An Bord Pleanála,
64 Marlborough Street,
Dublin 1,
D01 V902.

Our Ref: 220310
Your Ref: ABP-318704-23

28th March 2024

Re: Response to Observations – Borrisbeg Renewable Energy Development (ABP-318704-23), Strategic Infrastructure Development (SID) Application

Dear Sir/Madam

MKO as agent for the above-noted planning application were invited by An Bord Pleanála in their letter dated 29th February 2024 to make a submission on the observations received in relation to the Strategic Infrastructure Development Application (ABP Ref No. 318704-23) in relation to the Borrisbeg Renewable Energy Development. The letter requests that any submission in response to the letter be received no later than 5:30pm on the 28th March 2024.

The client and project team have considered the matters raised in the observations received from statutory consultees including local authorities, and third parties. A fully detailed response, including appendices in respect of the request are enclosed with this letter.

Table 1 below provides a summary of the matters raised in the observations and provides a response summary to each item as detailed in the accompanying response document.

Table 1 Summary of matters raised in the observations

Theme	Observations	Response Summary
Noise Concerns/Noise Guidelines	The primary issues raised in respect of the noise impact of the Proposed Project refer to the following topics: • Use of 2006 Guidelines instead of draft 2019 Guidelines • Use of different noise limits for involved and non-involved landowners • Refers to properties located within 700m of a turbine which may result in adverse noise impacts inside and outside the home. • Noise Emissions at Different Wind Speeds	The noise assessments undertaken are in compliance with the current adopted 2006 Wind Energy Development Guidelines and Institute of Acoustics Good Practice Guide. Without benefit of the final guidelines, it is considered that since noise emissions are controllable via inbuilt technologies, the Proposed Wind Farm is capable of compliance with any future guideline limits. Notwithstanding this, until the new guidelines are finalised, the 2006 WEDGs remain the relevant guidelines upon which the assessment of wind turbine noise is based. As outlined in Chapter 12, Section 12.4.2 of the EIAR – Wind Turbine Noise Criteria, the ETSU-R-97 guidance allows for a higher level of turbine noise operation at properties that have an

	• Requests for existing noise level detail and post construction noise level detail.	involvement in the development, both as a higher fixed level of 45 dB L_{A90} and/or a higher level above the prevailing background noise level. In line with the ETSU-R-97 guidance a lower threshold of 45 dB LA90,10min has been applied to involved landowners. The methodologies for background noise assessments and turbine noise calculations are set out in detail in Chapter 12, Section 12.3.7 and 12.3.8 of the EIAR. These methodologies comply with best practice guidelines as referenced in Chapter 12, Section 12.3.2 of the EIAR. Noise monitoring for the Proposed Wind Farm was carried out for a minimum of 4 no. weeks at sensitive properties located at representative locations for settlement clusters. A variety of wind speeds and weather conditions were encountered over the survey period. The results of the background noise levels for all 6 no. representative locations are included in section 12.4.1 of the EIAR. All noise sensitive locations omni-directional turbine noise levels are below the noise criterion curves with the exception of a potential exceedance of 0.1 dB and 0.2 dB at location H036 (over 1km away form H031) at wind speeds of 7 and ≥8 m/s respectively, during nighttime periods only. However, with mitigation as detailed above and in section 12.6.2.1.1 of the EIAR, operating Turbine 4 in Mode 2 and Turbine 5 in Mode 1 brings noise levels at H036 in line with relevant best practice noise criteria curves. Furthermore, noise emissions from the Proposed Wind Farm are controllable and can be brought in line with any noise condition imposed by the consenting authority should it receive a grant. See Section 2.1.1 of the response document for further detail.
Shadow Flicker, Health and Wellbeing	The observations received pertaining to shadow flicker, health and Wellbeing are grouped into the following matters: • The Proposed Wind Farm should comply with 2019 draft WEDGs of zero shadow flicker. • The shadow flicker methodology does not take into account orientation of windows. • Mitigation measures are not adequate.	The shadow flicker assessments are in compliance with the current, adopted 2006 Wind Energy Development Guidelines (WEDGs) and the 'Best Practice Guidelines for the Irish Wind Energy Industry'. The proposed turbines can also be brought in line with the requirements of the 2019 Draft Wind Energy Development Guidelines (2019 draft WEDGs) should they become adopted, through the implementation of the mitigation measures outlined in Section 5.6.3.2.6 of the EIAR. The Shadow Flicker Methodology is standard for all modelling software packages and cannot be manipulated per Site. The shadow flicker

	• Potential Health Effects of Shadow Flicker and impacts of Wind Farms on health and wellbeing	prediction methodology provides a conservative assessment of potential shadow flicker. In reality, the actual shadow flicker emitted from the Proposed Wind Farm will be less than reported in results reported in Section 5.5 of the EIAR. Furthermore, the mitigation measures proposed are the industry standard measures for potential shadow flicker from wind energy developments. As discussed in section 5.1.4 of Chapter 5 of the EIAR, Population and Human Health, while there are anecdotal reports of negative health effects on people who live very close to wind turbines, peer-reviewed research has generally not supported these statements. There is currently no published scientific evidence to positively link wind turbines with adverse health effects It should also be noted that turbine technology allows for the turbines to be curtailed to meet noise conditions or shadow flicker thresholds. See Section 2.1.2 of the response document for further detail.
Property Value	Issues were raised in relation to the potential for the Proposed Wind Farm to result in property devaluation in the area.	As detailed in Chapter 5 of the EIAR - Population and Human Health, there are no studies on the potential for impact on property values from wind farm developments in Ireland with the largest study on property value impacts from wind farms undertaken in the USA in 2009 by Lawrence Berkley National Laboratory (LBNL) which concluded that *"....no evidence is found that home prices surrounding wind facilities are consistently, measurably, and significantly affected by either the view of wind facilities or the distance of the home to those facilities...."* A similar conclusion has also been reached by a 2014 UK study, carried out by the Centre for Economics and Business Research (Cebr) and referenced in Chapter 5 Population and Human Health Section 5.3.12 See Section 2.1.5 of the response document for further detail.
Examination of Alternatives	Two observations were received stating that alternative options should have been examined in relation to the underground grid connection cable route	Preference for underground cabling connection between wind farms and the national grid is referenced in the 2006 WEDGs, the 2019 draft WEDGs.

MKO, Tuam Road, Galway, Ireland. H91 VW84
+353 (0)91 735611 | info@mkoireland.ie | www.mkoireland.ie | @mkoireland
McCarthy Keville O'Sullivan Ltd. t/a MKO. Registered in Ireland No. 462657. VAT No. IE9693052R.

		As assessed in Section 5.6.2.2.5, the underground grid connection works will be brief (c. 20.5 days), completed with a traffic management plan in place and will follow TII and EirGrid requirements. See section 2.1.6 of the response document for further detail.
NIS and Local Ecology	Two Observations were made relating to 'Natura Impact Statement and Local Ecology'. The observations can be grouped into the following points: • The local area has a diverse and varied wildlife that include birds of prey such as barn owl, kestrels, sparrow hawk, buzzards and is home to bats as well as pine martens, foxes, and pheasants and much of the proposed lands could be considered to be of High Nature Value. • Concerns that Biodiversity is deteriorating in Ireland due to the acceptance of minor to moderate impacts on habitats over time, cumulatively resulting in significant biodiversity degradation. • Asks that the board ensures their assessment concludes beyond all scientific doubt, that the potential adverse effects have been removed and that the protection of local habitats is preserved through assessing the practical effectiveness of the proposed mitigation.	European Legislation, National Legislation, National Policy as well as all relevant Guidance were followed and consulted during the preparation of the EIAR. It can be concluded beyond all reasonable scientific doubt that the Proposed Project will not have an adverse effect on the Natura 2000 Network or Biodiversity at any geographical scale and will not have an adverse effect on Key Ornithological Receptors at the regional or national scale. Through implementation of measures outlined in Section 6.7 of Chapter 6 of the EIAR there will be no significant effects on Biodiversity and many of the measures will provide an uplift in suitability for Biodiversity at the local level. See Section 2.1.9 of the response document for further detail.
Flood Risk	An observation was made regarding the omission of a flood event near the site in 2022 from the OPW Past Flood Maps and concerns regarding the potential for wind farm hardstands to cause flooding elsewhere.	As detailed in Chapter 9 Section 9.3.6.1.1 and illustrated on Figure 9-5 of the EIAR, National Indicative Fluvial Mapping (NIFM) is available for the Site and surrounding landscape and shows the present-day scenario with large areas of the site and neighbouring lands within 100-year and 1000-year flood event extents. See section 2.1.8 of the response document for further detail.
Telecommunication Interference	An observation was made citing fear of interference with farming monitoring devices such as cameras at cattle sheds and mobile phone services.	There is no anecdotal or empirical evidence to suggest operational turbines may have an effect on privately installed CCTV cameras.

		As stated in Chapter 15 section 15.3.7.3, there are four telecommunications operators who have a total of 6 no. telecommunication links that traverse the Site. All four operators confirmed satisfaction with the Proposed Wind Farm design (Appendix 2-1 Scoping Responses), with 2rn requesting the Developer sign a protocol in the event any effects do occur on their infrastructure. See Section 2.1.7 of the response document for further detail.
Landscape and Visual	Observations were made regarding the visual impact of the proposed turbines from neighbouring dwellings.	The Proposed Wind Farm is located in an area categorised as 'Areas Open for Consideration for New Wind Energy Development' in the Tipperary County Council Wind Energy Strategy. The Proposed Wind Farm complies with the 4x tip height setback for visual amenity (for third-party Sensitive Properties) as recommended in the 2019 draft WEDGs. As detailed in Section 14.8 of Chapter 14, the highest effects on residential visual amenity are confined to within 1km of the proposed turbines, with the scale of turbines in view decreasing rapidly beyond 1km and substantially beyond 1.5km. Viewpoints located between 3-5km from the nearest proposed turbine (VP4 and PWVP-G) show that effects on Sensitive Properties will be dramatically reduced in comparison to the closer receptors. See Section 2.1.10 of the response document for further detail.
Traffic	Transport Infrastructure Ireland raised a few concerns over the Official TII Policies and the proposed temporary access roads alignment with Design Standards. Tipperary County Council recommend that a Stage 1 Road Safety Audit is carried out for the project with particular focus on the temporary and permanent access routes onto the public road to ensure the safety of the public road user at all times during the construction and operation of the facility.	Alan Lipscombe Traffic Consultant has written a detailed response to TIIs queries and observations at Section 3.1 of the response document. In addition, A Roads Design Report is enclosed at Appendix 2 of the Response Document.
Archaeological Conditions & Heritage	An observation was made by the DAU referring to the presence of an unrecorded rectilinear enclosure	The Applicant is happy to comply with all such conditions imposed by the DAU should the application receive a grant of permission.

	recorded by the Proposed Project Archaeologist, The DAU recommends that the extent of the enclosure be adequately determined and protected during all phases of the Proposed Project. The DAU recommended seven conditions that should be applied should the application receive a grant.	Please see Section 3.2 of the Response Document for further detail.
Community Benefit Scheme and Community Consultation	The primary issues raised in respect of community benefit and engagement is grouped into the following topics: • € 1000 does little to abate noise, visual and shadow flicker impacts • Local landowner received no direct correspondence from the developer.	As stated in Chapter 4 of this EIAR and Appendix 2-3 Borrisbeg Renewable Energy Development Community Report, the Proposed Wind Farm has the potential to have significant benefits for the local economy, by means of job creation, landowner payments and commercial rate payments. The locality in which the Proposed Wind Farm is situated will make a significant contribution towards helping achieve national renewable energy and climate change targets. There are two ways the Proposed Wind Farm can benefit the local area directly should it receive a grant and be constructed; through a Community Fund and through the Renewable Energy Support Scheme. As such, the local community should derive some benefit from accommodating such a development in their locality. See Section 2.1.11 of the response document for further detail.

The accompanying response document also provides a full and robust response to observations provided by local authorities including Offaly County Council, Laois County Council, Kilkenny County Council and Tipperary County Council, focusing on the recommendations set out in the relevant reports. It is noted that Offaly County Council had no observations to make on the Proposed Project, while Laois County Council and Tipperary did have observations to make but did not raise any objections against the Proposed Project.

Please refer to Section 4 of the Response document for further detail.

Conclusion

This response to observations including the accompanying document has been prepared to address the observations submitted by third-parties, statutory consultees and local authorities including Tipperary County Council in respect of planning application reference ABP-318704 regarding the proposed Borrisbeg Renewable Energy Development. The information constitutes a full and robust response to the matters raised and the information provided here will directly assist the Board in their ongoing consideration of the planning application.

The provision of renewable energy developments such as the Proposed Project is strongly supported by International, National, Regional and Local level policies and Guidelines aimed at increasing renewable energy generation, enhancing energy security, and achieving the transition to a low carbon and climate resilient economy. The Proposed Project will contribute to the target of generating 9GW of electricity from onshore wind and reducing GHG emissions by 80% by 2030 as set out in the Climate Action Plan 2024.

The Proposed Project is consistent with the Tipperary County Development Plan 2022-2028 which acknowledges the importance of renewable energy in reducing anthropogenic greenhouse gas emissions and the contribution of renewable energy in achieving national and EU target net zero greenhouse gas emissions by 2050.

Furthermore, the Proposed Project is located in an area classified as 'Open for Consideration' in the Tipperary Renewable Energy Strategy and has been subject to a rigorous design process informed by comprehensive planning and environmental assessments and surveys, which have collectively concluded that the proposal is in line with the proper planning and sustainable development of the area. Specifically, there are no significant environmental impacts associated with the Proposed Project during either the construction, operational or decommissioning phases of the development nor will the Proposed Project have any significant effects on any European Sites (as assessed within the accompanying Natura Impact Statement).

Having regard to the key points set out in this response to Observations, it is respectfully requested that the Board consider the relevant international, national and regional planning context that applies to the Proposed Project, and grants permission for the Proposed Wind Farm which is the subject of this application.

Signed:

Alan Clancy

Alan Clancy BA, MPlan,

Project Planner, MKO.

Enclosed

- Response to Observations Received on the Borrisbeg Renewable Energy Development (ABP Ref.318704)

Planning and Environmental Consultants

Response to Observations Received

Borrisbeg Renewable Energy Development (ABP Ref. 318704)

DOCUMENT DETAILS

Client:	**Buirios Ltd.**
Project Title:	**Borrisbeg Renewable Energy Development (ABP Ref. 318704))**
Project Number:	**220310-e**
Document Title:	**Response to Observations Received**
Document File Name:	**220310-e - Submissions Response - F-2024.03.28**
Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Final	26.03.2024	JP/AC	MC

Contents

TABLE OF TABLES

APPENDICES

1. INTRODUCTION

MKO have been instructed Buirios Ltd (the Applicant)., to prepare a response to the request issued by An Bord Pleanála (the Board) on the 29th of February 2024 in relation to the proposed Borrisbeg Renewable Energy Development (Third-Party and Statutory Bodies Submissions). The request was made in relation to the Strategic Infrastructure Development (SID) planning application before the Board for consideration (ref: ABP-318704) in relation to the proposed Borrisbeg Renewable Energy Development located at Borrisbeg and adjacent townlands, near Templemore, Co. Tipperary. The letter states that the deadline for submitting a response to the Board is the 28th of March 2024 by 5.30pm.

