Shannon SAC

14.4.1. Water quality is a key environmental factor underpinning the conservation condition of a number of the qualifying interests, particularly in relation to the Lower River Shannon SAC as two of the rivers that form part of the SAC run along the boundary of the site. The main risk to water quality will be during the construction phase and the early operation of the project. In the event of release of suspended sediment or a release of other pollutants into watercourses during construction works, there could be significant direct effect downstream along both the River Brick and the River Feale. The NIS reasonable concludes in my view that the habitats associated with the SAC are not likely to be affected by the proposed development as none of the habitats that form part of the qualifying interests are located within or adjacent to the subject site. However, there are a number of aquatic habitats that could potentially be affected by the proposal should a pollution event occur which could contaminate adjacent water bodies that form part of the SAC. The Bottlenose Dolphin has known to frequent the Cashen Estuary[14]. The NIS also notes that the lamprey species may occur downstream, and the River Feale is a designated Salmonid Waterbody. Parts

[14] The Conservation Objectives Report indicates that this species only frequents the mouth of the estuary.

of the River Feale downstream of the site also form part of a commuting buffer zone for the otter. Otters were recorded during various surveys undertaken.

14.4.2. In the event of siltation or pollution of watercourses from the site, the aquatic habitats and species could be indirectly damaged by changes to water turbidity and water quality and thereby potentially impacting on the integrity of the site.

14.4.3. The terrestrial and coastal habitats detailed as qualifying interests of the SAC are not considered further as there is no potential for these habitats to be impacted as the development is not contained within the SAC boundary. It is only mobile and aquatic species that could potentially be indirectly impacted by the proposed development.

14.4.4. Stack's to Mullaghareirk Mountains West Limerick Hills and Mount Eagle SPA

14.4.5. Hen Harries were observed during the winter and breeding season. The Bird was also observed during vantage point surveys (Sept 2020), and once during a walkover survey 600 m north of the site. There were other incidental recordings of the hen harrier in the area. Further details are contained in Appendix 7-4 of the EIAR.

14.4.6. Tralee Bay Complex SPA

14.4.7. The only species of special conservation interest that could be impacted upon by the proposed development is the Common Gull which may frequent the site. The Bird was observed once during vantage point surveys, and once during a walkover survey. It was observed 8 times during the waterbird distribution surveys, of these 2 were within 500m of the northern boundary of the site.

14.4.8. The potential impacts are summaries in the table below:

14.5. Assessment of Potential Effects

In terms of direct effects, the project will not result in the loss of any aquatic habitat or the mortality of any of the aquatic features which form part of the qualifying interests of the SAC. There will be no loss of fisheries habitat and there is no potential for the proposed development to result in any barrier to the movement of fish. In terms of the impacts on the hen Harrier the collision risk has been calculated at a ratio of 0.001 collisions per year or one bird every 913 years. In terms of the Common Gull the collision risk analysis has been calculated at a ratio of 0.34 or One

bird every 34 years. A common goal is not reliant on the habitats within the wind farm sites for foraging or breathing and there are more suitable habitats for this species in the wider area.

In terms of indirect impacts, the major potential impact which could potentially arise is confined to water pollution as the site is hydrologically connected to the River Brick and the River Feale and both Rivers form part of the lower River Shannon SAC. Impacts could also occur in terms of the disturbance to, and displacement of species associated with the Natura 2000 sites, namely the Otter the Hen Harrier and the Common Gull.

These potential impacts on water quality as summarised below:

- Excessive sediment runoff to tributaries within the site to the rivers in question during excavations of the site. This could result from felling operations, construction of instream works or other excavations or earthworks.
- A major spillage or long term leakage of hydrocarbons are other chemicals on site. This could occur if fuels lubricants or other chemicals are not appropriately managed.
- A major spillage of wet cement on site causing runoff to water courses.
- Substandard reinstatement works especially along or adjacent to water courses.
- Post construction felling, if left exposed, could result in increased sediment loads in runoff.
- Poorly designed or constructed wind farm infrastructure may result in increased runoff and sedimentation especially in respect of drainage associated with turbine hard standings and access tracks.
- The transportation of invasive alien species on site, which could be released into water courses and become established downstream in the SAC/SPA which could have adverse implications on downstream riverine ecosystems.