It is noted that the planning application lodged included a robust Environmental Impact Assessment Report (EIAR), including associated EIAR appendices, Natura Impact Statement (NIS) and a suite of drawings.

This response to submissions document comments firstly on observations from Third-Parties which have been categorised into themes, followed by commentary on observations from Statutory Bodies and finally deals with observations made by local authorities including Tipperary County Council. It is noted that none of the observations raised have recommended refusal of the planning application and all matters raised in the observations have been dealt with as part of the documentation submitted with this application.

Table 1 below outlines the 11 no. valid submissions that were received by the Board, along with the themes specified in each submission.

Table 1 Outline of all the Valid Observations Received by the Applicant on 29th February 2024

No.	Submission by	Section	Themes Included
1.	**Robbie Ingram & Ciara Ryan**	Third-Party Observer	Noise and Vibration, Landscape and Visual Impact Shadow Flicker, Proposed Community Scheme, Examination of Alternatives, Natura Impact Statement and Local Ecology
2.	**John Delaney**	Third-Party Observer	Noise and Vibration, Human Health, Shadow Flicker, Property Values
3.	**Clare Hassey**	Third-Party Observer	Noise and Vibration, Quality of Life
4.	**Margaret Ryan**	Third-Party Observer	Community Consultations and Engagement, Visual Impact, Flood Risk, Human Health and Population, Noise and Vibration, Examination of Alternatives, Ecology
5.	**Martin Ryan**	Third-Party Observer	Visual Impact, Human Health and Population, Noise and Vibration, Examination of Alternatives, Telecommunications Interference, Wind Take, Shadow Flicker, Quality of Life
6.	**Development Applications Unit (DAU**	Statutory Bodies	Archaeological Conditions & Heritage
7.	**Transport Infrastructure Ireland (TII)**	Statutory Bodies	Official Policy, Turbine Haul Route, Structures on Haul Route, Grid Connection Routing, Greenways
8.	**Offaly County Council**	Local Authority	Offaly County Council had no observations to make on the Proposed Project.
9.	**Laois County Council**	Local Authority	Proposed Turbine Designs, Landscape and Visual Impact
10.	**Kilkenny County Council**	Local Authority	Wind Energy Development Strategy, Landscape and Visual Impacts, Grid Connection
11.	**Tipperary County Council**	Local Authority	Noise and Vibration, Landscape and Visual Impact, Community Benefit Fund, Road Safety Audits.

1.1 Background to the Proposed Project

As stated in Chapter 1 of the EIAR, the EIAR describes the Proposed Project (Proposed Wind Farm and Proposed Grid Connection) and its component parts which are the subject of separate planning applications under Section 37E (Proposed Wind Farm) and Section 182A (Proposed Grid Connection) of the Planning and Development Act 2000, as amended. While the application in question submitted to An Bord Pleanála in accordance with Section 37E of the Planning and Development Act 2000, (as amended) is for the Proposed Wind Farm, the Proposed Grid Connection is assessed cumulatively within the EIAR and NIS, and will be the subject of a separate planning application under Section 182A of the Planning and Development Act 2000, as amended.

The Proposed Project, which will be known as the 'Borrisbeg Renewable Energy Development', is being brought forward in response to local, national, regional, and European policy regarding Ireland's transition to a low carbon economy, associated climate change policy objectives and to reduce Ireland's dependence on imported fossil fuels for the production of electricity.

For the purpose of this planning application for the Proposed Wind Farm, the proposed development will consist of the provision of the following:

i. *9 no. wind turbines with an overall turbine tip height of 185 metres; a rotor blade diameter of 163 metres; and hub height of 103.5 metres, and associated foundations and hard-standing areas;*
ii. *A thirty-year operational life of the wind farm from the date of full commissioning of the wind farm and subsequent decommissioning;*
iii. *Underground electrical cabling (33kV) and communications cabling;*
iv. *A temporary construction compound;*
v. *A temporary security cabin;*
vi. *A meteorological mast with a height of 30 metres and associated foundation and hard-standing area;*
vii. *A new gated site entrance on the L3248;*
viii. *Junction accommodation works and a new temporary access road off the L3248, to facilitate turbine delivery to the site;*
ix. *Upgrade of existing site tracks/roads and provision of new site access roads, junctions and hardstand areas.*
x. *Upgrade of the existing L7039/L70391 junction for secondary site access off the L70391;*
xi. *A borrow pit;*
xii. *Spoil Management;*
xiii. *Tree felling;*
xiv. *Site Drainage;*
xv. *Biodiversity Enhancement Plan (including restoration of a segment of the Eastwood River, and planting of natural woodland and hedgerow);*
xvi. *Operational Stage site signage; and*
xvii. *All ancillary works and apparatus.*

The Proposed Grid Connection, which will be subject to a separate planning application under Section 182A of the Planning and Development Act, 2000 (as amended) is entirely located within the townlands of Strogue and Clonmore, Co. Tipperary, and will consist of the following:

1. *1 no. permanent 110kV substation compound (2 no. control buildings with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, wastewater holding tank, site drainage and all ancillary works);*
2. *A temporary construction compound;*
3. *2km underground 110kV electrical cabling route (including joint bays and watercourse crossings) which will run through the L-7039 road and new track through agricultural land; and*
4. *2 no. new end masts that will break the existing Ikerrin to Thurles 110kV OHL.*

2. RESPONSE TO THIRD PARTY OBSERVATIONS:

There were 5 no. submissions received on the application from Third-Party observers. **Table 2** below outlines the common themes identified within the Third-Party submissions and specifies who in the project team is responsible for the corresponding response.

Table 2 Third Party Submission Themes

Theme	Lead Author for Response
Noise Concerns/Noise Guidelines	MKO
Shadow Flicker and Wind Take	MKO
Health and Quality of Life	MKO
Property Value	MKO
Examination of Alternatives	MKO
Local Ecology	MKO
Flood Risk & NIS	MKO
Telecommunication Interference	MKO
Landscape and Visual	MKO
Archaeological Conditions & Heritage	MKO
Roads and Transport	Alan Lipscombe Traffic Consultant
Community Benefit Scheme and Community Consultation	Applicant Buirios Ltd

2.1.1 Noise

A number of observations by Third-Parties make reference to the potential environmental noise impact from the Proposed Wind Farm. These observations have been reviewed and response is provided below. This section has been prepared to clarify, expand, and reiterate previous statements within the submitted EIAR.

The primary issues raised in respect of the noise impact refer to the following topics:

- Use of 2006 Wind Energy Development Guidelines.
- Noise limits adopted.
- Setback from properties to turbines.
- Noise Emissions at Different Wind Speeds
- Background Noise Levels and Operational Phase Noise Monitoring

2.1.1.1 Noise and Wind Energy Development Guidelines

An observation was made referring to the fact that the Proposed Wind Farm relies on noise limits set out in the 2006 Wind Energy Development Guidelines (2006 WEDGs) instead of the 2019 Draft Wind Energy Development Guidelines (2019 draft WEDGs), stating that the drafting of the latter highlights the inadequacies of the 2006 WEDGs. An observation was made seeking clarity from the Board as to when the new guidelines would be published and stated that the Board must be satisfied that the 2006 WEDGs are suitable to larger turbine models. This matter is addressed in detail in Section 12.3.2.2.1, Chapter 12 Noise and Vibration of the EIAR.

The Proposed Wind Farm complies with the current adopted 2006 Wind Energy Development Guidelines (2006 WEDGs). As stated in Chapter 1, Section 1.2.4 of the EIAR, a consultation process in relation to the 2019 Draft Wind Energy Development Guidelines (2019 draft WEDGs) concluded on the 19th of February 2020. A further review of the 2019 Draft WEDGs is currently underway by the

Department of Housing, Local Government and Heritage (DHLGH) and the Department of Environment, Climate and Communications (DECC) in relation to the noise limits in particular. Since the publication of the 2019 Draft WEDGs, there have been significant changes in national policy regarding renewable energy targets, giving further impetus to the importance of the further review.

As stated in Chapter 1 section 1.4 of the EIAR, the DECC published the 'Climate Action Plan 2023' which states that new wind energy guidelines will be drafted in 2023 and finalised in 2024. On the 20th of December 2023, following the submission of the subject application, the DECC published the Climate Action Plan 2024 within which it is reiterated the government's plan to publish and adopt new Wind Energy Development Guidelines. It is important to note that during the public consultation several concerns relating to the proposed approach of the 2019 draft WEDGs were expressed by various parties. Specific concerns expressed by a group of acoustic professionals working in the field are most relevant and these related to a significant amount of technical errors, ambiguities and inconsistencies in the noise-related content of the 2019 draft WEDGs The group was made up of acousticians who act for wind farm developers, Councils, Government bodies and residents' groups (all of whom are members of the Institute of Acoustics, and contained several of the authors / contributors to ETSU-R-97, the IOA Good Practice Guide (IOA GPG) and the IOA Amplitude Modulation Working Group, which are all referenced extensively in the 2019 draft WEDGs.

As such, it is possible that the new guidelines may be adopted during the consideration period for the current planning application. Without benefit of the final guidelines, it is considered that since noise emissions are controllable via inbuilt technologies, the Proposed Wind Farm is capable of compliance with any future guideline limits. Notwithstanding this, until the new guidelines are finalised, the 2006 WEDGs remain the relevant guidelines upon which the assessment of wind turbine noise is based.

2.1.1.2 Noise Limits Adopted

An observation was made regarding the different thresholds that can be applied to involved landowners in relation to non-involved landowners and that caution should be applied in relaxing thresholds for involved landowners should properties be sold to new owners. It is common practise to acquire agreements pertaining to noise, shadow flicker limits and visual setbacks with involved landowners.

As outlined in Chapter 12, Section 12.4.2 – Wind Turbine Noise Criteria, the ETSU-R-97 guidance allows for a higher level of turbine noise operation at properties that have an involvement in the development, both as a higher fixed level of 45 dB L_{A90} and/or a higher level above the prevailing background noise level. In line with the ETSU-R-97 guidance a lower threshold of 45 dB LA90,10min has been applied to involved landowners. Any potential future sales of properties which have legal agreements between landowners and the Applicant are not under the control of the Applicant and would form part of a legal transfer of property agreement between the two parties.

Contrary to that outlined in the observations, the nearest turbine to H011 is T03 at a distance of approximately 773m from the property, refer to Table 5-11 of the EIAR.

As iterated throughout the EIAR, all non-involved Sensitive Properties exceeds the requirements of the 2019 draft WEDGs which recommends 4x tip height setbacks to protect visual amenity (740m) with the closest non-involved Sensitive Property being 751m from the nearest turbine. The minimum set back distance achieved between involved sensitive properties and the proposed turbines is 610m. i.e. greater than the recommended set back distance for involved sensitive properties. Please see **Appendix 1** enclosed with this Response document which demonstrates the locations of all houses in the vicinity of the proposed turbines.

2.1.1.3 Noise Emissions at Different Wind Speeds

Observations were made regarding the potential noise emissions at different wind speeds and weather conditions.

The methodologies for background noise assessments and turbine noise calculations are set out in detail in Chapter 12, Section 12.3.7 and 12.3.8 of the EIAR. These methodologies comply with best practice guidelines as referenced in Chapter 12, Section 12.3.2 of the EIAR. As stated in Chapter 12 Section 12.3.2.2.1:

> *"The IOA GPG states, that at a minimum continuous background noise monitoring should be carried out at noise sensitive locations for typically a two-week period and should capture a representative sample of wind speeds in the area (i.e., from cut in speeds to the wind speed that generate the highest sound power output from the proposed turbine(s)). Background noise measurements (i.e., $L_{A90,10min}$) should be related to wind speed measurements that are collated at the site of the wind turbine development. Regression analysis is used on the data sets to calculate background noise levels at different wind speeds, the resulting background noise curve can be used to establish appropriate turbine noise criteria at each location."*

In order to ensure a comprehensive data collection across various wind speeds, background noise monitoring for the Proposed Wind Farm was carried out for a minimum of 4 no. weeks at sensitive properties located at representative locations for settlement clusters. A variety of wind speeds and weather conditions were encountered over the survey period. Section 2.9.1 of the IOA GPG states:

> *"The duration of a background noise survey is determined only by the need to acquire sufficient valid data over the range of wind speeds (and directions, if relevant). It is unlikely that this requirement can be met in less than 2 weeks."*

Rainfall was monitored and logged using a Texas Instruments TR-525 console and a data logger that was installed on-site for the duration of the surveys (at NML-1 and NML-4). This allows for the identification of periods of rain fall to allow for the removal of sample periods affected by rainfall from the noise monitoring data sets in line with best practice when calculating the prevailing background noise levels.

Wind data was measured at a meteorological mast located on the Site and was supplied to AWN for data analysis.

Table 12-6 included in Chapter 12 of the EIAR illustrates the capture of background noise levels at wind speeds and directions for the chosen turbine parameters. The turbine noise levels have been predicted at sensitive properties for a range of operational wind speeds based on the source of noise at a hub height of 103.5 m and noise emission data for the Nordex N163 turbine.

As detailed in Chapter 12 of the EIAR, and reproduced below, the sound power frequency octave band noise levels used for the Nordex N163 (candidate turbine model) are presented in Appendix 12-3 of the EIAR. The turbine sound power levels outlined in Table 12-10 of the EIAR are presented in terms of the LAeq parameter. As per best practice guidance contained within the IOA GPG, an allowance for uncertainty in the measurement of turbine source levels of +2 dB is applied in modelling to all turbine sound power levels presented in Table 12-10.

Table 3 EIAR Sound Power Level for Nordex N163 with STE Blades at 103.5 m Hub Height (Table 12-10 of EIAR)

Wind Speed (m/s)	Sound Power Level dB L_{WA}
3	95.0
4	96.5
5	101.0
6	105.4
7	106.5
8	106.6
9	106.6

Table 12-11 of the EIAR lists the conservative results of the various derived existing background $L_{A90,10min}$ noise levels for each of the monitoring locations for daytime quiet periods and night-time periods at

various standardised 10m Height Wind Speed (m/s). These levels have been derived using analysis carried out on the data sets in line with guidance contained the IOA GPG and its SGN No. 2 *Data Collection*. Table 12-12 outlines the operational noise criteria that apply to this assessment. the derived noise criteria curves based on the information contained within Table 12-11.

Table 12-20 of the EIAR details the predicted noise emissions at the noise monitoring locations at various wind speeds and have been assessed as not significant. It should be noted that the noise emissions are variable, but Table 12-20 reports the greatest potential impact.

Background Noise Levels and Operational Phase Noise Monitoring

An observation was made requesting a noise monitor pre-construction to gauge existing background noise levels and a permanent operational noise monitor to track noise emissions from the turbines at property H031. As discussed above and in section 12.3.7.2 of Chapter 12, background noise monitoring was undertaken at 6 no. representative locations around the site for a period of 4 weeks.

The noise monitoring locations were identified by preparing a preliminary noise model contour at an early stage of the assessment (See Section 12.3.7.1 for detail on wind turbine noise calculations). Any noise sensitive property that fell inside the predicted 35 dB L_{A90} noise contour was considered for noise monitoring in line with current best practice guidance outlined in the IOA GPG. The selection of the noise monitoring locations was informed by a site visit and supplemented by reviewing aerial images of the study area and other online sources of information (e.g., Google Earth and OSI Maps). The results of the background noise levels for all 6 no. representative locations are included in section 12.4.1 of the EIAR. As detailed in Section 12.3.8.1 of the EIAR, the predicted day time and nighttime noise levels for the turbines are calculated in accordance with ISO 9613: *Acoustics – Attenuation of sound outdoors, Part 2: General method of calculation*, (ISO, 1996). All noise sensitive locations omni-directional turbine noise levels are below the noise criterion curves with the exception of a potential exceedance of 0.1 dB and 0.2 dB at location H036 (over 1km away form H031) at wind speeds of 7 and ≥8 m/s respectively, during nighttime periods only. However, with mitigation as detailed above and in section 12.6.2.1.1 of the EIAR, operating Turbine 4 in Mode 2 and Turbine 5 in Mode 1 brings noise levels at H036 in line with relevant best practice noise criteria curves. Furthermore, noise emissions from the Proposed Wind Farm are controllable and can be brought in line with any noise condition imposed by the consenting authority should it receive a grant.

2.1.2 Shadow Flicker, Health and Wellbeing

The observations received pertaining to shadow flicker, health and wellbeing are grouped into the following matters:

- Shadow Flicker Guidance.
- Shadow Flicker Methodology and Mitigation Measures.
- Potential effects on health and wellbeing.

2.1.2.1 Shadow Flicker Guidance

As discussed in Chapter 5 Population and Human Health Section 5.2.3.2 of the EIAR, the current adopted guidance for shadow flicker in Ireland is derived from the 2006 WEDGs and the 'Best Practice Guidelines for the Irish Wind Energy Industry' (Irish Wind Energy Association, 2012). The 2006 WEDGs state that at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low.

The 2006 WEDGs recommend that shadow flicker at Sensitive Properties within 500 metres of a proposed turbine location should not exceed a total of 30 hours per year or 30 minutes per day. Although the 2006 WEDGs threshold applies to Sensitive Properties located within 500 metres of a proposed turbine location, the thresholds of 30 hours per year or 30 minutes per day have been applied to all Sensitive

Properties located within ten rotor diameters (1.63km) of the proposed turbines (as per IWEA guidelines, 2012).

The 2006 WEDGs guidelines are currently under review. The 2019 draft WEDGs which were released for public consultation in December 2019. The consultation period closed February 2020; however, no update or final guidelines was released. The 2019 draft WEDGs recommend local planning authorities and/or An Bord Pleanála impose conditions to ensure that:

> "*no existing dwelling or other affected property will experience shadow flicker as a result of the wind energy development subject of the planning application and the wind energy development shall be installed and operated in accordance with the shadow flicker study submitted to accompany the planning application, including any mitigation measures required.*"

The shadow flicker assessment methodology within Chapter 5 of this EIAR is based on compliance with the current, adopted 2006 WEDGs. However, it noted in the EIAR that the proposed turbines can be brought in line with the requirements of the 2019 draft WEDGs should they become adopted, through the implementation of the mitigation measures outlined in Section 5.6.3.2.6 of the EIAR. Furthermore, should a reduced or zero shadow flicker guideline form part of any new Wind Energy Development Guidelines (tasked for release in 2024, Climate Action Plan 2023, 2024), the proposed turbines can be brought in line with these recommendations also.

2.1.2.2 Shadow Flicker Methodology and Mitigation Measures

Shadow Flicker Prediction Methodology

As detailed in section 5.2.4.1.1 of Chapter 5 Population and Human Health, shadow flicker impacts are only possible at Sensitive Properties 130 degrees either side of north due to the latitude of Ireland (i.e., a shadow flicker event can occur within a 260-degree span), as turbines do not cast shadows on their southern side. However, in the shadow flicker assessment undertaken for the Proposed Wind Farm, all Sensitive Properties within a 360-degree span around the turbines out to 1.63km were assessed for shadow flicker. Furthermore, as detailed in Section 5.2.4.1.1, the ReSoft WindFarm Version 5.0.2.2 modelling software produced shadow flicker calculations based on 4 No. notional windows facing north, east, south and west. The methodology is standard for all modelling software packages and cannot be manipulated per site i.e., the conservative approach of assuming shadow flicker from the north, south, east and west of each of the Sensitive Properties modelled. The degrees from north value for each window is:

- Window 1: 0 degrees from North
- Window 2: 90 degrees from North
- Window 3: 180 degrees from North
- Window 4: 270 degrees from North

Each window measures one-metre-high by one-metre-wide and is assumed to be vertical. The centre height of each window is assumed to be two metres above ground level and no screening due to trees or other buildings or vegetation is assumed. It is not considered necessary or practical to measure the dimensions of every window on every noise sensitive property in the study area. While the actual size of a window will marginally influence the incidence and duration of any potential shadow flicker impact, with larger windows resulting in slightly longer shadow flicker durations, any incidences or durations or shadow flicker can be countered by the mitigation measures outlined in Section 5.6 of Chapter 5 Population and Human Health and discussed below in section 2.1.2.3. Additionally, where occasions of shadow flicker may occur, it is unlikely to occur at all orientations of a property but generally on one side or the other, depending on where the house is in relation to the turbine(s) causing shadow flicker.

As reported in Section 5.2.4.1.1 of the EIAR, the following assumptions are considered in the software modelling output for shadow flicker:

- The sun is assumed to be in clear cloudless skies at all times such that a noticeable shadow is cast. This will not occur in reality.
- The wind is always assumed to be within the operating range of the turbines such that the turbine rotor is turning at all times, thus enabling a periodic shadow flicker.
- The wind direction is assumed to be worst case with the turbine rotor always facing the house to present its maximum aspect to Sensitive Properties in all directions.

These conservative assumptions calculate all potential times during the year that shadow flicker has the potential to occur at each Sensitive Property. In reality however, the sky will not be cloudless during all daytime hours, wind will not blow at all times, nor will it blow in a constant direction during times when shadow flicker may occur.

As indicated above and in section 5.2.4.1.1, the shadow flicker prediction methodology provides a conservative assessment of potential shadow flicker. In reality, the actual shadow flicker emitted from the Proposed Wind Farm will be less than reported in results reported in Section 5.5. Shadow Flicker Operational Phase Monitoring and Mitigation Measures

Mitigation measures for shadow flicker exceedances are reported in Section 5.6.3.2.7 of Chapter 5 Population and Human Health and summarised below. These measures are the industry standard measures for potential shadow flicker from wind energy developments.

The first step includes a site visit to determine the actual level of shadow flicker in comparison to the shadow flicker model results which outputs conservative data results as the model does not take into consideration wind direction or screening provided by intervening vegetation and topography, all of which reduce the amount of shadow flicker occurrences. The site visit will record the following:

- Weather conditions at the time of the site visit, including wind speeds and direction (i.e. blue sky, intermittent clouds, overcast, moderate breeze, light breeze, still etc.).
- Recording the house number, time and duration of site visit and the observation point GPS coordinates.
- Recording the nature of the sensitive property, its orientation, windows, landscaping in the vicinity, any elements of the built environment in the vicinity, vegetation.
- In the event of shadow flicker being noted as occurring the details of the duration (times) of the occurrence will be recorded.

Should an exceedance of shadow flicker be determined, mitigation measures such as the below will be discussed with the landowner:

- Installation of appropriate window blinds in the affected rooms of the residence;
- Planting of screening vegetation;
- Other site-specific measures which might be agreeable to the affected party and may lead to the desired mitigation.

If agreements cannot be made with the property owner, wind turbine control measures will be implemented.

All predicted incidents of shadow flicker can be pre-programmed into the wind farm's control software. The wind farm's SCADA control system can be programmed to shut down any particular turbine at any particular time on any given day to ensure that shadow flickers occurrences at sensitive properties which are not naturally screened or cannot be screened with measures outlined above. In order to ensure that the model and SCADA system is accurate and working well, a site visit will be carried out to verify the system.

As stated above in section 2.1.2.1 and within the EIAR, the shadow flicker assessment methodology within Chapter 5 of this EIAR is based on compliance with the current, adopted 2006 WEDGs but the proposed turbines can be brought in line with the shadow flicker requirements reported in the 2019 draft

WEDGs or any new WEDGs should they be adopted, through the implementation of the mitigation measures outlined in Section 5.6.3.2.6 of the EIAR.

2.1.3 Potential Effects on Health and Wellbeing

As discussed in section 5.1.4 of Chapter 5 of the EIAR, Population and Human Health, that while there are anecdotal reports of negative health effects on people who live very close to wind turbines. There is currently no approved published scientific evidence to positively link wind turbines with adverse health effects. Extensive research has been carried out in the US, Canada, UK, Australia, and by the World Health Organisation (2018) and the HSE (2017). All studies conclude that that exposure to wind farms does not trigger adverse health effects. The HSE (2017) Position Paper on wind turbines and public health was published to address the rise in wind farm development and concerns regarding potential impacts on public health.

The HSE (2017) Position Paper discusses previous observations and case studies which describe a broad range of health effects that are associated with wind turbine noise, shadow flicker and electromagnetic radiation. A number of comprehensive reviews conducted in recent years to examine whether these health effects are proven has highlighted the lack of published and high-quality scientific evidence to support adverse effects of wind turbines on health. The HSE position paper determines that current scientific evidence on adverse impacts of wind farms on human health is weak or absent. Further research and investigative processes are required at a larger scale in order to be more informative for identifying potential health effects of exposure to wind turbine effects. The Position Paper, taking guidance from the WHO concludes:

- *'There is no direct evidence that considered possible effects on health of infrasound or low-frequency noise from wind farms;*
- *The risk of shadow flicker from wind farms triggering a seizure among people with this condition is estimated to be extremely low;*
- *Limited evidence suggests that the level of extremely low-frequency electromagnetic radiation close to wind farms is less than average levels measured inside and outside suburban homes.'*

It should be noted that the Proposed Wind Farm complies with the draft 2019 WEDGs of a 4x tip height set back from the nearest non-involved Sensitive Property in order to protect for visual amenity. It should also be noted that in relation to noise and shadow flicker, turbine technology allows for the turbines to be controlled to achieve any revised guidance requirements.

2.1.4 Wind Take

An observation was made pertaining to the effect of wind-take, from the Proposed Project, on neighbouring lands and the potential for a wind turbine on those lands.. The observation notes that there is no residence within 500m of their folios. Having reviewed the folios in question, there are dwellings within 500m of the related folios. The observation states that T2 is too close to their folio for wind energy development citing section 5.13 of the 2006 WEDGs.

The observation states that their folio is 325m from T2. Having reviewed the folio in question, it has been concluded that T2 is over 360m west of the folio As such, the siting of T2 complies with the 2006 WEDGs.

Furthermore, as iterated above in section 2.1.2.4, the Proposed Wind Farm design was subject to several design iterations following detailed desktop studies and extensive, multi-seasonal walkover surveys, investigative works, modelling (noise, shadow flicker, traffic volumes, photomontages, ornithological and bat collision risk), cumulative studies, data collation from available Geographical Information Systems (GIS) datasets in order to optimise the design while minimising the potential for impacts. Any potential neighbouring wind farm will be subject to its own multiphase constraint studies and data collection before determining the sites suitability for wind development.

2.1.5 Property Value

Observations were made regarding the potential for the Proposed Wind Farm to result in property devaluation in the area. As outlined in Chapter 5, Section 5.3.12 of the EIAR, there are no studies on the potential for impact on property values from wind farm developments in Ireland, however, the following studies are summarised:

- 'The Impact of Wind Power Projects on Residential Property Values in the United States: A multi-Site Hedonic Analysis', Lawerence Berkley Nataional Laboritory, December 2009.
- 'The effect of wind farms on house prices', Centre for Economics and Business Research, March 2014.
- 'Impact of wind Turbines on House Prices in Scotland', Climate Exchange, October 2016.

As stated in the same section of the EIAR, although there have been no empirical studies carried out in Ireland on the impacts of wind farms on property prices, the literature described above demonstrates that at an international level, wind farms have not impacted property values in areas near wind farms. It is a reasonable assumption based on the available international literature, that the provision of a wind farm at the proposed Site would not impact on the property values in the area.

To conclude, while the presence of wind farms influencing an individual buyer's opinion on a property is subjective to that individual, on an empirical level, there is no international evidence to indicate that wind farms have impacted the value of properties in areas near wind farms.

2.1.6 Examination of Alternatives

Two observations were received regarding the consideration of alternative cable options. The observations refer to a scoping response received by the Department of Transport on the 26th of July 2023, where it stated the importance of examining the option of cable routes other than along the public road.

The Proposed Wind Farm will connect to the National Grid via an underground cable route connection between the on-site 110kV substation and the existing 110kV Ikerrin to Thurles overhead line. The design of the Proposed Grid Connection underground cabling route from the proposed onsite substation to the national grid has strived to minimise the extent of cabling within the public road corridor, with an approx. 780m in L7039 and approx. 1.2km in new track across private land, totalling an approx. 2km underground cabling route.

Furthermore, the preference for underground cabling connection between wind farms and the national grid is referenced in the 2006 WEDGs, the 2019 draft WEDGs and the Tipperary Renewable Energy Strategy 2022-2028.

Section 2.3 of an observation by Transport Infrastructure Ireland on the Borrisbeg Renewable Energy Development states

> '*it is noted that there are no material impacts to the national road network relating to grid connection proposals included in the application.*'

As discussed in Section 3.2.6.3 of Chapter 3 Consideration of Alternatives, an alternative to the c.2km underground cabling route would be to construct an approx. 1.4km overhead line from the proposed onsite substation to the existing Ikerrin to Thurles 110kV overhead line. While overhead lines are less expensive and allow for easier repairs when required, underground cabling will have no visual impact.

The chosen underground electrical cabling route will follow a mix of existing public roads and new track across private land, thereby minimising the use of public roads, and will have a reduced permanent visual impact due to the placement of the cable route underground, with just 2 no. masts erected above ground

adjacent to existing masts, forming part of the existing overhead line. For this reason, it was considered that underground cabling would be a preferable alternative to overhead lines.

2.1.7 Telecommunications Interference

An observation was made citing fear of interference with farming monitoring devices such as cameras at cattle sheds and mobile phone services.

As stated in Chapter 15 Material Assets of the EIAR, section 15.3.7.3, there are four telecommunications operators who have a total of 6 no. telecommunication links that traverse the Site. There is no anecdotal or empirical evidence to suggest operational turbines may have an effect on privately installed CCTV cameras. Of these 6 links, 3 over sail the Site, 2 run along the northwestern and southeastern boundaries away from proposed infrastructure and just 1 link passes through the centre of the Site in the vicinity of T04 but does not encroach on its set back requested by Vodafone. All four operators confirmed satisfaction with the Proposed Wind Farm design (Appendix 2-1 Scoping Responses), with 2rn requesting the Developer sign a protocol in the event any effects do occur on their infrastructure. Please see Appendix 15-2 for the signed protocol.

2.1.8 Flood Risk

An observation was made regarding the omission of a flood event near the site in 2022 from the OPW Past Flood Maps and concerns regarding the potential for wind farm hardstands to cause flooding elsewhere. The OPW Past Flood Event Map does not include a 2022 flood event for Templemore and surrounding landscape, however the flooding of fields to the northeast of the site in 2022 is not disputed.