<u>Mitigation Measures to Address Potential Water Pollution</u>

The mitigation measures therefore can be restricted to the issues surrounding water quality. These measures are set out in section 8 of the NIS and include the following:

- The working window for in-stream works will be July to September to avoid vulnerable spawning salmonids /lamprey as defined by the IFI.
- There will be no crossing of rivers and streams by machinery during the construction phase and all machinery will be confined to within the works corridor as defined.
- There will be no direct dewatering to water courses on site during the construction phase.
- All hazardous materials including cement, hydrocarbons and other toxic fluids will be fully contained in appropriate bunding. No concrete batching will take place on site, ready mix concrete will be brought to the site. Line cement wash-out ponds will be used for chute cleaning. There will be no discharge of cement contaminated waters on site.
- No refuelling will be permitted within 50m of the water courses.
- Spill-kits and emergency plan response will be provided.
- All wastewater generated on site will be disposed-of off-site.
- A Sustainable Drainage System (SuDS) will be implemented to mange surface water taking into account flooding pollution and biodiversity.
- Specific measures will be included to ensure adequate management of soil / peat deposition. This will include buffers zones silt fences straw bales etc.
- All disturbed areas will be re-vegetated and re-seeded where appropriate.

All the above works will be will be included in a CEMP (Appendix 3 of the NIS) and will be overseen by an Ecological Clerk of Works (ECoW) and a Project Ecologist.

- During the post construction phase any temporary drainage will be undertaken associated with the construction phase that is no longer required will be removed.
- During the operational phase on-going up-gradient interceptor drains will be provided where appropriate.

- Run-off individual turbine hardstanding areas will not be discharged into the existing drain network but will be discharged locally at each turbine location through settlement ponds and drainage swales
- Swales and settlement ponds will be provided in order to ensure greenfield run-off rates.
- Check dams will be used along sections of the access road drains to intercept silts at source.
- Site water run-off will be monitored during the operation phase to ensure green field rates are adhered to.
- The electrical substation compound will be bunded appropriately to the volume of oil likely to be stored in order to prevent leakage to groundwater and surface water.

During the decommissioning phase mitigation measures will be similar to that undertaken during the construction phase although the potential for impacts is considered to be significantly less given that much of the infrastructure will remain in-situ (such as roads etc).

I consider the mitigation measures in general are suitable to protect surrounding waters associated with the Natura 2000 sites during the day-to-day construction activities. However as mentioned previously in my report a large-scale inundation of floodwater could adversely impact on the waterbodies associated with the SAC. The site is prone to frequent flooding and it is my considered view that the mitigation measures referred to above would be overwhelmed and rendered ineffective should a flood event occur during the construction phase.

Impact on Species associated with the Natura 2000 Sites

It is considered that with the implementation of site specific measures in respect of controlling water pollution, the proposal will not give rise to any adverse impacts on aquatic species that form part of the qualifying interests associated with the Lower River Shannon SAC, namely lamprey and salmon.

In relation to the potential disturbance of otter, there is potential for such disturbance particularly during the construction works. However, given the crepuscular nature of otter activities, construction times are unlikely to give rise to disturbance. Other

studies have indicated that anthropogenic activities are unlikely to give rise to disturbance. Best practice disturbance limitation measures are incorporated into the design and these are set out in the NIS. No adverse impacts are anticipated during the operational phase.

In terms of the impacts of the development on the Hen Harrier. It is noted that no roosting sites were recorded within the windfarm site between April 2019 and March 2021. A Hen harrier was observed on site at dusk however no roost was observed. There were a number of observations of hen harriers within and surrounding the proposed site during the 2 years of observation. Displacement and barrier effects are not predicted in relation to foraging given the infrequent nature of use of the site by the hen harrier.

Similarly in relation to the Common Gull, the species was recorded only once within the windfarm study area and the species is not dependent on the windfarm study area for the purposes of foraging or breeding. A suitable habitat for the Common Gull is widely available in the surrounding area. Given the very low level of activities on the subject site the anticipated impact is deemed to be negligible.

Further information and surveys is required in respect of the impact of the proposal on the foraging and roosting habits of the Whooper Swan. The Whooper Swan is an Annex 1 Species and the information submitted with the application suggests that the improved grassland to the west of the site, particularly around the River Brick, may be extensively used by this species for foraging particularly during flood events. It is my considered view that there is an absence of definitive assessment and therefore a reasonable scientific doubt as to the impact of the proposed development on the habitats of the Whopper Swan.

In terms of the potential for the spread of Invasive Species, a suite of general biosecurity measures will be implemented as part of the construction phase.

The proposed grid connection in to take place within the existing road alignments and therefore it is not anticipated to have any impact on habitats or species of conservation interest.

<u>In-combination Effects</u>

There are not considered to be any associated /connected development associated with the wind farm and grid connection which could impact on surrounding Natura 2000 sites.