As detailed in Chapter 9 Section 9.3.6.1.1 and illustrated on Figure 9-5 of the EIAR, National Indicative Fluvial Mapping (NIFM) is available for the Site and surrounding landscape and shows the present-day scenario with large areas of the site and neighbouring lands within 100-year and 1000-year flood event extents. The present-day scenario flood mapping does not vary significantly from the future scenarios for the Site. Furthermore, the GSI Winter 2015/2016 Surface Water Flood Map shows surface water flood extents for this winter flood event. This flood event is recognised as being the largest flood event on record in many areas. Large areas of the southern part of the Site were affected by the 2015/2016 floods, but only one turbine location (T9) was affected by the 2015/2016 floods.

A Stage 3 Flood Risk Assessment (including flood modelling) was prepared by FLUVIO R&D Limited for the Site and forms Appendix 9-1 of the EIAR.

Summary results for the constructed wind farm scenario are shown in Section 9.5.3.3 of the EIAR as this is the assessed effect of constructing the Proposed Wind Farm infrastructure in fluvial flood zones. The assessment determined that proposed turbine locations T3, T4, T7, T8 and T9 are mapped inside the 100 and 1000-year flood zones. In addition, sections of proposed access roads linking T5, T6, T7, T8 and T9 are also inside the 100-year and 1000-year flood zones. The Proposed Grid Connection end masts and a section of the underground cabling are also inside the 100-year and 1000-year flood zones, however due to the nature of the underground cabling and above ground structure of the end masts, they will have no potential to increase flood risk. All other key Proposed Project infrastructure such as the 110kV substation, site compounds, borrow pit and spoil management areas are outside the modelled 100-year and 1000-year flood zones and are therefore located in Flood Zone C (Low Risk). It was concluded that construction in fluvial flood zones has the potential to increase flood risk due to floodplain storage reduction and alteration of drainage patterns. However, measures to reduce flood risk with regard to the Proposed Project include:

- Turbine bases T3, T4, T7, T8 and T9 will have finished floor levels +500mm above the 1000-year flood level;
- Proposed new roads in flood zones will be kept close to existing ground level to avoid alteration of surface water flows and reduced potential road damage during flood events; and,

- For the proposed new Eastwood River Crossing and upgrade of the existing crossing on the River Suir a Section 50 consent will be sought under Section 50 of the Arterial Drainage Act, 1945 to install a new culvert/bridge with the hydraulic capacity to accommodate a 100-year flood flows while maintaining at least a 300mm freeboard above the flood level.

The flood model was run for the constructed windfarm to assess the effects of the Proposed Wind Farm infrastructure on flood levels and flood flows:

- There is a modelled 0.01m water level rise in the 100-year flood level and no change in the 1000-year flood level for the Developed Scenario;
- The resulting change in the 100-year and 1000-year flood zone extent at the Site is imperceptible;
- The proposed channel restoration works in the Eastwood River will have no negative effect on flood risk;
- Effects on flood flow velocity through the Site were also assessed to be imperceptible; and,
- There are no flood level effects upstream or downstream of the Site.

With the implementation of the above, the potential for flood risk on downstream receptors, e.g. land and people, is assessed as negative, imperceptible, indirect, brief, likely effect.

2.1.9 Natura Impact Statement and Biodiversity

Two Observations were made relating to 'Natura Impact Statement and Local Ecology'. The observations can be grouped into the following points:

- High Nature Value of the Site.
- Biodiversity Impact.
- Mitigation Measures in the NIS and Protection of Local Habitats

2.1.9.1 High Nature Value of the Site.

The majority of the Site is located on improved agricultural grassland (GA1), wet grassland (GS4) and conifer plantation (WD4). As detailed in Table 6-19 of Chapter 6 Biodiversity, these habitats have been described as *local importance lower value* for their low value to biodiversity, widespread distribution throughout the wider landscape and intensive management. The loss of these habitats is not considered to be significant at any geographical scale.

As outlined in Table 6-20 of section 6.7.2.1 of Chapter 6, there will be a loss of 0.78ha of (Mixed) broadleaved woodland, 0.945 linear km of hedgerow and 0.86 linear km of treeline, all of which are considered to be habitats of *local importance higher value*. Proposed linear vegetation and woodland replanting, as described in section 6.7.2.1.2, section 6.7.2.1.3 and Appendix 6-4 of Chapter 6, comprise a total of 5.17km of linear vegetation (hedgerow and treeline) planted throughout the Site and 1.8ha of native tree species planted along a segment of the Eastwood River. This replanting scheme results in a net gain of approx. 1.02ha of woodland habitat and 3.37km of linear vegetation. These measures will provide a net gain in habitats of local importance higher value as outlined above and have benefits on local biodiversity in the form of bolstering ecological connectivity and increasing species diversity.

As outlined in Section 6.7.2.1.1 and Appendix 6-4 of Chapter 6,

> '*While no loss of depositing/lowland river (FW2) or any other natural watercourse will occur as a result of the proposed project a river restoration plan has been proposed in order to create a net gain in depositing/lowland river (FW2) within the site as well as an associated increase in the quality of the watercourse for local aquatic faunal*', '*The portion of the Eastwood subject to River Restoration currently measures approximately 240m and after restoration works will measure approximately 300m. This will result in a net gain of watercourse length as well as a functional uplift within the Eastwood River*'.

The proposed river restoration will result in the creation of additional river habitat within the Site as well as improving the habitat diversity and quality in the Eastwood River within the Site.

As stated in Section 6.9 'Conclusion' of Chapter 6:

> '*Faunal species records within the Site, during detailed ecological surveys undertaken between 2022 and 2023, were found to be common and widespread in the wider area, and in a national context. Protected species such as bats, badger and amphibians were identified within the Site and prescribed avoidance and mitigation measures have been implemented to ensure that no significant effects will occur.*'

While a number of badger setts were identified within the Site, none of these badger setts will be removed to facilitate the construction or operation of the Proposed Wind Farm. There will be no reduction in suitability of the Site to support Badger. Pine Marten were observed utilising the Site. While no Pine Marten dens were identified within the Site, Pine marten Boxes will be installed in order to increase the suitability for the site to support this species. As stated in Section 5.4 of Appendix 6-4 of Chapter 6 of the EIAR,

> '*Installing boxes will lead to a net gain in pine marten habitat within the Site and result in a positive effect on pine martens within the local area*'.

Fox and other protected fauna were recorded within the site however as outlined in Table 6.19 of Section 6.6.4 of Chapter 6:

> '*The recorded evidence suggests that the Site is not utilised by populations of higher than local significance and no potential for significant effects have been identified at the population level. Due to the small footprint and nature of the Proposed Project, they are unlikely to be significantly affected by the Proposed Project.'*

It is therefore considered that this has been fully considered as part of the EIAR and no impacts are anticipated to arise as a result of the Proposed Project.

2.1.9.2 Biodiversity is Deteriorating in Ireland

As outlined in Appendix 6-2 of Chapter 6 and the Biodiversity Management and Enhancement Plan (BMEP), the measures described in the BMEP serves to offset the loss of linear vegetation (treeline and hedgerow) and woodland habitat associated with the Proposed Project and provide a net gain for both linear habitat and woodland habitat within the Site. The BMEP highlights that with the protection measures involved, that there will be a low residual impact on biodiversity in the area, and will in fact aim to create a positive biodiversity net gain for the site. The BMEP concludes:

> *"In addition, the measures described in this BMEP serve to create a functional uplift in the geomorphology and water quality of a segment of the Eastwood River. A total net gain of 3.37km of linear hedgerow and treeline habitat is proposed and a net gain of approximately 1.02ha in woodland habitat will be established within the Site. The installation of an artificial Pine Marten Den Boxes and Bat Boxes will result in an increase in the suitable habitat for these species within the site. The planting of linear vegetation and woodland within the Site also provides additional habitat for these species and other faunal species. Management of grass heights in select fields within the Site, while primarily a mitigation feature as described in Chapter 7 of this EIAR, will offer additional benefits to biodiversity including the creation of areas of cover for small mammals and provision of pollinating opportunities for early emerging pollinators at the start of spring.*
>
> *The success of these measures will be evaluated through a detailed monitoring and reporting programme."*

As outlined in Section 7.5.2 of Chapter 7 Ornithology, Kestrel, Sparrowhawk and Buzzard are resident within the area. These species are wide-ranging generalists and are unlikely to be dependent on the site. Extensive areas of suitable hunting and breeding habitat will remain available to these species as there is an abundance of similar suitable habitat in the surrounding area.

As outlined in Section 7.4.1 of Chapter 7, there is considered to be no Barn Owl population of ecological significance utilising the Site. Barn Owl were seen to be using a traditional nest site over 2km from the Site.

Pheasants were observed on the site (Appendix 7-1 of Chapter 7 of the EIAR) however, Pheasant is an introduced game species from Asia and widespread and common throughout Ireland and a green listed bird of conservation concern.

In addition, as part of the Proposed Wind Farm design, it is proposed to restore appropriate pattern, profile and dimension to a segment of the Eastwood River channel in the Site, with a view to improving stability of the channel and restoring in stream habitat. This may benefit kingfisher by creating suitable riparian hunting habitat.

Through implementation of measures outlined in Section 6.7 of Chapter 6 of the EIAR there will be no significant effects on Biodiversity and many of the measures will provide an uplift in suitability for Biodiversity at the local level.

2.1.9.3 Removal of Potential Adverse Effects

As outlined in Sections 6.2 and 6.3 of Chapter 6 of the EIAR, European Legislation, National Legislation, National Policy as well as all relevant Guidance were followed and consulted during the preparation of the EIAR.

Below the conclusions of the Natura Impact Statement and Chapter 6 of the EIAR are presented.

Section 6.9 of Chapter 6 of the EIAR concludes the following:

> *'The site is located primarily within Improved agricultural grassland (GA1) Wet Grassland (GS4) and coniferous forestry plantation (WD4). Potentially significant effects on the Key Ecological Receptors identified in this report have been avoided through infrastructure siting, project design and mitigated by the implementation of specific mitigation measures as detailed in Section 6.7 of this chapter; including all references made to mitigation specified in Chapters 4 'Development Description', and Chapter 9, 'Hydrology and Hydrogeology'.*
>
> *Faunal species records within the Site, during detailed ecological surveys undertaken between 2022 and 2023, were found to be common and widespread in the wider area, and in a national context. Protected species such as bats, badger and amphibians were identified within the Site and prescribed avoidance and mitigation measures have been implemented to ensure that no significant effects will occur. In addition, a number of standard best practice and prescribed mitigation measures have been incorporated into the project for the avoidance of impact on protected species as a result of disturbance/displacement and water quality deterioration. The implementation of these measures in full will ensure compliance with the Wildlife Act.*
>
> *Taking the above information into consideration and having regard to the precautionary principle, the Proposed Project will not result in a significant residual loss of any habitat of high ecological significance and will not have any significant impacts on the ecology of the wider area.*
>
> *Provided that the Proposed Project is constructed, operated and decommissioned in accordance with the design, best practice and mitigation that is described within this EIAR, significant effects on biodiversity are not anticipated at any geographic scale.'*

Section 7.10 of Chapter 7 of the EIAR concludes the following:

> *'Following consideration of the residual effects (post-mitigation), it is concluded that the Proposed Project will not result in any significant effects on any of the identified KORs [Key Ornithological Receptors]. No significant effects on receptors of International, National or County Importance were identified. Provided that the Proposed Project is constructed, operated and decommissioned in accordance with the design, best practice and mitigation measures that are described within this application, significant individual or cumulative effects on the identified KORs are not anticipated.'*

Section 9 of the NIS concludes the following:

> *'This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.*
>
> *Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the construction and operation of the Proposed Project does not adversely affect the integrity of European sites.*
>
> *Therefore, it can be objectively concluded that the Proposed Project, individually or in combination with other projects and/or plans, will not adversely affect the integrity of any European Site.'*

Taking into account the comprehensive field surveys, desk studies and conclusions of the NIS and Chapters 6 and 7 of the EIAR, it can be concluded beyond all reasonable scientific doubt that the Proposed Project will not have an adverse effect on the Natura 2000 Network or Biodiversity at any geographical scale and will not have an adverse effect on Key Ornithological Receptors at the regional or national scale. In addition to this with the implementation of measures outlined in Section 6-7 of Chapter 6 and Section 7-6 of Chapter 7 of the EIAR and Appendix 6-4 BMEP of the EIAR there will be a slight long term positive effect on local biodiversity.

2.1.10 Visual Impact

Observations were made regarding the visual impact of the proposed turbines from neighbouring dwellings.

As discussed in Section 14.1.4 of Chapter 14 Landscape and Visual Impact, the siting of the turbines

'incorporates the following landscape and visual design considerations for good wind farm design:

- *Strategic siting of the proposed turbines on a flat site, reducing their visual prominence and visual effects in this relatively flat and heavily vegetated landscape. The proposed turbines are strategically sited within a modified working landscape where there is limited visibility from the wider study area and designated landscape and visual receptors of high sensitivity.*
- *The turbine layout has been designed to create a coherent arrangement of turbines, contiguous and connected to each other visually and with consistent spacing in line with the guidance for design and sitting of wind farms within Hilly and Flat Farmland Landscape Types in the Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage, and Local Government (DoEHLG), 2006, (hereafter referred to as the '2006 WEDGs'), and regard to the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government (DoHPLG, 2019) (hereafter referred to as the '2019 draft WEDGs').*
- *Siting of proposed turbines adheres to the minimum 500m set back distance in the current 2006 WEDGs and also the recommended 4 times tip height set back distance to third party properties, explicitly set out for residential visual amenity, prescribed by the 2019 draft WEDGs.*

- *The layout of the Proposed Project has been designed to ensure minimal loss of valuable landscape receptors and biodiversity corridors such as woodland and hedgerows along field boundaries, with the proposal to plant approximately 1.8 hectares of natural woodland within the Wind Farm Site along a segment of the Eastwood River. Please see Chapter 6 Biodiversity and Appendix 6-4 Biodiversity Management and Enhancement Plan for details.'*

As detailed in Section 14.8 of Chapter 14, the highest effects on residential visual amenity are confined to within 1km of the proposed turbines, with the scale of turbines in view decreasing rapidly beyond 1km and substantially beyond 1.5km. As the area surrounding the Site has a low population density (28.06 persons per km^2 2022 Census) , site selection for the proposed turbines has resulted in reduced effects on residential visual amenity than might otherwise be the case.

The Tipperary County Council Wind Energy Strategy (Appendix 1 of the Renpatterns, wind strategy 20212-2028) takes into consideration population density and settlement patterns, wind resource, landscape sensitivities, national grid infrastructure, landslides and peat soils, EU Natura Sites and Nationally Designated Sites, Protected Structures, National Inventory of Architectural Heritage, Architectural Conservation Areas, Freshwater Pearl Mussel Catchments, and Protected Surface Water Areas. Taking all the above into consideration, a wind energy strategy for the county was produced and categorised the county into *Areas Unsuitable for New Wind Energy Development* and *Areas Open for Consideration for New Wind Energy Development.*

The Proposed Wind Farm is located in an area categorised as *Areas Open for Consideration for New Wind Energy Development.* The Proposed Wind Farm complies with the 4x tip height setback for third-party sensitive properties for visual amenity as recommended in the 2019 draft WEDGs.

In addition to this, the Proposed Wind Farm and the Proposed Grid Connection were subject to comprehensive environmental assessments, desktop studies, on the ground surveys, investigations and modelling reflected in various design iterations resulting in a final design that will have no significant environmental effects while contributing to the climate and biodiversity crisis and maintaining economic viability.

2.1.11 Community Benefit Scheme and Community Consultation

Observations were received pertaining to the level of engagement with locals and the household payments to those living within proximity to the wind farm

Chapter 4 of the EIAR and Appendix 2-3 Borrisbeg Renewable Energy Development Community Report, provide comprehensive detail on the extensive community consultation that occurred and on the substantial community benefit fund associated with the proposal.

The Proposed Wind Farm has the potential to have significant benefits for the local economy, by means of job creation, landowner payments and commercial rate payments. The locality in which the Proposed Wind Farm is situated will make a significant contribution towards helping achieve national renewable energy and climate change targets. As such, the local community should derive some benefit from accommodating such a development in their locality. The Proposed Wind Farm can benefit the local area directly should it receive a grant of permission and be constructed as detailed in Section 4.7.2 of the EIAR .

Based on the above RESS guidelines, it expected that for each megawatt hour (MWh) of electricity produced by the wind farm, the Proposed Wind Farm will contribute €2 into a community fund for the first 15 years of operation of the Wind Farm. Should the Proposed Project be developed under the current RESS T&C's, it would attract a community contribution in the region of **almost €400,000/year** for the local community (estimated based on an average energy yield). Should the Proposed Project not be developed under RESS, the Applicant is committing that for each megawatt hour (MWh) of electricity

produced by the wind farm, the project will contribute €1 into a community fund for the entire operational life of the Proposed Project. This would equate to an estimated annual fund of almost €200,000 (using the same formula as above), which **across the 30-year operational lifespan** would result in funding in the order of **€6 million to the local community which is a substantial contribution**.

As such, a minimum of €1,000 would be distributed to each household within 1km of the proposed turbine locations with a potential €400,000 would be distributed to the local community per year for the first 15 years of the wind farm or €200, 000 would be distributed over 30 years.

In addition to the above, the Council would receive commercial rates should the Proposed Wind Farm be consented which would benefit the local and wider community in terms of infrastructure and service provision.

Community Engagement Effort

An observation was made from a landowner that no direct correspondence was made by the developer. As discussed in Chapter 2 Section 2.7.4 and Appendix 2-3 Borrisbeg Renewable Energy Development Community Report, the applicant has engaged comprehensively with the local community with regards the Proposed Project. Efforts involved in the community consultation process comprised; the appointment of a Community Liaison Officer (CLO) in year 2021 to provide an interface for the community to have any queries or concerns in relation to the proposal, Public Information Exhibitions held in the Templemore Arms, Templemore, Co. Tipperary in June 2023, and October 2023 and advertisement in the local and national paper and via letter drop out to 2km was made in December 2023. There has been a large amount of positive feedback received from the community, which is evident by the small number of observations received on this large-scale application.

Further details of engagement are provided in Section 2.7.4 and Appendix 2-3 of the EIAR.

3. RESPONSE TO STATUTORY CONSULTEES OBSERVATIONS

There were 2 no. submissions received on the application from Statutory Consultees (excluding the local authorities); Transport Infrastructure Ireland (TII) and the Development Applications Unit (DAU). **Table 4** below outlines the common themes identified within the Third -Party submissions and specifies who is responsible for the corresponding response.

Table 4 Statutory Consultee Submissions Themes and the Relevant Author for the Response

Theme	Lead Author for Response
Roads and Transport	Alan Lipscombe Traffic Consultant
Heritage and Archaeology	MKO

3.1 Transport Infrastructure Ireland

TII raised a few concerns over the Official TII Policies and the proposed temporary access roads alignment with Design Standards. The observations can be grouped into the following points:

- Official TII Policy and Design Standards
- Haul Route and National Road Network, Maintenance and Safety

3.1.1 Official TII Policy

The TII submission refers to the Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012) and specifically Section 2.5, which *"sets out a policy that seeks to avoid the creation of additional access points from new development or the generation of increased traffic from existing accesses (i.e., non-public road access) to national roads to which speed limits greater than 50kpm apply".*

In relation to the above TII highlights the following observations in relation to the access arrangements proposed in proximity of the existing N62 / L-3248 junction:

- TII states that with respect to the proposed junction accommodation works and new temporary access road off the L3248, to facilitate turbine delivery to the site, it is unclear that the proposal does not represent a new access, although temporary in nature, to the N62 national road, and as such, has the potential to directly conflict with the foregoing provisions of official policy. TII request that the Board consider the access proposals to the N62 national road junction in the context of the provisions of official policy to ensure road safety for all road user and adherence to the provisions of official policy.

- The TII observation also states that the '*temporary access for abnormally sized loads does not appear to adhere to design standards, including TII Publication DN-GEO-03060, which is referenced in Section 15.2.1.4 of the EIAR'*, and may represent a departure from standard. (We note that there is not a Section 15.2.1.4 included within the respective EIAR, and that this reference may have been made in error by TII.)

- TII Publications include the requirement of a "Design Report" in accordance with TII Publication DN-GEO-03030 (Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes). The purpose of the Design Report is to address and present issues relating to compliance with the relevant parts of TII Publications. TII has no record of a "Design Report" being prepared or submitted in relation to the proposed access for abnormally sized loads at the junction of the N62/L-3248 junction and this is considered a significant oversight

and TII considers that this issue requires resolution to ensure safe and appropriate access is provided that safeguards the safety of all road users on the national road network.

3.1.1.1 Conflicts with Provisions of Official Policy

Further clarification of the proposed temporary access for abnormally sized loads in the proximity of the N62 / L3248 is provided as follows. A detailed description of the proposed access is provided in Section 15.1.9 under Location 2, – N62 / L-3248 / site access junction, which is also shown in Figures 15-8 and 15-9 of the EIAR. In addition to the proposed temporary access for abnormally sized loads, the description in this section of the EIAR for Location 2 also includes the proposed access junction on the L-3248 located approximately 90m northeast of the junction with the N62. As set out in the text in the EIAR and Figure 15-8, the proposed access junction for standard HGVs on the L-3248 is designed in accordance with TII Guidelines set out in TII DN-GEO-03060 for standard HGVs with the appropriate visibility splays in accordance with the County Tipperary Development Plan 2022 – 2028, shown in Figure 15-9.

With respect to the proposed temporary access for abnormally sized loads as shown in Figure 15-8, it is proposed that the access is located on the southern side of the L-3248 directly into the junction with the N62. As stated in the EIAR it is proposed that this access will be opened temporarily and only on designated hours on the nights that the abnormally sized vehicle convoys deliver to the Site. This access is not designed in accordance with TII Guidelines, and no visibility splays are provided at this location as this is a temporary facility that will be used on the 52 nights when a convoy of 3 abnormally sized loads will be escorted into the site via this access by means of an escort provided by An Garda Síochána. The vehicles used to deliver abnormally sized loads will exit the sites via the proposed main site entrance. On theses nights, transient traffic management will also be provided on the N62 and L-3248. At all other times during the construction period this access will be closed by means of a gate. On the completion of the construction phase this location will be fenced off and re-instated to its original state. Should the temporary access for abnormally sized loads be required during the operational or decommissioning phases of the Proposed Wind Farm, it will be re-opened and managed in the same manner as outlined for the construction phase.

It is also noted that the accommodation works for this temporary access will all be constructed internally for the Proposed Wind Farm via the site access junction for standard HGVs, starting at the eastern end of the temporary access working west towards the connection into the N62 / L-3248 junction.

Using this method of construction there will be no impact on the N62 during the construction of the temporary access for the abnormally sized loads and its use will be strictly managed on the nights when turbine components are delivered to the Site.

3.1.1.2 Temporary Access Confliction with Design Standards

As stated above the reference to the TII Publication DN-GEO-03060 was in reference to the proposed access junction for standard HGVs located on the L-3248, as shown in Figure 15.8 of the EIAR, which is designed in accordance with this standard. As stated above, it is proposed that the temporary access road is only used on the 52 nights proposed for the delivery of the abnormally sized loads, which will be undertaken with the assistance of comprehensive traffic management which will include escort by An Garda Siochana and the haulage company.

3.1.1.3 Design Report and the Proposed Temporary Access

It is again clarified that the proposed temporary access road is not the primary access point for the Proposed Wind Farm and its use will be strictly managed on the nights when turbine components are delivered to the Site. As stated above, there will be no impacts on the N62 during the construction of the temporary access road which will be constructed from the site internally. In this context, it was respectfully considered that a DN-GEO-03030 "Design Report" was not required in this instance.

In response to the above point raised by TII a DN-GEO-03030 "Design Report" has now been prepared and is included in this submission as **Appendix 2**. It is noted that the report is also being uploaded to TII's departure portal.

3.1.2 National Road Network Maintenance and Safety

TII note that there are a number of operational issues related to the subject wind farm development raised by Tipperary County Council that require to be resolved relating to network maintenance and road safety prior to any decision, including:

- The proposed haul route from Dublin Port to the Borrisbeg Wind Farm site utilises the M50, N7/M7 and N62 national roads, passing through a number of counties, and with different sections of the network managed by a combination of PPP Concessions, Motorway Maintenance and Renewal Contracts (MMaRC) and local authorities. It is requested that the applicant / developer should consult with all parties and road authorities over the which the haul routes traverse to ascertain any operational requirements, such as delivery timetabling, and to ensure that the strategic function of the national road network is maintained.

- Mitigation measures identified by the applicant should be included as conditions in any decision to grant permission. Any damage caused to the pavement of the existing national road due to turning movements of abnormal length loads (e.g. tearing of the surface course) shall be rectified in accordance with TII Pavement Standards and details and shall be agreed with the Road Authority prior to the commencement of any development on site.

- It is unclear if the if the proposed wind farm and associated development will require any abnormal weight loads. In the intertest of clarification any operator who wants to transport a vehicle or load whose weight falls outside the limits allowed by the Road Traffic (Construction Equipment & Use of Vehicles) Regulations 2003, SI 5 of 2003, must obtain a permit for its movement from each Local Authority through whose jurisdiction the vehicle shall travel.

3.1.2.1 Proposed Turbine Haul Route

The Applicant will consult with all relevant PPP Companies, MMaRC Contractors and roads authorities along the proposed turbine haul route, as requested by TII in Section 2.1 of their submission, prior to the delivery of abnormally-sized loads.

The Applicant agrees to the condition outlined above which states that "*mitigation measures identified by the applicant should be included as conditions in any decision to grant permission.*"

3.1.2.2 Structures on Haul Route

As set out in section 15.1.1.4 of the EIAR under a response to issues raised by TII in pre planning scoping, it is noted that while it is proposed that the delivery stage of the Proposed Project will involve abnormally sized loads in terms of their physical dimensions, however, the axle loadings will not exceed standard accepted limits.

With specific reference to national road structures on the proposed haul route all structures should be checked by the applicant / developer to confirm their capacity to accommodate abnormal loads proposed.

As stated above it is proposed that the axle loadings will not exceed accepted limits.

3.2 DAU- Heritage Archaeology & Cultural Heritage

An observation was made by the DAU referring to the presence of an unrecorded rectilinear enclosure recorded by the Proposed Project Archaeologist, Tobar Archaeological Services, and included in Chapter 13. The DAU recommends that the extent of the enclosure be adequately determined and protected during all phases of the Proposed Project.

The Applicant is committed to adhering to the DAU recommendations in relation to the unrecorded rectilinear enclosure and the recommended 7 no. conditions by the DAU, should the application receive a grant of permission.

4. RESPONSE TO LOCAL AUTHORITY SUBMISSIONS

There were 4 no. submissions received on the application from Local Authorities, Kilkenny County Council, Laois County Council, Offaly County Council and Tipperary County Council.

4.1 Laois County Council

Laois County Council (LCC) raised some observations which can be grouped into the following points:

- **The proposed Turbine Ratio:** LCC notes the ratio of the turbines exceed the ratio of 1:1 for rotor and hub heights. LCC states that the Board must be satisfied that the ratio of tip height to hub height which is more than 1:1 or the Proposed Wind Farm is acceptable.

- **The Zone of Theoretical Visibility**: LCC notes that the Zone of Theoretical Visibility includes the western part of Laois. LCC states that the Board should be satisfied that the proposed development has been robustly assessed in Chapter 14 of the EIAR.

4.1.1 Turbine Ratio

The turbine dimensions selected for the Proposed Wind Farm comprise:

- 185m tip height
- 163m rotor diameter and 81.5m blade
- 103.5m hub height.

The chosen dimensions are based on the current market availability and design in conjunction with the aim to maximise the site's potential for renewable energy development. This will facilitate the State's 2030 renewable energy and onshore targets and will minimise the potential for significant environmental effects.

Section 14.1.4 of the Landscape and Visual Impact chapter submitted as part of the EIAR, discusses the strategic turbine siting of the Proposed Wind Farm. That discussion is reiterated here (and section 2.1.9 above):

'The layout of the turbines incorporates the following landscape and visual design considerations for good wind farm design:

- *Strategic siting of the proposed turbines on a flat site, reducing their visual prominence and visual effects in this relatively flat and heavily vegetated landscape. The proposed turbines are strategically sited within a modified working landscape where there is limited visibility from the wider study area and designated landscape and visual receptors of high sensitivity.*
- *The turbine layout has been designed to create a coherent arrangement of turbines, contiguous and connected to each other visually and with consistent spacing in line with the guidance for design and sitting of wind farms within Hilly and Flat Farmland Landscape Types in the Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage, and Local Government (DoEHLG), 2006, (hereafter referred to as the '2006 WEDGs'), and regard to the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government (DoHPLG, 2019) (hereafter referred to as the '2019 draft WEDGs').*
- *Siting of proposed turbines adheres to the minimum 500m set back distance in the current 2006 WEDGs and also the recommended 4 times tip height set back distance to third party properties, explicitly set out for residential visual amenity, prescribed by the 2019 draft WEDGs.*

- *The layout of the Proposed Project has been designed to ensure minimal loss of valuable landscape receptors and biodiversity corridors such as woodland and hedgerows along field boundaries, with the proposal to plant approximately 1.8 hectares of natural woodland within the Wind Farm Site along a segment of the Eastwood River. Please see Chapter 6 Biodiversity and Appendix 6-4 Biodiversity Management and Enhancement Plan for details.'*

See Section 14.1.4 of the Landscape and Visual Impact chapter submitted as part of the EIAR, for further detail on the strategic turbine siting of the Proposed Wind Farm.

4.1.2 The Zone of Theoretical Visibility

Chapter 14, Section 14.8 identifies that the Laois LCA 4- Peatland Areas is partially located within 5km of the nearest proposed turbine to the east of the Site. This LCA has been assessed robustly within Chapter 14 section 14.7.3.1.3 and it has been concluded Laois LCA 4 has a Low sensitivity to the Proposed Project and a Not Significant effect in relation to its Landscape Character.