In terms of additive impacts from other developments in the wider area, I note that both the NIS and EIAR assess cumulative impact arising from other planned and permitted wind farms in the area. The NIS concludes, based on the relatively low density of operational and consented wind farms within 10km of the proposed development the likely in-combination/cumulative risk or threats posed by the operation of the wind farms in terms of the potential displacement or collision risk can be ruled out in accordance with the modelling undertaken. Other windfarm developments in the wider area (15-20km away) are considered to be a sufficient distance away to ensure that no material impacts arise. The cumulative impact of the turbines does not form a significantly elongated or dense barrier to bird flight paths or populations of birds moving through the area.

In terms of cumulative water quality impacts, it is noted that the potential for cumulative impacts on SAC's in the vicinity, specifically from wind farms with 20km radius of the site that feed into the same river and stream sub-catchments that are connected to the River Brick and River Feale which form part of the Lower River Shannon SAC are unlikely to give rise to cumulative effects. The windfarms in the vicinity have been the subject of an Appropriate Assessment and a finding of no significant effects was arrived at[15]. With the employment of the mitigation measures set out above, the proposal before the Board will not result in any adverse impacts on water quality.

Residual Effects

No significant residual effects are identified following implementation of the recommended mitigation measures.

[15] If a conclusion was arrived at that the proposed windfarms would adversely impact on the Natura 2000 sites in question, the consent authority would be precluded from granting planning permission for the proposed development.

14.6. **Appropriate Assessment Conclusions**

Having regard to the works proposed, the nature of the qualifying interests of the site and, I consider that it is reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that it cannot be definitively ruled out that the proposed development, individually or in combination with other plans and projects would not adversely affect the integrity of the Lower Shannon SAC, and / or the Tralee Complex SPA.

On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, I am not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of European sites no. 002165 or 004188, in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission.
This conclusion is based on the following:

(a) The site is prone to frequent flooding, and it is my considered view that the mitigation measures referred to above would be overwhelmed and rendered ineffective should a flood event occur during the construction phase and this could result in water pollution which could adversely affect the integrity of qualifying interest of the Lower River Shannon SAC 002165.

(b) The Whooper Swan is an Annex 1 Species and a species of conservation interest associated with the Tralee Bay Complex SPA 004188. The information submitted with the application suggests that the improved grassland on the western side of the site, particularly around the River Brick, may be extensively used by this species for foraging particularly during flood events. In the absence of a more definitive assessment in relation to the usage of the site by the Whooper Swan a reasonable scientific doubt as to the impact of the proposed development on the habitats of the Whopper Swan.

15.0 **Recommendation**

15.1. Having regard to the foregoing I recommend that permission for the development be refused based on the reasons and considerations, set out below.

16.0 **Reasons and Considerations**

1. The Board had a number of concerns regarding the suitably of the site for a windfarm development. These concerns related to the impact of the proposal on the setting and context of the historic landscape, particularly on the setting of the medieval ecclesiastical sites at Rattoo and Dysert. The sites propensity to flood was also noted and the Board is not satisfied beyond all reasonable doubt that a flooding event would not give rise to significant pollution of adjoining water bodies during the construction phase in the event of a flood or could potentially displace wetland bird populations of importance most notably the Whooper Swan which purport to use the site during a flooding event. On this basis the Board considered a grant of planning permission for the proposed windfarm development on the subject site to be premature pending the resolution and adoption of the Wind Energy Zoning Strategy on foot of the Draft Ministerial Direction given to Kerry County Council on August 12th, 2022. Until such time as the proposed development can be assessed in the context of a statutorily adopted Wind Energy Zoning Strategy for the county, the Board cannot be satisfied that the proposed development is in accordance with the proper planning and sustainable development of the area.
2 On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, the Board is not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of European sites no. 002165 (Lower River Shannon SAC) or 004188 (Tralee Bay SPA), in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission.

   This conclusion is based on the following:

(a) The site is prone to frequent flooding, and it is the Boards view that the mitigation measures referred to above would be overwhelmed and rendered ineffective should a flood event occur during the construction phase, and this could result in water pollution which could adversely affect the integrity of a number qualifying interests including aquatic species associated with the Lower River Shannon SAC 002165.

(b) The Whooper Swan is an Annex 1 Species and a species of conservation interest associated with the Tralee Bay Complex SPA 004188. The information submitted with the application suggests that the improved grassland on the western side of the site, particularly around the River Brick, may be extensively used by this species for foraging particularly during flood events. In the absence of a more definitive assessment in relation to the usage of the site by the Whooper Swan a reasonable scientific doubt exists as to the impact of the proposed development on the habitats of the Whopper Swan.

_____

Paul Caprani

Senior Planning Inspector

22nd September 2022