The ZTV indicates large areas of theoretical visibility from within these peatlands. However, in reality, views towards the Proposed Project from peatlands beyond 5km encompassing the majority of the LCA within the LVIA Study Area, will be restricted. This limitation arises from the flat terrain, coupled with the extensive presence of hedgerows and treelines along the borders of these peatlands, providing effective screening.

As detailed within this response and throughout the EIAR, the proposed turbines comply with the 4x tip height setback for visual amenity (for non-involved third-party landowners). As recommended in the 2019 draft WEDGs and as discussed in Chapter 6 of the EIAR, the site overall is of a low ecological value which will be boosted by the proposed river restoration scheme, native woodland planting and hedgerow planting, which will only be undertaken should the application receive a grant.

A brief literature search found no specific guidance on the preferred rotor diameter to hub height ratio. In the 2017 SNH *Siting and Designing Wind Farms in the Landscape*: guidelines, factors to consider when choosing the most appropriate turbine dimensions for a site included '*the proportion of blade length to tower height'* and *'consistency with other existing and consented turbines in the vicinity'*.

To that end, the rotor diameter to hub height ratios of turbines within 10km of the Borrisbeg turbines have been reviewed.

Table 5 ROTOR Diameter to Hub Height Ratio

Wind Farm Turbines	Rotor Diameter	Hub Height	Rotor Diameter to Hub Height Ratio
Proposed Borrisbeg	**163**	**103.5**	**1.57:1**
Lisheen I and II Operational	82	98	0.83:1
Lisheen III Operational	136	101	1.34:1
Bruckana Operational	112	110	1.02:1
Ballinaveny Operational	52	36	1.44:1

As can be seen in the table above, none of the operational wind farms within 10km of Proposed Wind Farm turbines are of a 1:1 rotor diameter to hub height ratio, with the close exception of the operational Bruckana wind farm which is just over the 1:1.

Apart from the much smaller 3-turbine development of Ballinaveny operational since 2006, it is considered that a hub height of 103.5m is in keeping with the existing hub heights of turbines within the 10km study area.

Table 5 demonstrates that the desired 1:1 is not sustainable, as the average turbine ratio in the area can be seen to be 1:24:1. This evidence is backed up by recent planning permissions for wind turbines that are over the 1:24:1 average ratio and align with the proposed turbine dimensions with this development. It is important that the developer aligns with industry trends and technology advancements to ensure the windfarm operates at a sustainable level. The utilisation of modern technology and alignment with industry upgrades allows for the windfarm to operate at maximum performance and ensures sustainable development in generating renewable onshore wind energy for the region.

Laois County Council raised no objections against the Proposed Wind Farm.

4.2 Offaly County Council

Offaly County Council had no observations to make on the Proposed Project.

4.3 Kilkenny County Council

Kilkenny County Council (KCC) raised observations which can be grouped into the following points:

- **The Kilkenny City and County Development Plan 2021-2027:** An observation was made by Kilkenny County Council (KCC) stating that the Kilkenny City and County Development Plan 2021-2027 and its associated renewable energy objectives and wind strategy areas are pending Ministerial response and therefore have not come into effect.

- **Haul Route Consultations**: KCC also request that should there be any potential haul routes for wind farm components affecting County Kilkenny, consultation should be carried out with the relevant Municipal Engineer and Roads Department of Kilkenny County Council.

Kilkenny County Council raised no objections against the Proposed Wind Farm.

4.3.1 Kilkenny City and County Development Plan 2021-2027

KCC requested that the visual impact of existing and permitted wind farms including those within Kilkenny, where applicable, should be taken into account. They also noted that should the haul route pass though Co. Kilkenny, engagement with the Municipal Engineer and Roads Department of KCC is required.

The EIAR Landscape and Visual Cumulative Assessment for the Proposed Project included all proposed, permitted and operational wind farms within 20km of the proposed turbines. Please see Appendix 2-1 of the submitted EIAR for an exhaustive list of proposed projects and/or plans that were included in the cumulative assessment for the Proposed Project.

4.3.2 Haul Route Consultation

It is not proposed to utilise any national primary, national secondary, regional or local roads within County Kilkenny for the delivery of wind turbine components.

4.4 Tipperary County Council

This section outlines the responses to the recommendations made by Tipperary County Council (TCC) in section 7 of their Chief Executive's (CE) Report submitted to an Bord Pleanála on the 14th of February 2024.

TCC set out 3 no. recommendations in their CE Report which have been reproduced below and for which a response to each has been provided

1) **The Community Benefit Fund shall be in line with the Renewable Energy Support Scheme (RESS) in place at the time.**

2) **The Planning Authority considers the impact of the development on the Devils Bit landmark has not been adequately assessed. In particular, the applicant should demonstrate that the development will not impact on the setting of the Devils Bit on approach to Templemore from the east in the townland of Farranderry on the R443.**

3) **Tipperary County Council recommend that a Stage 1 Road Safety Audit is carried out for the project with particular focus on the temporary and permanent access routes onto the public road to ensure the safety of the public road user at all times during the construction and operation of the facility. Please see section 4.4 of this Response document for Alan Lipscombe Traffic Consultants' response to Roads and Traffic issues raised by both Tipperary County Council.**

Tipperary County Council raised no objections against the Proposed Wind Farm.

4.4.1.1 The Community Benefit Fund

The Applicant is committed to ensuring that the Community Benefit Fund shall be in line, if applicable, with the Renewable Energy Support Scheme (RESS) in place at the time. Please see Chapter 4 of the EIAR and Appendix 2-3 Borrisbeg Renewable Energy Development Community Report for more detail on the Community Benefit Fund.

4.4.1.2 Landscape and Visual Impact on Devil's Bit Mountain

Chapter 14 of the EIAR included a Landscape and Visual Impact Assessment (LVIA) of the proposed Borrisbeg Renewable Energy Development. The LVIA was informed by ZTV mapping, visibility appraisals conducted on multiple site visits, a Route Screening Analysis and photomontage visualisations from 34 No. Viewpoints (14 No. In the Volume 2 Photomontage Booklet and 20 No. in the Appendix 14-5 Photowire Booklet).

Tipperary County Council's submission in relation to the LVIA in Chapter 14 states the following conclusion in Item K:

> ***"K. Landscape:*** *The Landscape Character Assessment of Tipperary 2016 is the relevant document in considering the proposed development on the receiving landscape noting that the proposed development is located within the Templemore Plains and in an Area for Open to Consideration. Having regard to the findings of the Landscape and Visual Assessment submitted with the EIAR, subject to the proposed mitigation measures being implemented, the Planning Authority considers that the proposed development may not have a significant impact."*

This concluding remark is aligned with the conclusions made in the LVIA that the Proposed Wind Farm is an appropriately designed and scaled development which can be effectively absorbed within its landscape setting.

Analysis of effects on the setting of the Devils Bit: As viewed on the approach to Templemore from the East in the Townland of Farranderry

> *"3 - the Planning Authority considers that the impact of the development of the Devils Bit landmark has not been adequately assessed. In particular, the applicant should demonstrate that*

the development will not impact on the setting of the Devils Bit on approach to Templemore from ***the east in the townland of Farranderry on the R443.****"*

Further analysis and examination of the R443 Regional Road, within the townland of Farranderry, travelling east towards Templemore is discussed below. The analysis and assessment has been informed by the visibility appraisals and assessment tools used as part of the LVIA included in Chapter 14 of the EIAR.

The field of viewpoints in photomontages presented in the EIAR represent a 53.5-degree horizontal field of view. The 53.5" field of view allows for photomontages to present a 180° field of view (two 90° views side by side) and covers differing directional field of views to ensure the cumulative assessment of the landscape is shown as accurately as possible.

Geographic Orientation and Field of View

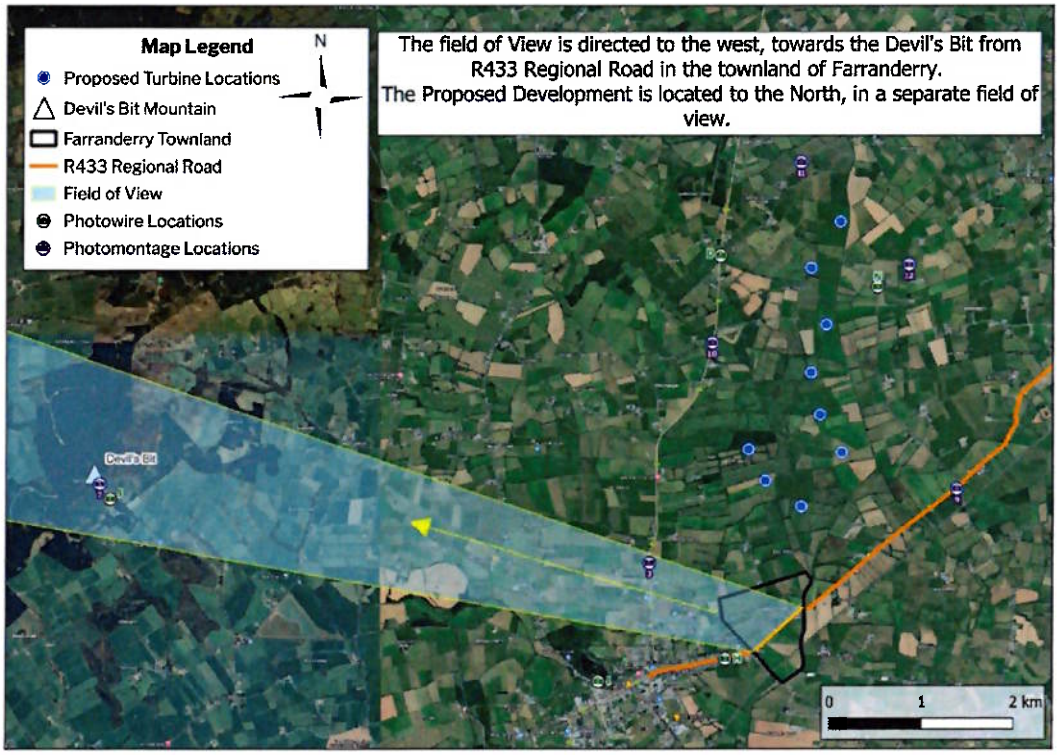


Figure 1 Field of View to the west towards the Devil's Bit from R433 Regional Road in the townland of Farranderry

Figure 1 above illustrates the field of view towards Devil's Bit Mountain, a designated Secondary Amenity Area by Tipperary County Council, originating from the section of the R433 Regional Road situated within the townland of Farranderry. The field of view is orientated to the west-north-west, facing away from the Proposed Wind Farm, which is located to the north of this road section within Farranderry townland. Given the two differing viewing perspectives (to the west and to the north), there are no overlapping views where the proposed turbines will be visible simultaneously in alignment with the Devil's Bit landmark while travelling southwest towards Templemore.

Visibility Appraisal & Route Screening Analysis

The portion of the R433 Regional Road to the south of the site is comprehensively assessed as part of the Route Screening Analysis (RSA) in *Section 14.3.3* of *Chapter 14* of the EIAR. The RSA analyses the degree of actual visibility of the proposed turbines from the local road network in mind of localised factors

on the ground such as screening from roadside vegetation. The methodology used for RSA is outlined in *Section 1.3.3* of *Appendix 14-1 LVIA Methodology*.

The RSA along the stretch of the R433 road within the townland of Farranderry is presented in the map below. The map illustrates two classifications 'No / Very Little Screening' and 'Partial/Intermittent Screening' in the direction of the proposed turbines. Notably, the road section with limited screening is more pronounced to the western extent of Farranderry townland on the more immediate approach to Templemore where more open views towards the Devil's Bit Mountain occur. The north-eastern section of this road within the townland of Farranderry has intermittent screening, where views of the proposed turbines are partially screened by roadside vegetation.

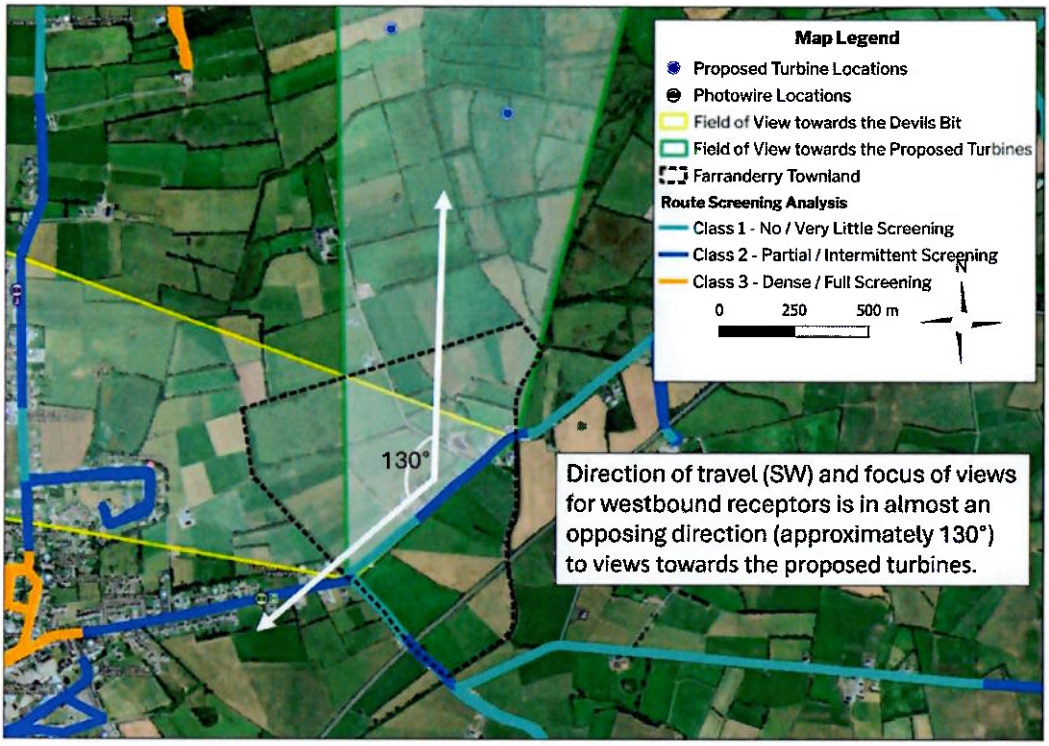


Figure 2 Field of View including Route Screening Analysis

As shown by the field of view and the RSA in **Figure 2** above, clearer views of the Devils Bit Mountain are evident from the western extent of this stretch of road nearer the town of Templemore. Westbound receptors on this portion of the R433 Regional Road are travelling south-west and will have almost passed by the western extent of the closest turbine. Therefore, the angle of view towards the proposed turbines for these receptors would almost be beyond 90 degrees perpendicular to view of the Devils Bit and almost 130 degrees different (clockwise direction) to the direction of travel.

The proposed turbines do not obstruct the sightline to the Devil's Bit landmark and cannot be viewed in combination from westbound receptors without turning to see them in the other direction that would be visible from eastbound receptors leaving Templemore to the north-east (with the Devil's Bit behind them).

Based on the geographic analysis of the road section above and tools used for Chapter 14, it can be concluded that no significant effects on the setting of the Devils Bit will occur within the stretch of R433 Regional Road in Farranderry townland. The residual visual effect remains Moderate, as discussed in Section *14.7.3.3.3* of *Chapter 14*.

4.4.1.3 Stage 1 Road Safety Audit

Tipperary County Council recommend that a Stage 1 Road Safety Audit is carried out for the Proposed Project with particular focus on the temporary and permanent access routes onto the public road to ensure the safety of the public road user at all times during the construction and operation of the facility.

Design Team Response:

The situations that require a Road Safety Audit are set out in TII guidelines Road Safety Audit Guidelines (GE-STY-01024) and are set out in Section 2.1 of the document as shown in the excerpt below (**Figure 3**);

> **2.1 Schemes to be audited**
>
> This Standard shall apply to all National Road Schemes. This includes work carried out under agreement with the Overseeing Organisation resulting from developments alongside or affecting the National Roads.
>
> The Standard sets out two categories of scheme:
>
> - **Road Scheme.** A scheme results in new road construction or permanent change to the existing road or roadside layout.
> - **Development Scheme.** A scheme which results in a change to the road or roadside layout that is initiated and/or executed for commercial or private development.
>
> A Road Safety Audit is required on any piece of road infrastructure which requires a design. No Audit is required on like-for-like repair or replacement of existing road infrastructure.
>
> Appendix A provides a representative sample of types of Scheme and guidance on the requirement for Audit for each type of Scheme, and also on the relevant Audit Stages to be carried out if Audit is required.

Figure 2 Excerpt from Section 2.1 of Road Safety Audit Guidelines (GE-STY-01024)

As none of these criteria apply to the proposals for the existing N62 / L-3248 junction, a Road Safety Audit has not been undertaken to date for the proposed temporary access. However, the Applicant commits to commissioning a Stage 1 and 2 Road Safety Audit in response to a request from Tipperary County Council. A Design Report "*Proposed Temporary Access for Abnormally Sized Loads, Co Tipperary*" is enclosed with this Response document as Appendix 2.

5. CONCLUSION

This document has been prepared to address the observations made by Third-Party observers, statutory consultees including local authorities in respect of the proposed Borrisbeg Renewable Energy Development. The information constitutes a full and robust response to the matters raised and the information provided here will directly assist the Board in their ongoing consideration of the planning application.

The provision of renewable energy developments such as the Proposed Project is strongly supported by International, National, Regional and Local level policies and Guidelines aimed at increasing renewable energy generation, enhancing energy security, and achieving the transition to a low carbon and climate resilient economy. The Proposed Project will contribute to the target of generating 9GW of electricity from onshore wind and reducing GHG emissions by 80% by 2030 as set out in the CAP24.

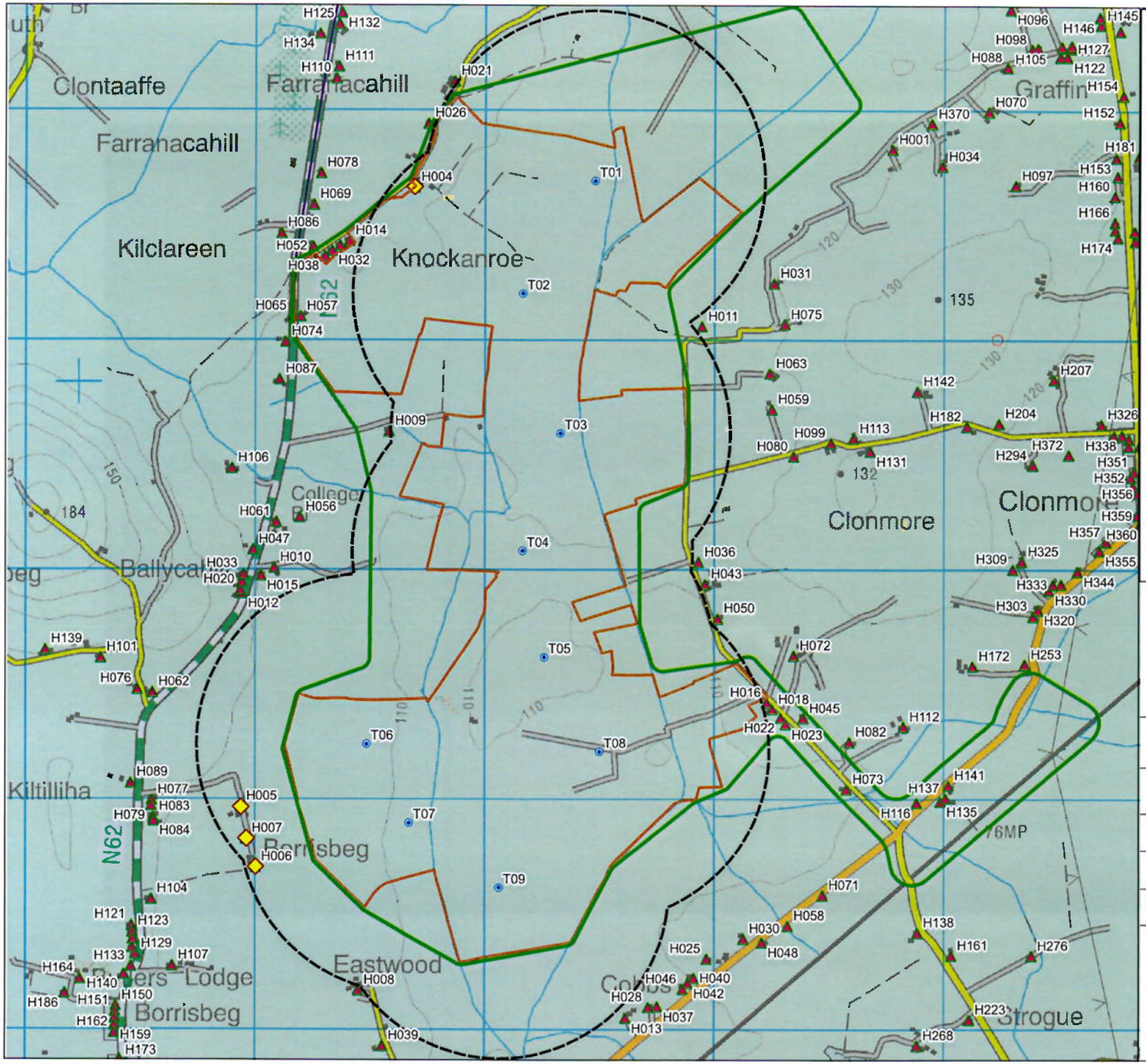
The Proposed Project is consistent with the Tipperary County Development Plan 2022-2028 which acknowledges the importance of renewable energy in reducing anthropogenic greenhouse gas emissions and the contribution of renewable energy in achieving national and EU target net zero greenhouse gas emissions by 2050.

Furthermore, the Proposed Project is located in an area classified as 'Open for Consideration' in the Tipperary Renewable Energy Strategy and has been subject to a rigorous design process informed by comprehensive planning and environmental assessments and surveys, which have collectively concluded that the proposal is in line with the proper planning and sustainable development of the area. Specifically, there are no significant environmental impacts associated with the Proposed Project during either the construction, operational or decommissioning phases of the development nor will the Proposed Project have any significant effects on any European Sites (as assessed within the accompanying Natura Impact Statement).

Having regard to the key points set out in this response to Observations, it is respectfully requested that the Board consider the relevant international, national and regional planning context that applies to the Proposed Project, and grants permission for the Proposed Wind Farm which is the subject of this application.

APPENDIX 1

MAP OF HOUSE LOCATIONS OF PROPOSED TURBINES



Map Legend

- Application Site Boundary
- EIAR Study Boundary
- Proposed Turbines
- Proposed Turbine Haul Route
- Sensitive Properties
- Involved Properties
- 740m Buffer

Drawing Title
House Locations in Context of Proposed Turbines

Project Title
Proposed Borrisbeg Renewable Energy Development

Drawn By	Checked By
GG	EMcC
Project No. 220310	Drawing No. Figure 1
Scale 1:16,000	Date 2024-03-28

MKO
Planning and Environmental Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website: ww.mkoireland.ie

APPENDIX 2

ROADS DESIGN REPORT

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS

PROPOSED BORRISBEG RENEWABLE ENERGY DEVELOPMENT

(ABP Case ref. PA92.318704)

PROPOSED TEMPORARY ACCESS FOR ABNORMALLY SIZED LOADS N62 / L-3248 JUNCTION, COUNTY TIPPERARY

Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes

DN-GEO-03030 Design Report

Alan Lipscombe Traffic & Transport Consultants Ltd
Claran, Headford, Co Galway

Email -Info@alipscombetraffic.ie
Tel – 093 34777
Mob – 087 9308134

Client: Buirios Ltd
March 25th, 2024
Project No: 9530

CONTENTS

LIST OF APPENDICES

Appendix A - Figures referenced from EIAR prepared for proposed Borrisbeg Renewable Energy Development (ABP Case ref. PA92.318704)

1 INTRODUCTION

This is the ***DN-GEO-03030 Design Report*** for a proposed temporary access for abnormally sized loads located at the N62 / L-3248 junction, County Tipperary.

The proposed temporary access at the N62 / L-3248 junction is part of the proposed Borrisbeg Renewable Energy Development, in County Tipperary. The Proposed Development is the subject of a current Strategic Infrastructure Development planning application to An Bord Pleanála (ABP Case ref. PA92.318704).

The following figures from the proposed Borrisbeg Renewable Energy Development EIAR are referenced in this section, both of which are included as Appendix A of this report;

Figure 15-8 Location 2 – N62 / L-3248 / Site access, junction layout
Figure 15-9 Location 2 – N62 / L-3248 / Site access, visibility splays

A description of the proposed temporary access for abnormally sized loads is provided in Section 15.2.9 of the EIAR under Location 2, – N62 / L-3248 / site access junction, which is also shown in Figures 15-8 and 15-9 of the EIAR, which are appended for information to the rear of this report. The proposals for existing N62 / L-3248 junction is summarised in Section 5.1 of this report.

1 COLLISION HISTORY

There is no collision history available from the RSA website at present for the existing junction.

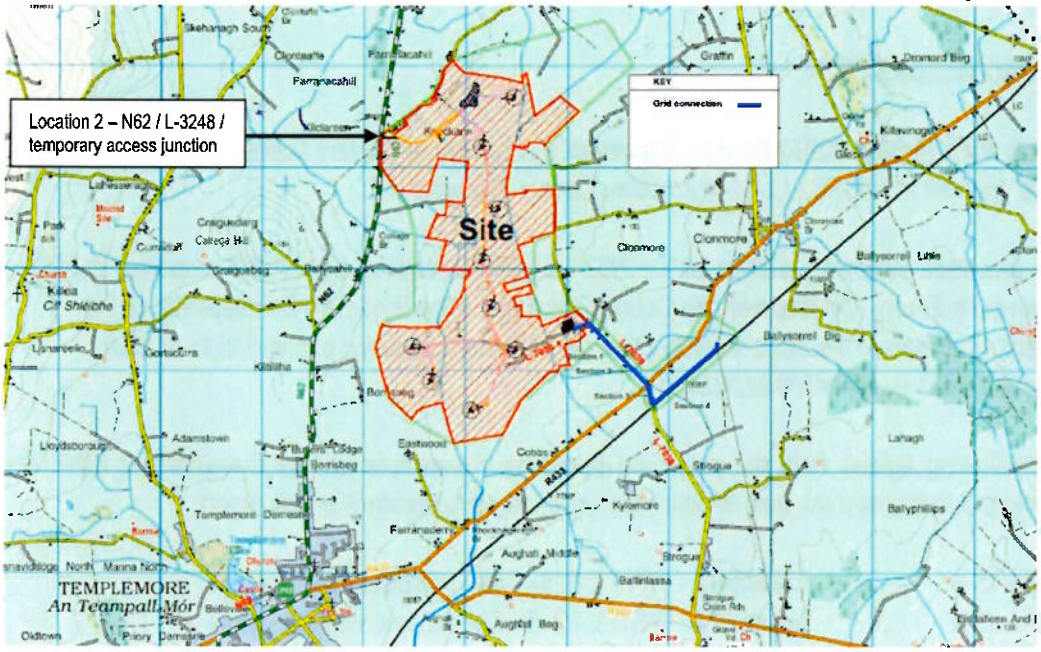
2 SAFETY OBJECTIVES

The safety objectives of the proposed temporary access at the N62 / L-3248 junction for the delivery of abnormal loads all times are;

- To provide safe access for the delivery of all abnormally sized loads to the site and fence off access when not in use.
- To provide a safe environment for background traffic on the N62 and the L-3248 by means of transient traffic management measures provided by An Garda Siochana and the haulage company.

- To provide a safe environment for existing traffic and construction workers during the construction of the proposed temporary access road.

Figure 1 Wind Farm Site location and Location 2 – N62 / L-3248 / site access junction



3 EXISTING CONDITIONS

3.1 Speed

The speed limit on the N62 is 100km/hr.

3.2 Traffic Volumes

During the nighttime hours when the convoys of the abnormally sized loads will access the site via the proposed temporary access road, traffic volumes are low. Based on traffic counts undertaken for the Proposed Project on Tuesday 12th September, 2023, the following traffic volumes were observed between the hours of 00:00 to 01:00,

- N62 = 14 vehicles in 1 hour,
- L-3248 = 0 vehicles in 1 hour.

Traffic volumes during night-time hours are therefore very low, which is the reason that these abnormally sized deliveries are made during this time period.

3.3 Horizontal Alignment

Figure 15-8 appended to the rear of this report shows the existing N62 / L-3248 junction and the location of the proposed temporary access road. There is a slight right hand bend on the N62 as you travel north while the L-3248 approach to the junction is straight, but at an angle of approximately 45º. Outside the hours that the delivery of the abnormal loads will take place, no changes are proposed to the existing N62 / L-3248 junction.

3.4 Vertical Alignment

The vertical alignment at the existing N62 / L-3248 junction is relatively flat. There are no changes to the vertical alignment proposed.

3.5 Cross Section, Crossfall & Super elevation

3.5.1 Cross Section

In the proximity of the junction with the L-3248 the N62 has a carriageway width of 6.0m. At the junction with the N62, the full junction width of the L-3248 is wide, and measures 23m. The L-3248 then narrows to 3.4m approximately 30 metres from the N62. There are no changes to the vertical alignment on the N62 or the L-3248 proposed.

There is a standard cross fall on the N62 at the junction with L-3248. There are no changes to the crossfall on the N62 or the L-3248 proposed.

3.5.2 Super elevation

There is slight super elevation on the N62 in the proximity of its junction with the L-3248. There are no changes to the super elevation the N62 proposed.

3.6 Junctions & Accesses

There are no further junctions in the proximity of the N62 / L-3248 junction and proposed general construction access junction located approximately 90m from the N62.

3.7 Facilities for Vulnerable Road Users

There are currently no facilities for vulnerable users at this location. Based on the nature of the temporary access for the delivery of abnormal loads, there are no proposed facilities for vulnerable road users as part of the Proposed Development.

3.8 Visibility & Sightlines

Not Applicable as abnormal load delivery vehicles will only enter the site via the temporary access. They will exit via the main construction access junction on the L-3248 - Visibility splays along the N62 taken from a 3m setback at the L-3248 approach are appropriate for the 100 km/h speed limit. There are no changes proposed at the N62 / L-3248 junction that will impact on existing visibility.

4 ENVIRONMENTAL, ARCHAEOLOGICAL AND OTHER CONSTRAINTS

4.1 Appropriate Assessment

Not Applicable - refer to Natura Impact Statement for Proposed Project

4.2 Ecological Assessment

Not Applicable - refer to EIAR for Proposed Project

4.3 Other Environmental Surveys

Not Applicable - refer to EIAR for Proposed Project

4.4 Archaeological Constraints

Not Applicable - Refer to EIAR for Proposed Project.

5 PROPOSED DESIGN

5.1 General

The following figures from the proposed Borrisbeg Renewable Energy Development EIAR are referenced in this section, both of which are included as Appendix A of this report;

Figure 15-8 Location 2 – N62 / L-3248 / Site access, junction layout

Figure 15-9 Location 2 – N62 / L-3248 / Site access, visibility splays

The proposed temporary access at the N62 / L-3248 junction is part of the proposed Borrisbeg Renewable Energy Development, in County Tipperary. The Proposed Development is the subject of a current Strategic Infrastructure Development application to An Bord Pleanála (ABP Case ref. PA92.318704).

In addition to the proposed temporary access for abnormally sized loads, the description in this section of the EIAR for Location 2 also includes the proposed access junction on the L-3248 located approximately 90m northeast of the junction with the N62. As set out in the Chapter 15 in the EIAR and Figure 15-8, the proposed access junction for standard HGVs on the L-3248 is designed in accordance with TII Guidelines set out in TII DN-GEO-03060 for standard HGVs with the

appropriate visibility splays in accordance with the County Tipperary Development Plan 2022 – 2028 shown in Figure 15-9.

With respect to the proposed temporary access for abnormally sized loads as shown in Figure 15-8, it is proposed that the access is located on the southern side of the L-3248 directly into the junction with the N62. As stated in Chapter 15 of the EIAR, it is proposed that this access will be opened temporarily and only on designated hours on the nights that the abnormally sized vehicle convoys deliver to the Site. This access is not designed in accordance with TII Guidelines and no visibility splays are provided at this location as this is a temporary facility that will be used on the 52 nights when a convoy of 3 abnormally sized loads will be escorted into the Site by means of an escort provided by An Garda Síochána and the haulage company. On these nights, transient traffic management will also be provided on the N62 and L-3248. At all other times during the construction period this access will be closed off by means of a gate. On the completion of the construction phase this location will be fenced off and re-instated to its original state. Should the temporary access for abnormally sized loads be required during the operational or decommissioning phases of the Proposed Wind Farm, it will be re-opened and managed in the same manner as outlined for the construction phase.

It is also noted that the accommodation works for this temporary access will all be constructed internally from the Proposed Project via the site access junction for standard HGVs, starting at the eastern end of the temporary access working west towards the connection into the N62 / L-3248 junction. Using this method of construction there will be no impact on the N62 during the construction of the temporary access for the abnormally sized loads.

5.2 Land Acquisition

The land required to provide the temporary access road for the delivery of abnormal loads has been acquired by the Applicant - refer to Letters of Consent included with Planning Application.

5.3 Horizontal Alignment

As part of the introduction of the proposed temporary access road for the delivery of abnormal loads, as shown in Figure 15-8, there are no changes proposed to the horizontal alignment on the N62, or the L-3248 approach to the junction with the N62.

5.4 Vertical Alignment

It is confirmed that there are no changes proposed to the vertical alignment on the N62 or the L-3248 approach to the junction with the N62.

5.5 Cross Section Crossfall & Super elevation

5.5.1 Cross Section

There are no changes proposed to the cross section on the N62 or the L-3248 approach to the junction with the N62.

5.5.2 Crossfall

There are no changes proposed to the crossfall on the N62 or the L-3248 approach to the junction with the N62.

5.5.3 Super elevation

There are no changes proposed to the superelevation on the N62 or the L-3248 approach to the junction with the N62.

5.6 Facilities for Vulnerable Road Users

There are no changes proposed for conditions for vulnerable road users on the N62 or the L-3248 approach to the junction with the N62.

5.7 Junctions & Accesses

There are no changes proposed to existing junctions and accesses on the N62 or the L-3248 approach to the junction with the N62.

5.8 Visibility and Sightlines

No changes are proposed relating to sightlines on the N62 or the L-3248 approach to the junction with the N62.

5.9 Drainage

No changes are proposed relating to drainage on the N62 or the L-3248 approach to the junction with the N62.

5.10 Pavement

No changes are proposed relating to pavement design on the N62 or the L-3248 approach to the junction with the N62.

5.11 Safety Barrier Risk Assessment and Provision

There are currently no safety barriers on the N62 in the proximity of the junction with the L-3248. No changes are proposed.

5.12 Traffic Signs and Road Markings

No changes are proposed relating to the existing traffic signs and markings at the N62 / L-3248 junction. Temporary road safety signage will be put in place while the temporary access is in use.

5.13 Accommodation Works

As set out previously, the accommodation works for this temporary access will be constructed internally from the Proposed Wind Farm site via the site access junction for standard HGVs, starting at the eastern end of the temporary access working west towards the connection into the

N62 / L-3248 junction. Using this method of construction there will be no impact on the N62 during the construction of the temporary access for the abnormally sized loads. There will be no accommodation works required at this location.

5.14 Lighting

There is currently no lighting at the N62 / L-3248. No changes are proposed.

5.15 Departures from Standard

As set out above, the proposed temporary access is for the purpose of the delivery of abnormally sized loads to the site and will only be opened up for the times of delivery of abnormally sized loads, when traffic management will be provided by An Garda Siochana. There are no other changes to the N62 / L3248 junction proposed.

6 ROAD SAFETY AUDIT

The situations that require a Road Safety Audit are set out in TII guidelines ***Road Safety Audit Guidelines (GE-STY-01024)*** and are set out in Section 2.1 of the document as follows;

2.1 Schemes to be audited

This Standard shall apply to all National Road Schemes. This includes work carried out under agreement with the Overseeing Organisation resulting from developments alongside or affecting the National Roads.

The Standard sets out two categories of scheme:

- **Road Scheme. A scheme results in new road construction or permanent change to the existing road or roadside layout.**
- **Development Scheme. A scheme which results in a change to the road or roadside layout that is initiated and/or executed for commercial or private development.**

A Road Safety Audit is required on any piece of road infrastructure which requires a design. No Audit is required on like-for-like repair or replacement of existing road infrastructure.

Appendix A provides a representative sample of types of Scheme and guidance on the requirement for Audit for each type of Scheme, and also on the relevant Audit Stages to be carried out if Audit is required.

As none of these conditions apply to the proposals for the existing N62 / L-3248 junction, a Road Safety Audit has not been undertaken to date for the proposed temporary access.

7 TOTAL SCHEME BUDGET

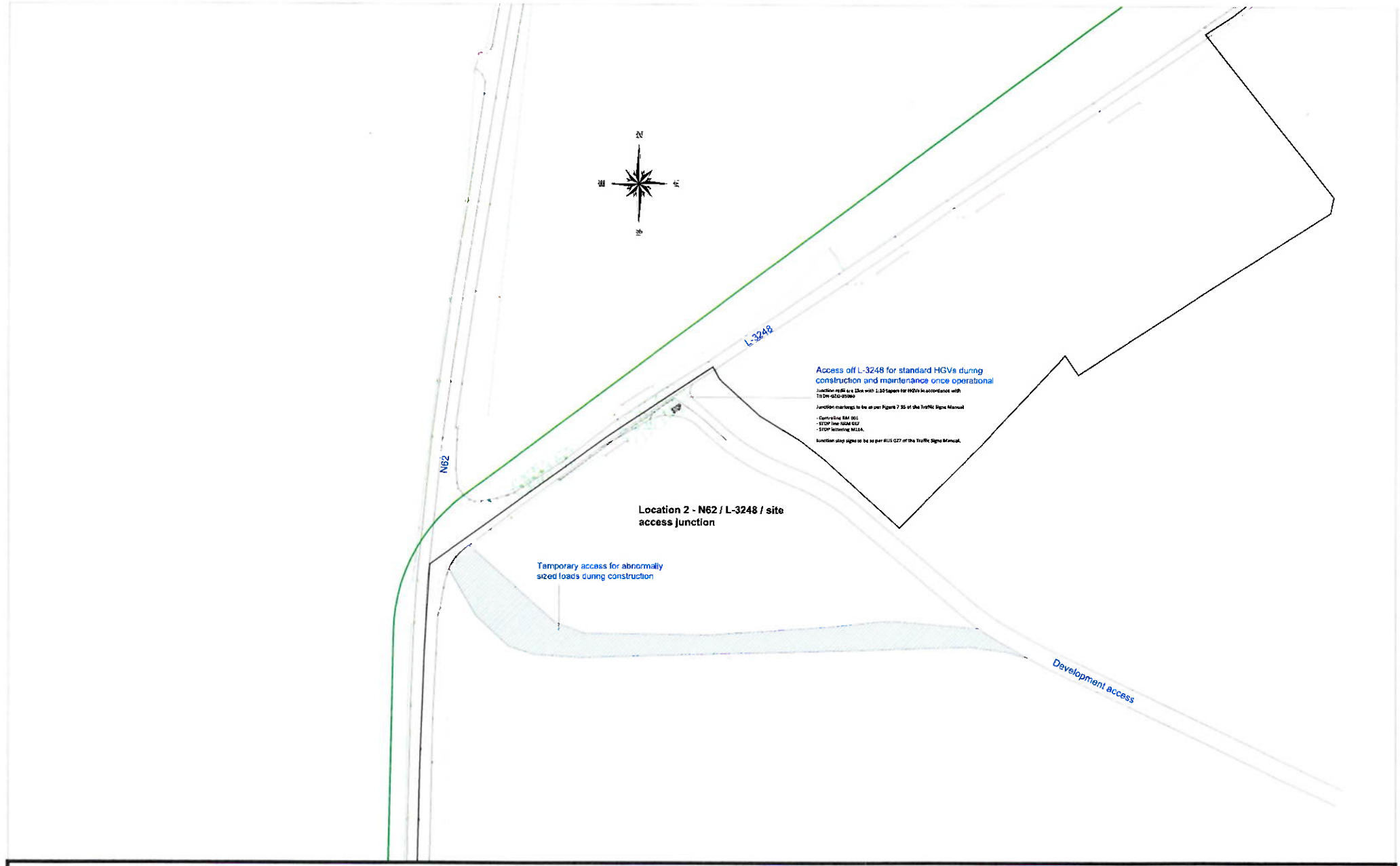
There are no cost estimates available at present.

8 PROPOSED NEXT STEPS

Subject to being granted planning permission the next steps will be to finalise construction drawings and compile construction tender package.

Appendix A - Figures referenced from EIAR prepared for proposed Borrisbeg Renewable Energy Development (ABP Case ref. PA92.318704)

Figure 15-8	Location 2 – N62 / L-3248 / Site access, junction layout
Figure 15-9	Location 2 – N62 / L-3248 / Site access, visibility splays



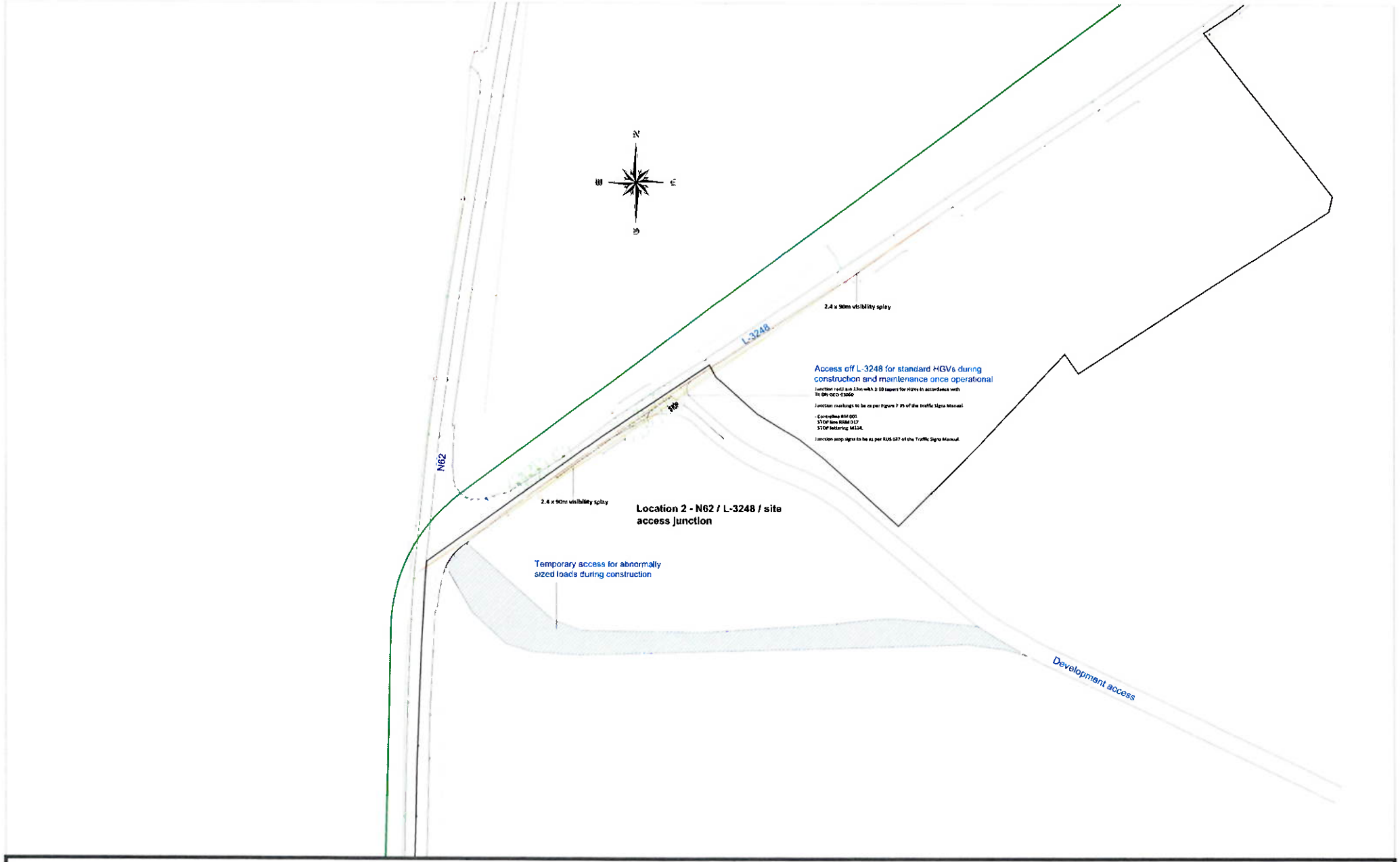
NOTES

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-8 Location 2 - N62 / L-3248 / site access, junction layout

PROJECT:	Bornsbeg Renewable Energy Development				
CLIENT:	Buinos Ltd			SCALE.	1:1000
PROJECT NO:	10380	DATE:	06.12.23	DRAWN BY	AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure 15-9 Location 2 - N62 / L-3248 / site access, visibility splays

PROJECT:	Bornsbeg Renewable Energy Development		
CLIENT:	Burnos Ltd	SCALE.	1:1000
PROJECT NO 10380	DATE: 06.12.23	DRAWN BY:	AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS