CONSTANT ENERGY LIMITED

TIRAWLEY WIND FARM,

CO. MAYO

SUBMISSIONS RESPONSE DOCUMENT

PLANNING APPLICATION CASE REFERENCE:

ACP-324258-26

August 2026

Jennings O'Donovan & Partners Limited,
Consulting Engineers,
Finisklin Business Park, Sligo.
Tel.: 071 9161416
Fax: 071 9161080
email: info@jodireland.com

JENNINGS O'DONOVAN & PARTNERS LIMITED

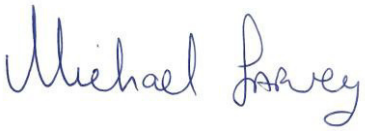
Project, Civil and Structural Consulting Engineers,
FINISKLIN BUSINESS PARK,
SLIGO,
IRELAND.

Telephone (071) 9161416
Fax (071) 9161080

Email info@jodireland.com
Web Site www.jodireland.com

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	Prepared by	**Reviewed/Approved by**
Document Rev 0	Name Ryan Mitchell & Darren Timlin	Name Michael Garvey
Date August 2026	Signatures 	Signature 

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TIRAWELY WIND FARM

RESPONSE TO SUBMISSIONS

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APPENDIX 1: LANDSCAPE AND VISUAL FIGURES

1 INTRODUCTION

Jennings O'Donovan & Partners Limited with support from Biosphere Environmental Services, John Cronin and Associates, Irwin Carr Ltd, Macroworks Ltd, Eire Ecology, John Whiteford Geo Services Ltd and Hydro Environmental Services, have been instructed by Constant Energy Limited (the Applicant), to prepare a response to the request issued by An Coimisiún Pleanála (the Commission) dated 24th July 2026. This document sets out the Applicants response to the submissions from the prescribed bodies, local authority and third parties to assist the Commission in their assessment of the planning application (the Application) together with these submissions.

The request was made in relation to the Strategic Infrastructure Development (SID) planning application before the Commission for consideration (ref: ACP-324258-26) in relation to the proposed Tirawley Wind Farm development and other associated works located in various townlands in County Mayo (https://tirawleywindfarm.com).

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

1.1 Submissions Summary

The Submissions submitted to the Commission have been grouped into three categories:

- Prescribed Bodies,
- Planning Authority
- Third-Party Observers.

A total of 231 submissions were made to the Commission and summarised as follows:

- Nine from Prescribed Bodies,
- One Local Planning Authority (Mayo County Council),
- and 221 Third Party Observers.

The list of Prescribed Bodies is set out hereunder:

- Department of Defence
- Department of Housing, Local Government and Heritage
- Failte Ireland
- Irish Aviation Authority
- National Environmental Health Service
- Office of Public Works

- The Heritage Council
- Transport Infrastructure Ireland
- Uisce Éireann

1.1.1 Prescribed Body Submission Summary

Table 1.1 Outlines the Prescribed Bodies submissions received by the Commission, along with the brief summary.

Table 1.1 Prescribed Body Submissions

No.	Prescribed Body	Summary
1	**Department of Defence**	Recommended Conditions for Safeguarding of military flight operations
2	**Department of Local Housing, Local Government and Heritage**	**Archaeology** Underestimation of archaeological impacts, unknown archaeology: Insufficient assessment, Proximity to monuments, Inadequate investigations.
3	**Failte Ireland**	**Landscape & Visual** Inadequate assessment of landscape and visual impacts, Over-reliance on one viewpoint and insufficient assessment of key heritage views, Long-term setting impacts not fully considered. **Tourism** Incomplete tourism assessment and underestimation of landscape/heritage value, Céide Fields insufficiently assessed despite its importance to visitors, Lackan Gazebo omitted despite its recognised viewing function. **Cultural Heritage** More comprehensive setting assessment than the tourism/visual assessments, Lackan Gazebo's designed views acknowledged, Significant long-term impacts on its landscape setting recognised.
4	**Irish Aviation Authority**	Recommended Conditions, Consultations and Engagement.
5	**HSE National Environmental Health Service**	Human health, opportunities for health gain, climate change, Sustainable Development Goals, Noise & Vibration, Peat Depths, Soils & Geology, Hydrology & Hydrogeology, Policy, Shadow Flicker, Food Safety and Environmental Compliance,

Table 1.1 Prescribed Body Submissions		
No.	**Prescribed Body**	**Summary**
		Construction Environmental Management Plan, Recommendations.
6	**Office of Public Works**	**Tourism & Landscape and Visual impact** Impact magnitude underestimated, Visitor experience compromised, Inappropriate viewpoint selection, Key viewpoints, greater turbine visibility, the EIAR understates effects on the setting, appreciation and interpretation of the Céide Fields.
7	**The Heritage Council**	**Ecology** Ecological connectivity concerns with pNHA sites, Seabird and raptor impacts, Survey adequacy questioned, Policy compliance, sensitive peatland impacts, Protected species/habitat risk, **Cultural heritage** highlighted the concentration of cultural heritage assets not suitable for wind development.
8	**Transport Infrastructure Ireland**	Recommended Conditions regarding abnormal loads.
9	**Uisce Éireann**	Recommended Conditions regarding not impacting public drinking and compliance with the CEMP outlined in the EIAR.

1.1.2 Local Authority Submissions

Table 1.2 Local Authorities (Mayo) submissions received by the Commission, along with the summary.

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**

1	**Ecology**	**Appropriate Assessment (AA) & European Sites**
		• **Screened-In Sites (AA Required):** Potential significant effects in the absence of mitigation could not be ruled out for **three European sites**:
		  ○ *Lackan Saltmarsh and Kilcummin Head SAC* (Site Code: 000516)
		  ○ *Killala Bay/Moy Estuary SAC* (Site Code: 000364)
		  ○ *Killala Bay/Moy Estuary SPA* (Site Code: 002041)
		  ○ *Status:* A Natura Impact Statement (NIS) has been submitted (Volume V, Section 3 of EAIR) to support the Stage 2 AA across construction, operational, and decommissioning phases.
		• **Screened-Out Sites:** Four European sites (*River Moy SAC*, *Bellacorick Bog Complex SAC*, *Glenamoy Bog Complex SAC*, and *Lough Conn and Lough Cullin SPA*) were formally screened out due to an absence of source-pathway-receptor linkages.
		
		Cumulative Impacts & Landscape Sensitivity
		• **Local Authority Concern:** Concern was raised regarding cumulative and "in-combination" pressures from existing, permitted, and pending wind energy projects within this visually sensitive coastal location.
		• **Key Directive for Response:** An Coimisiún must be satisfied that the submitted NIS and its mitigation measures fully address all standalone and in-combination impacts on Natura 2000 sites to ensure no adverse effects on site integrity.
		
		Ornithology & Cumulative Impacts
		• **Cumulative Impact Concern:** The Environment Section highlighted potential cumulative ("in-combination") risks to SPA-designated bird species linked to *Killala Bay/Moy Estuary*

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		SPA, noting **17 wind farm developments** at various planning stages within a 20 km radius. • **Collision Mitigation Measures:** Request to evaluate black-painted turbine blades (to increase visual contrast for avian species) and additional deterrent mechanisms (e.g., predator acoustic calls or night-time wildlife alerts) to minimize collision risks. **Governance & Oversight** • **Environmental Management Committee:** Recommendation to establish an Environmental Management Committee involving relevant statutory bodies to oversee, monitor, and enforce compliance with all mitigation commitments and planning conditions outlined in the EIAR.
2	**Archaeology**	**Methodological Inaccuracies & Uncited Research** • **Mapping Discrepancies:** Inaccuracies were flagged between the printed 1996 Recorded Monuments and Places (RMP) map for Co. Mayo and the digital Historic Environment Viewer (HEV) used in the EIAR chapter. • **Omission of Key Archaeological Works:** The assessment failed to reference significant surveying and mapping of nearby pre-bog field systems conducted by Prof. Graeme Warren (UCD) and Ms. Gretta Byrne (Céide Fields Visitor Centre). **Direct & Indirect Site Risks** • **On-Site Spatial Overlaps:** Potential overlaps were identified where recorded monuments and pre-bog wall systems may extend directly into the Proposed Development footprint. • **Grid Connection & Haulage Impacts: 6 Recorded Monuments** were identified along the proposed grid connection and haul route that could be adversely impacted during construction/transport. **Authority Recommendation** • **Planning Conditions:** The report recommends attaching **nine specific archaeological conditions** (detailed in their report's

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		Appendix) should An Coimisiún Pleanála grant planning permission.
3	**Environment**	• **Firewater Management:** Recommendation to include a dedicated fire water retention pond for the battery storage facility alongside a Firewater Management Plan (as part of the Emergency Response Plan) to protect surface and groundwater. • **Habitat Creation:** Recommendation to install artificial wildlife/aquatic ponds to support amphibians (frogs and newts) and local species displaced by development.
4	**Tourism**	• **Wild Atlantic Way & Céide Coastal Trail:** Concerns regarding potential negative visual and experiential impacts on the Wild Atlantic Way and specifically the **15km Céide Coastal Trail** (which received planning approval in 2025). • **Threat to Strategic Investment:** The area is targeted for up to **€10 million in upcoming investment** under Fáilte Ireland's Draft Destination & Experience Development Plan (DEDP) for North Mayo and Mayo County Council's Draft Tourism Strategy; the authority feels industrial-scale infrastructure compromises these long-term tourism objectives. **Landscape & Landmark Sensitivity** • **Céide Fields:** Risks to the visual and landscape integrity of the internationally recognised Céide Fields, one of Europe's most significant Neolithic archaeological landscapes. • **Downpatrick Head:** Concern that the development threatens the visual integrity of Downpatrick Head (including its iconic sea stack and coastal cliff views), a major draw for domestic and international visitors. **Authority Recommendation** • **Adverse Impact Assessment:** An Coimisiún Pleanála (ACP) is requested to give full consideration to potential long-term

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		adverse impacts on tourism value, visitor experience, and heritage before reaching a decision.
5	**Roads**	**Grid Connection Route & Infrastructure Impacts** • **Local Infrastructure Risks:** Concerns regarding the potential impact of the **20 km grid connection route** on local roads, bridges, public utilities, and local farming/commercial operations. • **Terrain Challenges:** The rugged topography and difficult geology along the route increase the risk of widespread road infrastructure damage, which could lead to significant transportation and utility service disruptions. **Abnormal Loads & Protected Structures** • **Bridge Strengthening:** Exceptionally abnormal loads associated with the proposed Battery Energy Storage System (BESS) are likely to necessitate bridge strengthening works. • **Heritage Constraints:** Specific concerns are noted as several affected bridges along the proposed route are listed on the **Record of Protected Structures (RPS)**. **Authority Recommendation** • **Planning Conditions:** The Roads Section has detailed a set of specific conditions to be attached in the event planning permission is granted (listed in the appendix of their report).
6	**Community Engagement & Benefit Fund**	**Mayo County Development Plan (2022–2028) Policy REP4** • **Policy Requirement:** Mayo County Council highlights Policy **REP4**, which mandates that developers of proposed large-scale renewable energy projects execute community consultation in line with best practice.
7	**Local Authority Planning Assessment Observations**	**Application Mapping Discrepancy** • **Figure 4.4 Conflict:** The Planning Authority noted a graphical discrepancy in Figure 4.4 of the Planning Statement (overlaying Map 8 of the Mayo RES 2011), which showed the site location further west of Ballycastle / Ballycastle Beach compared to the

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**

		rest of the submitted plans. The Planning Authority has classified it as a mapping/drawing error within the application.
		
		Mayo RES 2011 Compliance (16 Turbines)
		• **Zoning Breakdown:**
		  ○ **Tier 1 (Preferred Large Wind Farms):** Only **3 turbines** (AT02, AT03, AT04) sit within preferred lands and are considered acceptable in principle.
		  ○ **Tier 2 (Open for Consideration): 8 turbines** (AT06, AT11–AT13, AT15–AT18) fall within Tier 2 lands, where visual impact on vulnerable landscapes and scenic routes is the primary consideration.
		  ○ **Unclassified (Open Countryside): 5 turbines** (AT01, AT05, AT09, AT10, AT14) are located in unclassified lands outside designated wind zones.
		• **Pre-Planning Concerns & Justification Mandate:** Concerns were reiterated that MCC previously advised that development at this scenic coastal location would not be viewed favourably. An Coimisiún noted that a robust planning justification is required for any turbines sited outside designated wind energy areas.
		• **Draft RES 2026 Framework**
		• **Country Development plan:** Upon adoption, the Draft RES 2026 will replace the 2011 strategy within the Mayo County Development Plan 2022–2028, redirecting "Open for Consideration" areas to the east and south of the county, and designating northern/western clusters for "Repowering Potential."
		• **Site Classification:** Under this emerging Draft RES 2026 framework, the current application site is located within an area classified as **"Unsuitable"** for new wind farm development.

8	**Landscape and Visual**	**Landscape Sensitivity & Policy Designations** • **Policy Area Classifications:** The site spans **Policy Area 1** (*High Sensitivity*—where reducing impacts to an acceptable level is unlikely) and **Policy Area 4** (*Medium Sensitivity*—

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		requiring careful siting and design) under the Mayo Landscape Appraisal. • **Key Receptors at Risk:** High sensitivity noted across vulnerable coastal features including the North Mayo coastline, designated scenic routes, Céide Fields coastal landscape, Downpatrick Head, Lacken Strand, Rathfran Priory, Killala, and Moyne Friary. **Scenic Routes & Protected Views (Policies 3.6(b) & 3.7(b))** • **Strict Coastal Criteria:** Any development sited between a public road and the seashore is subject to strict visual standards. • **Applicant Onus:** The burden of proof rests on the applicant to demonstrate that the proposal will not obstruct, alter, or degrade designated scenic vistas, protected views, or landscape character along routes where visitors concentrate. **Wild Atlantic Way & Tourism Economy** • **High Visibility from Discovery Points:** The development is prominently visible from several official Discovery Points along the Wild Atlantic Way. • **Temporal Policy Gap:** Because the 2011 RES predated the Wild Atlantic Way, planning evaluation must place stronger emphasis on protecting natural coastal assets against large-scale renewable infrastructure, balancing energy goals against Mayo's tourism-driven economy **Recommendation 1: Extended Visual & Regional Impact Assessment** • **Night-Time Visual Analysis:** Request for a comprehensive night-time visual impact assessment to evaluate aviation/obstacle lighting and visual intrusion during non-daylight hours. • **Broadened Regional Scope:** Requirement to evaluate tourism and recreation impacts within a broader county-wide

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		and regional context, rather than limiting assessment to the immediate local vicinity. **Recommendation 2: Comprehensive Economic Impact Assessment** • **Economic Assessment Mandate:** Recommendation to perform a formal Economic Impact Assessment as part of the EIAR to examine standalone and cumulative ("in-combination") effects with existing, permitted, and pending North Mayo wind projects. • **Tourism & Landscape Loss Evaluation:** The economic study must assess: o Direct implications for the **Wild Atlantic Way** across both construction and operational phases at local, regional, and national levels. o The potential loss of landscape character and its resulting impact on Mayo's cultural and amenity tourism potential.
9	**Renewable Energy Strategy for County Mayo**	**Site Unsuitability & Technological Scale** • **Location Inappropriate:** While Mayo County Council broadly supports renewable energy, it considers the proposed location **inappropriate** under the Mayo Renewable Energy Strategy (RES) 2011 because the local landscape cannot accommodate a wind development of this scale. • **Scale Disconnect:** The 2011 RES was created for older, smaller wind turbine technologies; the vastly increased height and scale of modern Strategic Infrastructure Development (SID) turbines exacerbate visual and landscape impacts beyond what legacy zoning anticipated. • **Regional Saturation:** Northwest Mayo has become heavily concentrated with existing and proposed wind projects, heightening cumulative concerns. **Draft RES 2026 Strategy & Material Contravention Risk** • **Strategic Realignment:** The emerging Draft RES consolidates existing northern and western wind clusters strictly under

Table 1.2 Local Authority (Mayo County Council) Submissions		
No.	**Discipline**	**Submission Summary**
		"Repowering Potential," redirects new wind development ("Open for Consideration") to the south and east where environmental and tourism constraints are lower, and classifies all other areas—including this site—as **"Unsuitable."** • **Material Contravention Warning:** Upon adoption, the Draft RES will form part of the Mayo County Development Plan 2022–2028. Mayo County Council explicitly contends that granting planning permission for a site designated as "Unsuitable" would constitute a **Material Contravention** of the County Development Plan (referencing the *Coolglass Judgment*).

1.1.3 Third Party Submissions

Section 4 of this document responds to the observations raised in 221 third-party observers' submissions. The points set out in **Section 4** consolidate the consistent themes of 221 submissions and their observations to align with the applications corresponding EIAR chapters using representative excerpts. Together, these compiled observations and the Applicants responses cover recurring themes raised across the third parties' submissions.

1.2 Defined Terms

For consistency the same defined terms as used in the Application **Refer to Section 1.2 of Chapter 1: Introduction of the EIAR** is used within this response.

2 RESPONSE TO PRESCRIBED BODIES OBSERVATIONS

There was nine no. submission received in response to the Application from Prescribed Bodies, as noted in **Section 1.1** above. Their submissions were broken into the number of subheadings refer to **2.1** to **2.9** below, each section contains the submissions key points referred to hereafter as the **Statement**, to which the Applicant notes a response, referred hereafter as the **Response**.

2.1 Department of Defence

Statement: An observation was made by Department of Defence regarding Safeguarding of military flight operations and installations is intended to protect both current and future aircraft operations and also to take account of the security requirements associated with some of those operations.

The proposed conditions by Department of Defence are as follows:

- *All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. Obstacle lighting may be incandescent. If LED or other lighting types are used, should be a type visible to Night Vision equipment. Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light*
- *In the event of negative impacts on future military radar systems, the owner will engage with the Department of Defence and will provide suitable mitigations as soon as practical*

Response: The Applicant is committed to adhering to the Department of Defence conditions, should the application receive a grant of permission.

2.2 Department of Housing, Local Government & Heritage

Department of Housing, Local Government & Heritage (DoHLGH) outlined some requirements if the wind farm is granted permission, these are concerning Archaeology.

Statement:

"The proposed new access road running south from turbines AT7 to AT10 towards turbines AT5-6 appears to extend through a section of greenfield lands that incorporate the easternmost extent of the Barnhill field system (MA014-011001-). This potential direct impact has not been identified or assessed in the EIAR."

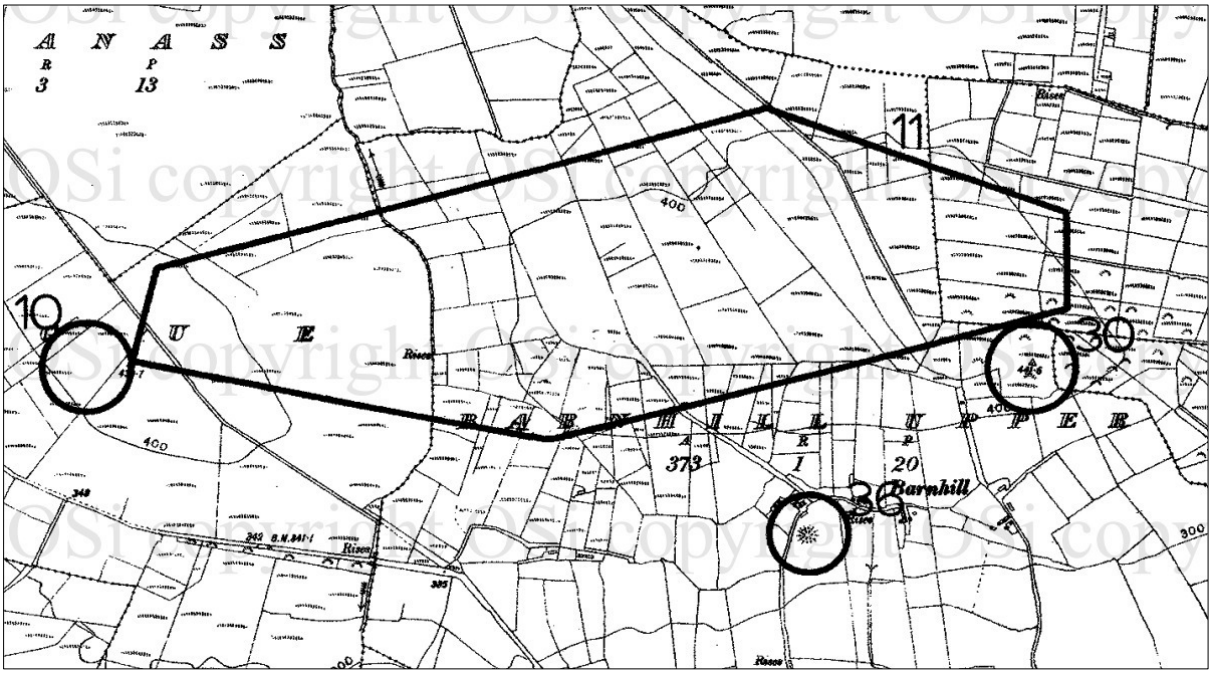
Response:

The recorded archaeological site MA014-011001- is categorised as a 'field wall' on the Record of Monuments and Places (RMP) for Co Mayo and 'field boundary' on the Historic Environment Viewer (HEV). It has not been recorded as a 'field system' and accordingly, the associated Zone of Notification has been mapped on the HEV as a discreet area surrounding the site centre-point only.



Extract from HEV online map viewer (accessed 19.08.2026)

The RMP mapping does not indicate MA014-011001- but rather, only maps a polygon Zone of Notification associated with MA014-011- 'archaeological complex'.



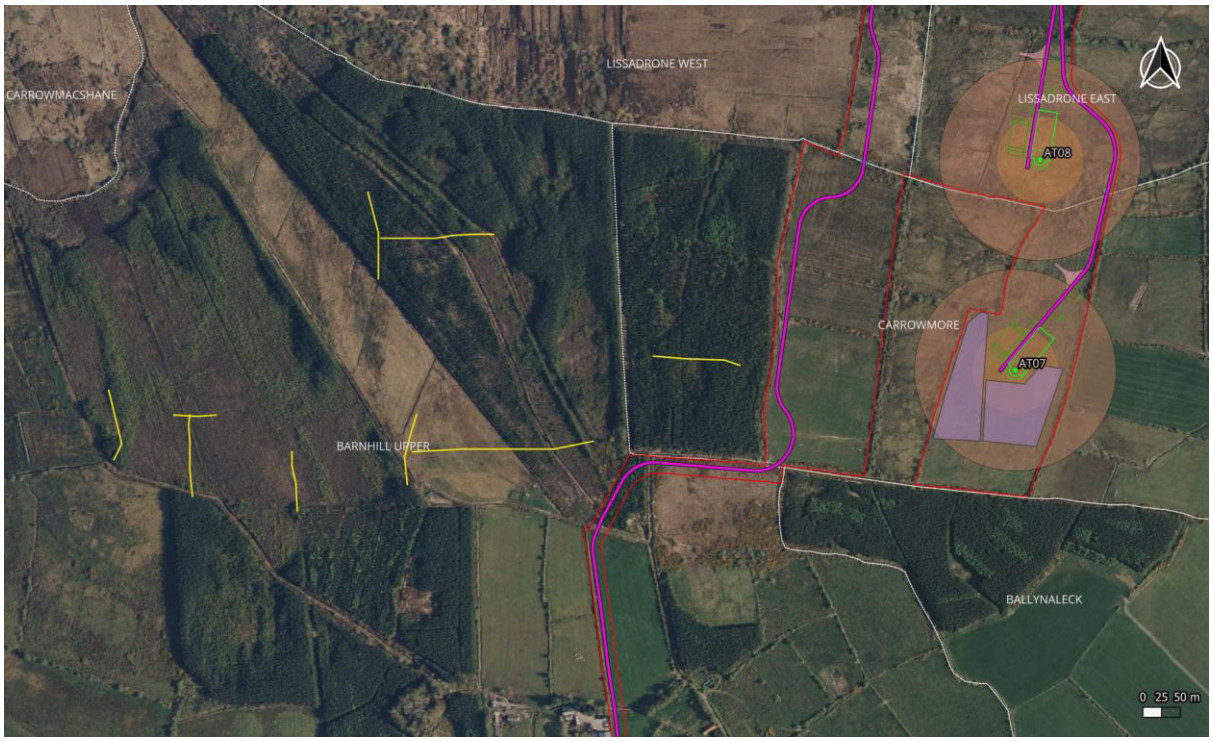
Extract from RMP mapping, Sheet 14, Co. Mayo (1996)

There are large discrepancies in the available online (HEV) and published (1996) Archaeological Survey of Ireland records, concerning the associated Zone of Notification applicable to MA014-011001- which, although it is acknowledged does not infer a precise site extent in and of itself, it does act as a guide to determining potential impact for development-led design footprint.

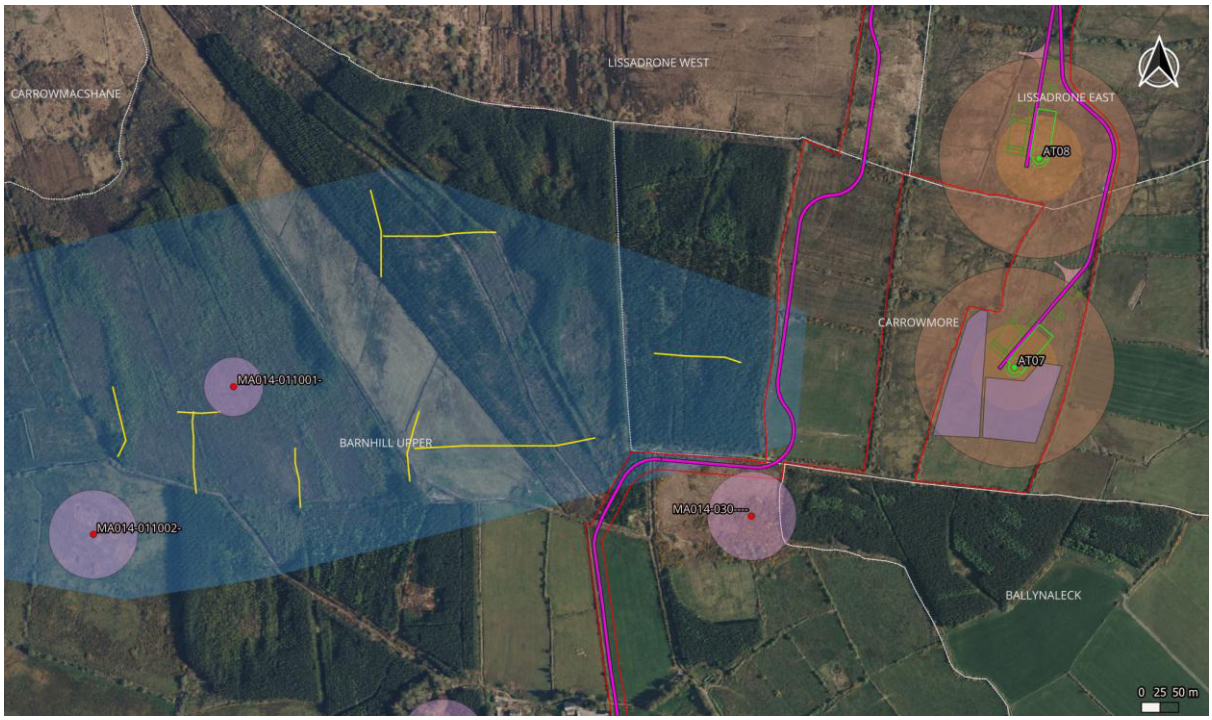
The associated description records for MA014-011001- are not currently available on HEV. The associated SMR file as held by the Archive Unit of the National Monuments Service has been consulted and does not hold any description notes for the site. The location point of MA014-011001- is currently within planted forestry and is inaccessible for survey purposes. Mapping of pre-bog field walls in the area undertaken by archaeologist Gretta Byrne indicates that the PDS is outside the extent of same.



Extract of mapped pre-bog field walls at area of MA014-011001- prepared by Gretta Byrne (Céide Visitor Centre). Relevant section of PDS Access Road marked in purple.



Transfer (as accurate as is feasible in the absence of available GIS data) of G. Byrne's mapped field systems (yellow) and PDS layout including access road (purple) to east of same.



Mapped field walls G. Byrne survey (yellow); RMP ZoN (blue wash); HEV ZoN (pink wash) relative to proposed access road and PDS (purple). There are no known field boundaries per G Byrne survey within the PDS.

Given:

1. the recorded dataset limitations and discrepancies, and
2. the fact that the PDS access road footprint corresponds with an existing field boundary along the forest edge, that is outside a delineated field boundary area mapped by archaeologist Gretta Byrne,
3. this is not considered a direct impact on the archaeological receptor MA014-011001-.

Statement:

The Department notes that while these pre-bog systems have been identified as vulnerable sites within the EIAR, their proximity to the Proposed Development has been inappropriately assessed. The separation distances stated in Chapter 14 of the EIAR reflect distance from the centre-point of these monuments not the nearest extent. While this may be an acceptable methodology for relatively compact archaeological sites, for archaeological sites of this type that extent over multiple hectares, proximity must always be assessed from the outermost known extent of the site. The consequences of this are best demonstrated by the failure to identify and assess the potential direct impact to the Barnhill field system (MA014-011001-), as noted above.

Response: See above response item Ch14-01.

There are large discrepancies on the available mapped datasets available for archaeological receptor MA014-011001-. As such, an indicative centre-point, per that supplied by the HEV has been utilised to best assess proximity to what has been categorized as a 'field boundary' (per HEV) or 'field wall' (per RMP) (i.e. not 'field system'), which is entirely sited within established forestry and will not be directly impacted.

Statement: "*While noting that part of the PDS is currently under forestry (which has restricted access even for walkover survey), no prospection measures (e.g. whether non-intrusive or intrusive as possible or appropriate in the circumstances, including by reference to protection of habitats) were carried out…in accessible areas…In the event that permission is granted, the Department strongly advises that advance archaeological test excavation should be carried out in advance of any development works."*

Response: See proposed mitigation measures in **Chapter 14, Section 14.5.1, paragraphs 2-5** which fully align with the recommendation of an archaeological test-trenching programme, in advance of development works, together with appropriate mitigation measures thereafter, to be agreed with National Monuments Service/National Museum of Ireland to respond to any archaeological finds or features that may be encountered.

Statement: Archaeological Requirements:

1. *All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 14 of the EIAFR (John Cronin and Associates; date April 2026) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order.*
2. *The developer shall engage a suitably qualified archaeologist (licensed under the National Monuments Acts) to carry out pre-development archaeological testing in areas of proposed ground disturbance and to submit an archaeological impact assessment report for the written agreement of the planning authority, following consultation with the Department of Housing, Local Government and Heritage, in advance of any site preparation works or groundworks, including site investigation works/topsoil stripping/site clearance and/or construction works*
   a. *The report shall include an archaeological impact statement and mitigation strategy. Where archaeological material is shown to be present, avoidance, preservation in-situ, preservation by record (archaeological excavation) and/or monitoring may be required*
   b. *Any further archaeological mitigation requirements specified by the planning authority, following consultation with the Department of Housing, Local Government and Heritage, shall be complied with by the developer.*

c. *No site preparation and/or construction works shall be carried out on site until the archaeologists report has been submitted to and approval to proceed is agreed in writing with the planning authority*

3. *The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the Proposed Development as set out in Chapter 14 of the EIAR and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity.*
4. *The planning authority and the Department of Housing, Local Government and Heritage shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.*

Response: The Applicant is committed to adhering to the recommended 4 no. conditions listed by the DoHLGH, should the Application receive a grant of permission.

2.3 Failte Ireland

Failte Ireland made multiple points raising significant concerns that the proposed 16-turbine wind farm would adversely affect tourism in North Mayo, principally because of the site's relationship with the Wild Atlantic Way, Downpatrick Head, the Céide Fields, Lacken Strand, the Western Way, the Céide Coast Path and a range of other recreational, cultural and heritage attractions.

Statement: *"Failte Ireland would have significant concerns in relation to the potential impact of the Proposed Tirawley wind farm development on the local and wider tourism resource – a resource acknowledged significant.*

We believe that the site is not suitable for wind farm development. This is highlighted in the number of landscape sensitives identified in the Landscape Appraisal for County Mayo and general unsuitability of the land for wind farms as identified in the Renewable Energy Strategy for County Mayo. "

"Therefore we would ask that An Coimisiun Pleanala in their assessment gives full and adequate consideration to the likely significant impacts that Tirawley Wind Farm would have on the high quality cultural, natural and landscape environment, which is critical to the tourism resources

underpinning the value and quality of the Wild Atlantic Way and Down Partick Head – a Signature Discovery Point, the Céide Fields, The Western Way and local tourism initiatives and the north Mayo coast."

Response: Failte Ireland's stated concerns on the importance of these assets to Mayo's tourism economy is fully acknowledged. However, the presence of important tourism resources within the wider study area does not, in itself, demonstrate that the Proposed Development would result in an adverse impact on tourism activity, visitor numbers, tourism expenditure or tourism employment.

A distinction must be made between:

- the visual and landscape effects of a development;
- the perception of individual visitors at particular locations; and
- an actual adverse effect on the tourism economy.

The latter requires evidence. The Proposed Development assessment does not establish such a causal relationship. The available empirical evidence from wind-farm locations is, in fact, contrary to the proposition that wind-energy development necessarily results in a decline in tourism.

Tourism Impact Assessment Evidence

Following on from the above point, it is worth noting two significant Tourism Impact Assessment Surveys that focused on the impact such a Proposed Developments effect on tourism.

- BiGGAR Economics Study 2021
- Fáilte Ireland - Visitor Attitudes on the Environment 2012
- IWEA Public Attitudes Monitor 2018

The above-mentioned studies provide evidence and demonstrate that wind farms do not negatively impact tourism, showing no link between turbines and reduced tourism employment. These findings, which include local employment data and tourist attitude surveys, indicate that wind energy developments are compatible with the tourism sector.

The BiGGAR Economics Study

As outlined in **Chapter 5 Human Health and Population Section 5.3.5.3** the most relevant evidence is the 2021 research undertaken by BiGGAR Economics, Wind Farms & Tourism Trends in Scotland: Evidence from 44 Wind Farms (https://biggareconomics.co.uk/onshore-wind-and-tourism-in-scotland). The study examined tourism-employment trends in the localities

surrounding 44 onshore wind-farm developments and compared their performance with the wider local-authority areas in which they were located. The study concluded that there was: "no evidence of a link between wind farm development and trends in tourism employment." This conclusion was reached at three different geographical levels: the Scottish economy as a whole, individual local-authority areas and the localities immediately surrounding the wind-farm developments.

This is significant because the analysis did not simply consider tourism at a national level. It specifically examined the areas immediately surrounding individual wind farms, which is the scale at which an adverse local tourism effect would be expected to become apparent if the presence of wind turbines systematically deterred visitors.

The findings were particularly notable in that, the majority of cases, tourism-related employment in the locality surrounding a wind farm performed better than tourism employment in the wider local-authority area. BiGGAR gives, for example, the Stronelairg locality, where tourism-related employment increased by 43% between 2015 and 2019 compared with 21% in the wider Highland local-authority area. Accordingly, the proposition that the presence of wind turbines necessarily damages the tourism economy is not supported by this substantial body of empirical evidence.

Wind Farm Economic Contribution

BiGGAR Economics has separately examined the economic contribution of wind energy in the Atlantic region of Ireland. It estimated that the onshore wind sector supported approximately 840 jobs in the Atlantic Region and generated approximately €110 million of expenditure in the region in 2022, supporting approximately 750 jobs.

Fáilte Ireland - Visitor Attitudes on the Environment 2012

Fáilte Ireland published a study on 'Visitor Attitudes on the Environment' in 2012 to assess the perceived impacts of wind farms on potential future visits to an area. The study found that 12% of those surveyed, responded that wind farms would have "a strong positive impact" on their decision to visit Ireland, with 27% responding it would have a "slight positive impact", whilst 38% said it would have "no impact". 7% of respondents stated it would have a "strong negative impact" and 15% stated it would have a "slight negative impact". The survey also found that wind farms were noted as more favourable than other forms of development such as housing, mobile phone masts or electricity pylons.

IWEA Public Attitudes Monitor 2018

Additionally, attitudes to wind power were found to be 54% strongly in favour in November 2018. While favourability towards wind continued to consolidate (compared to 47% in October 2017), the total number in favour remained steady at just over 4 in 5, there was a 7% shift in Irish adults from "tending to favour" wind power into being "strongly in favour".

The above-mentioned studies are outlined in detail in **EIAR Chapter 5 Human Health and Population** in **Section 5.3.5.3 Tourist Attitudes to Windfarms**. The evidence presented here and in other relevant chapters in the EIAR are particularly relevant because it concerns tourists experiencing the Irish landscape as well as the Scottish tourism study. These studies therefore do not support the proposition that tourists generally regard wind turbines as incompatible with the Irish tourism product.

Existing Tourism and Economic Effects

Failte Irelands submission identifies a considerable number of tourism and recreational assets within approximately 10 km of the Proposed Development, noting the possibility of the Proposed Development having a negative impact on the local economy and tourism i.e. Population and Human Health. The Applicant agrees these assets are important and should be protected and for that reason have been appropriately assessed in the EIAR.

Regarding potential effects on Population and Human Health, the Proposed Development has been assessed as having a slight positive, long-term effect overall, driven by job creation and the establishment of a dedicated community benefit fund (**EIAR Chapter 5 - Population & Human Health, Section 5.4.4**). Potential related to local amenities and tourism have been mitigated through iterative design and established setbacks, resulting in not significant or imperceptible residual effects on the local population (**EIAR Chapter 5 - Population & Human Health, Section 5.4.6**).

Regarding the protection of specific local tourism landmarks and heritage sites, the EIAR provides comprehensive assessments demonstrating that the integrity and amenity value of these assets will be preserved:

- **The Western Way:** A localised section of the trail intersects the Wind Farm Site, and during the construction and decommissioning phases, hiker safety and amenity will be strictly protected via temporary diversions and advance warning signage (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6**). During the operational phase, the trail will remain fully accessible, with safe turbine setbacks implemented to preserve its functional

and scenic value as part of the emerging 'Céide Coast' experience (**EIAR Chapter 5 - Population & Human Health, Section 5.4.5**).

- **Downpatrick Head:** Located approximately 6 km north of the Wind Farm Site, this Signature Discovery Point will experience only a minimal visual presence from the Proposed Development. Turbines will be viewed at a modest scale along a distant inland ridge, well offset from the susceptible coastal panorama and the Dún Briste sea stack, resulting in a Slight significance of visual effect (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.7**).
- **The Céide Fields:** The Céide Fields, described as the most extensive Neolithic site in Ireland, is an archaeological prehistoric field system complex and visitor centre situated approximately 9.5 km northwest of the Proposed Development (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6; EIAR Chapter 5 - Population & Human Health, Section 5.3.5.1**). Recognised as a high-value cultural heritage and tourism receptor predicting 38,000 annual visitors by 2026, its primary visual amenity from the visitor centre and viewing platform is directed over the Atlantic Ocean and along the coastline to the east (**EIAR Chapter 5 - Population & Human Health, Section 5.3.5.1; EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6).** Views towards the southeast, in the general direction of the Wind Farm Site, are heavily restricted by the local rising natural topography (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6**). Furthermore, the prehistoric agrarian complex does not possess inherent visual astronomical, or landscape alignments directed toward the Proposed Development (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6**). Where the Proposed Development is visible in the distance, a maximum of two turbine nacelles and partial blade sets of up to four additional turbines will be perceptible rotating along the skyline ridge (**EIAR Chapter 14 - Cultural Heritage, Section 14.4.4**). Because these turbines will present as small-scale background features that are well offset from the more susceptible coastal context to the north, the magnitude of visual impact is classified as low-negligible (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.4; EIAR Chapter 14 - Cultural Heritage, Section 14.4.4**). By maintaining significant separation distances through embedded design features, the integrity of this core tourism hub and the regional tourism brand is preserved, resulting in a residual visual and indirect cultural heritage effect consistently assessed as Slight (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6; EIAR Chapter 14 - Cultural Heritage, Section 14.4.4**).

Céide Fields

Refer to **Section 3.2 Archaeology** and **Section 3.8 Landscape and Visuals of** this response document for a comprehensive response regarding heritage, landscape and visuals and the Céide Fields.

Conclusion: Inconclusion, simply demonstrating that a tourism asset is within a particular radius of a proposed wind farm does not establish that the asset will suffer an economic tourism impact. For such an argument to be persuasive, evidence would be required demonstrating, for example:

- a reduction in visitor numbers;
- reduced visitor expenditure;
- reduced length of stay;
- cancellation or relocation of tourism bookings;
- reduced tourism employment;
- closure or contraction of tourism businesses;

Overall, the embedded design features and mitigation measures ensure that the Proposed Development successfully coexists with the character of the region and actively supports strategic tourism initiatives through infrastructure upgrades. The overall residual effects on tourism are considered to be slight and negative across all phases, which does not constitute a significant adverse impact on the broader tourism resources of the Céide Coast or the Wild Atlantic Way.

2.4 Irish Aviation Authority

A submission was made by Irish Aviation Authority (IAA) regarding the consultation with AirNav Ireland and proposed conditions to protect aviation and navigation systems.

Statement:

"It is the observation of the Irish Aviation Authority that the applicant should be required to engage directly with the air navigation service provider AirNav Ireland to confirm that the Proposed Development and any associated cranes will not impact on en-route communications, navigation and surveillance equipment (CNS). Evidence of engagement and consultation with the above entities should be provided to the Local Authority by the applicant / developer.
In the event of planning consent being granted, the applicant should be conditioned to contacting the Irish Aviation Authority to;

1. *agree an aeronautical obstacle warning lighting scheme for the wind farm development,*
2. *provide as-constructed coordinates in WGS-84 format together with ground and blade tip height elevations at each wind turbine location and;*
3. *notify the Authority of the intention to commence crane operations with at least 30 days prior notification of their erection in accordance with S.I. 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft In Flight) Order."*

Response: The Applicant is committed to adhering to the IAA conditions, should the application receive a grant of permission.

2.5 Health Service Executive - National Environmental Health Service

A submission was made by Health Service Executive (HSE) National Environmental Health Service (NEHS) observations regarding proposed conditions to protect public and environmental health, regarding noise, water, soil stability, and shadow flicker. The HSE NEHS proposed a number of recommendations and conditions noted from No. 1 through to No. 12 of their submission correspondence, which are as follows:

Statement:

- *"A dedicated CLO should be appointed for this development to ensure that there is on-going consultation with the Public from design to planning to construction stages for the lifetime of the development and any complaints are investigated and responded to in a timely manner.*
- *The condition in the Draft (WEDG) 2019 Guidelines i.e. no shadow flicker, should be implemented if consent is given for the development.*
- *A noise curtailment strategy from CEMP should be made condition of the consent for all phases i.e. construction, operation, maintenance and decomissioning phases.*
- *The applicant should not operate outside these time limits unless absolutely necessary and with prior approval from the planning authority, in particular to prevent sleep disturbance.*
  - *Monday to Friday 07:00 – 19:00*
  - *Saturday 08:00 – 13:00*
  - *Sundays and Public Holidays - No noisy operations on site.*
- *In relation to rock breaking recommend to minimise noise-travel, such as the construction of berms/mounds, to absorb noise or deflect noise away from receptors.*
- *The mitigation measures described in section 8.5 of Chapter 8 on Soils and Geology and CEMP Plans 1, 4 and 5 should be adopted for all stages i.e. construction operation and decommission phases and be included as a condition of consent.*
- *The mitigation measures described in section 9.5 of Chapter 9 on Hydrology & Hydrogeology and CEMP Plan 3 should be adopted for all stages i.e. construction operation and decommission phases and be included as a condition of consent.*
- *CEMP mitigation and controls are implemented in full, and be included as a condition of consent, especially a pest/vector management control plan.*
- *Compliance with food safety legislation where applicable (Regulation (EC) No. 852/2004) and that early engagement with the appropriate registering authority be undertaken for any temporary smoking facilities on site to ensure compliance with food hygiene legislation.*

- *Compliance with tobacco legislation with Section 47 of the Public Health (Tobacco) Act 2004 where applicable for any temporary smoking facilities on site."*

Response: The Applicant is committed to adhering to the stated recommendations and conditions set out by the Health Service Executive National Environmental Health Service, should the application receive a grant of permission.

2.6 Office of Public Works

Statement: The Office of Public Works (OPW) raised a number of observations which can be grouped into the following:

The Céide Fields:

- Concerns about assessment and the environmental impact.
- A Lack of understanding of the uniquely preserved archaeological landscape.
- Locations for visual impact assessment for visitors to the Céide Fields Visitors Centre
- The Impact Assessment

LVIA Assessment of National Monument State Care

- LVIA visual impact assessment photomontage relating to Céide Fields Visitors Centre.

Statement: "*A lack of understanding of the uniquely preserved landscape:*

- *In **EIAR Figure 14.1**, only the individual structures of houses and tombs are shown and no indication of the integrated field systems is shown*
- *In **EIAR 14.3.2.1**, the significance of the integrated archaeological landscape is ignored with the only mention of the field boundaries being: "The investigations revealed a number of house structures, as well as enclosures and field boundaries, within its environs"*
    - ***EIAR 14.3.2.5** again reveals a lack of understanding of the significance of this pre-bog archaeology. In **EIAR 14.3.2.6** Céide Fields, it is stated, "This prehistoric archaeological complex (Céide Fields) is located c. 9.5 km from the northern portion of the Proposed Development." This is misleading in that it gives the impression the Céide Fields are merely the environs of the OPW Visitor Centre.*
    - *Further, it is stated: "The prehistoric agrarian complex does not in and of itself retain inherent attributes connected to landscape setting considerations in terms of visual astronomical and landscape alignments". Again, this displays a lack of understanding of the significance of the archaeological landscape. The fields and associated monuments in fact demonstrate how the Neolithic people approached their entire*

landscape and how they farmed and lived their lives in addition to their ritual constructions. The landscape is the monument."

Response: it is not accepted by the Applicant that there is a lack of understanding of the uniquely preserved landscape.

- **EIAR Figure 14.1** shows all publicly available open data GIS files (RMPs, SMRs and ZoNs), as published by the Archaeological Survey of Ireland and available on the Department of Housing, Local Government and Heritage sources hosted on the national data.gov.ie. platform. Any specific mapped pre-bog field systems have been undertaken by private research and is not publicly available for download.
- **Section 14.3.2.1** refers to the baseline environment and does not attempt to establish significance of the recorded datasets, including field walls. Statutory designations are acknowledged in this section however the significance of each identified receptor that is likely to be impacted by the Proposed Development is assigned in **Chapter 14, section 14.4**.
- **Section 14.3.2.5** deals only with monuments presenting inherent ritual alignments or deliberate topographical settings (i.e. megalithic tombs or structures). This assessment does not apply to field boundaries.
- **Section 14.3.2.6** refers to what is generally known as the Céide Fields, as described in OPW's submission (section 3.1 para 5) *'What is generally known as the 'Céide Fields' is a smaller area that includes Céide Hill where the OPW Visitor Centre is located and Sralagagh Hill to the east with the intervening Glenurla Valley'.*
- **Section 14.3.2.6** refers to the fact that the agrarian aspects (i.e. the field walls) of the Céide Fields do not have any astronomical or landscape alignments that contribute to landscape setting. Although field systems and monumental tombs with ritual purpose may have been placed side by side in a contemporary landscape, this does not infer that one was dependent on the other for inherent functionality, landscape setting or visibility.

Statement: "*Insufficient regard to the many recorded monuments and as yet unrecorded monuments:*

- *Although extensive field boundaries have been mapped, there are certainly many more walls that have not yet been mapped. Areas of bog on the maps that do not show red lines are not evidence of absence of walls but are simply areas that have not been surveyed. There is a very high probability that there are undiscovered archaeological remains within the boundaries of the proposed wind farm."*

Response: It is not accepted by the Applicant that there is insufficient regard to the many recorded and unrecorded monuments. **Chapter 14, Section 14.3.14.1** specifically cites the high volume of recorded sites and the high potential for the presence of unrecorded sites.

- All available and published cultural heritage statutory datasets have been consulted (see **Chapter 14, Section 14.2.4**) and presented in the baseline assessment (see **Chapter 14, Section 14.3**).
- Due cognisance of the potential for the presence of unrecorded archaeological features is repeated several times throughout the assessment (see **Chapter 14, Sections 14.2.3, - 14.2.5**, **14.3.6**, **14.3.11 - 14.3.14**, **14.4.1, 14.4.3, 14.5.1, 14.5.2, 14.7** and **14.8**).

Statement: "*Critique of the Impact Assessments*

- *The most significant view from the Céide Fields is the view of the entire sweep of prehistoric field systems under blanket bog that extend from Belderrig in the west to Lacken in the east. This is what consistently overawes visitors and it is the only way to appreciate the sheer scale of the archaeological landscape. These turbines will be visible on the horizon exactly over the eastern limit to the visible area of bog-covered prehistoric landscape.*
- *They [the turbines] will also detract from the appreciation of the subtle changes in the natural landscape from the complete blanket of peat to the west and south and the gradual decrease in coverage of peat towards the east. The fundamental story of Céide Fields is the prehistoric evolution of the blanket bog as a result of the continued interaction between the forces of nature and the impact of humans.*

Response: Impact assessment on setting of Céide Fields & Visitor Centre) per baseline assessment and review of photomontage VP4

- **Chapter 14, Section 14.3.2.6** (Baseline assessment) states: This prehistoric archaeological complex is located c. 9.5 km from the northern portion of the Proposed Development. The prehistoric agrarian complex does not in and of itself retain inherent attributes connected to landscape setting considerations in terms of visual astronomical and landscape alignments. From the entrance area to the visitor's centre, there are views along the coastline to the east but views towards the southeast and the general direction of the Proposed Development is generally restricted by the local rising natural topography.
- VP4 shows visibility of the very uppermost portions of shaft and blade for five turbines and a blade tip only of another turbine, all sited behind the existing rising topography as viewed from VP4.
- Wireframe VP1 shows an almost identical view of the same visibility as VP4 (uppermost portions of shaft and blade tips for five turbines and the blade tip only of another turbine),

all sited behind the existing rising topography as viewed from the northern portion of the boardwalk at the visitor's centre.

- **Chapter 14, Section 14.4.4** (Operational Phase – Indirect Effects) states: An assessment of visual effects on the Céide Fields presented in the Landscape and Visual Amenity assessment (see **Chapter 12** VP4) concluded that this will be Slight in significance. The review of new wireframe VP1 reaching the same, unchanged conclusion as that in the submitted EIAR. Given the large proximity distance (c. 10 km) and the natural rising ground of the existing topography, any glimpse views of the Proposed Development are low in magnitude on a very high value receptor resulting in a Slight indirect significance of effect.
- Having reviewed the additional visual representation of the Proposed Development via wireframe (VP1 position per OPW request) from the northern portion of the boardwalk at the operational stage impact is still considered of low magnitude on the very high value receptor with a resulting Slight indirect significance of effect.

Submission Item Ch14-07: *OPW is concerned about the visual impact on five National Monuments located immediately to the southeast of the proposed windfarm and two others within 8km of the windfarm.*

Response Item Ch14-07: The Applicant notes that it is not stated in the OPW submission which five monuments to the SE and two others within 8km of the windfarm are being referred to.

- **Chapter 14** assesses the baseline data, magnitude of impact and significance of effect on all six National Monuments in State Care within 10km of the Proposed Development (see **Chapter 14, section 14.3.4** and **14.3.14**). These include Killala round tower, Rathfran friary, the Rathfran complex, Breastagh ogham stone, Rathfranpark wedge tomb and a ringfort at Carbad More (**see Chapter 14, Table 14.6**).
- **Chapter 14, Section 14.4.2** and **Table 14.16** sets out a Not-Significant – Slight significance of effect determination during construction phase for those National Monuments that retain a heritage landscape setting that forms part of the character and integrity of the monument. These are the wedge tomb at Rathfranpark (NM 633), stone circle at Rathfran (NM 389) and Rathfran Abbey (NM 269).
- **Chapter 14, Section 14.4.4** and **Table 14.17** sets out the determined magnitude and significance of effect on relevant National Monuments. This includes the wedge tomb at Rathfran Park (NM 633), stone circle at Rathfran (NM 389), Rathfran Abbey (NM 104), Rosserk Abbey (NM 104) and Killala Round Tower (NM 105). These range from Slight-Moderate-Significant significance of effect. The magnitude of the indirect impacts have been determined via desk and field surveys; and a review of available relevant photomontage produced for Chapter 12 LVIA (VP25, VP30, VP32).

2.7 The National Heritage Council

An observation was made by National Heritage Council on a number of topics as noted in their correspondence to the Commission, the following is a direct quote:

Statement: *"The Heritage Council is increasingly aware of the number of schemes being submitted for wind and solar farms. Whilst this, in general terms, is welcome as part of our climate commitments, there is a growing concern that cumulatively there is greater potential for significant negative impacts on heritage features and sites, ranging from inherent landscape character, ecology and the setting of cultural heritage features.*

At its core is the need to ensure a plan led system, whereby the least environmentally sensitive sites are chosen for renewables. Key to this, is a thoroughly informed constraints analysis whereby landscape, cultural heritage and ecological assets are identified and avoided.

Local authorities through their development plans are seeking to do this. In a Mayo County context, the current Renewable Energy Strategy dates from May 2011. It is therefore timely, that the local authority has recently completed its consultation on the Proposed Draft Variation 2 of the County Development Plan 2022-2028 for an updated Renewable Energy Strategy."

Landscape

Statement: *"In summary we do not agree with the suggestion that the study area is a medium sensitivity landscape receptor. It should be segregated by the two landscape units and by association the two policy areas, as per the Landscape Appraisal cited under Policy NEO 27 of the adopted Mayo County Development Plan 2022-2028. Therefore, the premise of the conclusion is somewhat flawed. This conclusion suggests a High-medium / Medium magnitude impact on a medium sensitivity receptor, resulting in a Substantial-moderate / Negative / Long-term impact. (our emphasis). As noted, we do not believe that a single medium sensitivity should be the basis of this conclusion on the significance of effect. We recommend to the Commission that it segregate the study area as suggested here. It is likely that once this is done, the area within Policy Area 1 (Montane Coastal Zone) will encounter a more than substantial-moderate negative impact which would be significant in EIA terms. In this regard, the suitability of this northern section of the site needs to be questioned, as there is a concern regarding the consistency of the proposal with Policy NEO 27, and more generally Policy NEP 14, of the adopted Mayo County Development Plan 2022-2028."*

Response*:* Refer to **Section 3.8 Landscape and Visuals** of this response document for a comprehensive response regarding heritage, landscape and visuals and the Céide Fields.

Heritage:

Statement: *"The presence of a significant number of cultural heritage receptors including national monuments and many recorded monuments in Policy Area 1, further indicates again the unsuitability of wind farm development in this area. Whilst individually there are varying degrees of impact on each receptor, the quantity of receptors impacted is considerable, ranging from low to medium magnitude impact. In fact, it has been determined that two receptors will experience a significant negative indirect effect (**Table 14.17**), namely Castlelacken Folly (RPS 016) and Rathfran Friary (National Monument 269). By association, we question the compliance of the proposal with the abovementioned policies. Finally, we agree with the position in the EIAR that it is likely that sub-surface archaeological remains or features continue to survive with no visible surface trace in this area. It is therefore essential that the proposed archaeological mitigation be closely adhered to, and this needs to be agreed with the National Monument Service."*

Statement: Concern regarding indirect negative effects on the setting of several National Monuments, archaeological complexes as well as any effects on the setting of the internationally important Céide Fields complex.

- The presence of a significant number of cultural heritage receptors including national monuments and many recorded monuments in [Mayo County Development Plan 2022-2028] Policy Area 1, further indicates again the unsuitability of wind farm development in this area.
- The quantity of varying degrees of impact is considerable, including two significant indirect effects, and by association we question the compliance of the proposal with [BEP 1 and BEO 1] of Mayo County Development Plan.

Response: Indirect negative effects on the setting of cultural heritage receptors

- The volume of cultural heritage receptors within the Study Area is presented in the EIAR (see **Chapter 14, Section 14.3** Baseline environment) however none are directly located within the Proposed Development design footprint. This has been a result of rigorous design iteration accounting for all environmental and engineering constraints, and thereby successfully applying avoidance by design measures for the cultural heritage resource.
- The EIAR assessment of the cultural heritage resource has been undertaken in accordance with EPA best practice methodology measures. A range of indirect impacts of varying degrees of significance of effect on heritage landscape setting have been identified. There are no mitigation measures to ameliorate these indirect operational stage effects on setting, however it is noted that the duration of same is long-term and the effect is reversible by decommissioning.

Biodiversity:

Statement: *"We are satisfied that the relevant European sites have been identified. There is some concern however that the following proposed Natural Heritage Areas (pNHAs) have been considered as having no ecological connectivity:*

- *Downpatrick Head pNHA (site code: 00494)*
- *Creevagh Head pNHA (site code: 00482)*

Site synopses are available for these pNHAs[3]. In terms of Downpatrick Head pNHA, it is noted that the site is chiefly noted for its seabird colony, which has a documented history going back to the 1890s. Key species include Fulmar, Kittiwake, and Guillemot as well as some other species. Whilst the site is also known for its geological features, it is its ornithological significance that is of ecological value. No description of the pNHA is provided, and given the relative proximity to the development site, there is a need to rule out impacts on the pNHA. Similarly, Creevagh Head pNHA is noted has having nationally important populations of Kittiwakes, Fulmars, Guillemots, as well as a breeding territory for peregrine falcon, an Annex I listed bird species. Given the nearby European designated sites for ornithological interests i.e. Kilala Bay and Moy Estuary SPA, there may be dispersal/movement/and foraging between the pNHAs noted here and other sites, along the coastal areas in this part of Mayo.

The Ornithological Chapter submitted has noted however that no cliff breeding birds were observed during the vantage point surveys, therefore this may be satisfactory justification for not discussing these pNHAs further. We ask 'the Commission' to confirm this to ensure compliance with the following policies."

Response:

Paragraphs 1-4 of the submission are concerned with proposed Natural Heritage Areas (pNHAs).

The first, while NPWS has not identified Qualifying Interests for pNHAs, we can confirm that we are aware of the availability of site synopses for pNHAs on the NPWS website (it is noted that the site synopsis are useful descriptive accounts of the sites but do not identify specific Qualifying Interests). In Table 6.5 of EIAR, it is noted that breeding seabirds is the key interest for both Downpatrick Head pNHA and Creevagh Head pNHA. As stated by the Heritage Council, the main species are Fulmar, Kittiwake and Guillemot. We can confirm that none of these seabird species were recorded within the study area during any of the baseline surveys over a two year period. As these species are strictly marine seabirds, with no potential for inland feeding (unlike some gull species for instance), the occurrence within the study area would not be likely.

As Fulmar, Kittiwake and Guillemot would likely feed at times in the outer, marine component of Killala Bay, the flightlines from the breeding cliffs to the feeding areas would invariably be along the coastline and not overland. With approximate respective distances of 5 km and 3 km between the wind farm site and Downpatrick Head pNHA and Creevagh Head pNHA, and considering the points given above, it is considered that the assessment given in Table 6.5 "*There is no ecological or hydrological connectivity between the Proposed Development Site and the pNHA(s)", is* a fair reflection of the situation. Final two Paragraphs under Biodiversity are concerned with **locating Turbine AT13 within an area of blanket bog.**

Final two Paragraphs under Biodiversity are concerned with locating Turbine AT13 within an area of blanket bog.

Response: It is noted that Turbine AT13 is the only turbine of the 16 that is located on blanket bog. This area of blanket bog is described in **Section 6.3.3.4** of the **EIAR**, with the area shown in **Plates 6.7** and **6.8.** A conservation evaluation for the bog area is given in **Section 6.3.8**, as follows:
"While the blanket bog at the proposed location for wind turbine AT13 is considered active, i.e. dominated by peat-forming species, the area of bog is rated not more than Local Importance (higher value) as it is a relatively small area (7.65 ha) of shallow bog (maximum 1.1 m depth at turbine location), which shows signs of past disturbance, especially in the southwest (2 small former fields adjoining local road) and the northwest. To the north, there is conifer plantation and to the west wet grassland fields. A local playing field adjoins the bog to the south-east."

The effect of the loss of blanket bog is assessed in **Section 6.4.4.1** of **EIAR**, as follows:
*"The construction of wind turbine AT13 will result in the permanent loss of approximately 0.68 ha of blanket bog, the total plot having been rated as Local Importance (higher value). While this plot of bog, which has a total area of 7.65 ha, will also be fragmented by the turbine and associated Site Access Track, it is noted that the remaining area of bog between the turbine and the public road to the south had been used as two small fields in the past and is now a mix of blanket bog and wet heath on shallow bog. Due to the importance of any area of peatland habitat (as noted in Section 10.4.5 of the Mayo County Development Plan 2022-2028), the loss and disturbance of blanket bog at this location is rated as an Adverse Significant Effect of Permanent Duration at a Local level of importance. The loss of blanket bog will be offset through a Biodiversity Enhancement and Management Plan (BEMP) (see **Section 6.8** and **Appendix 6.4**)."*

In **Chapter 7** of the **EIAR**, the effect on birds by loss of the blanket bog is assessed in **Section 7.4.2.1**, as follows:

"The peatland habitat (mainly blanket bog) at the AT13 location provides habitat suitable for breeding meadow pipit (Red-listed) and skylark and provides foraging habitat for species such as kestrel and hen harrier. While any loss of bog habitat is of some significance for associated bird species, the significance by the loss of 0.68 ha of bog habitat at this location is rated as a Moderate Adverse Effect of Permanent duration. It is noted that the Biodiversity Enhancement and Management Plan (BEMP) will preserve and enhance an area of 3.94 ha of blanket bog at nearby Castlelackan Demesne for the lifetime of the Proposed Development."

While the Heritage Council correctly identifies the importance of blanket bog as a habitat, it is considered that in the context of the proposed project, a relatively small area of blanket bog will be lost and that this will be adequately offset by the preservation and management of a larger area of blanket bog as part of the BEMP.

2.8 Transport Infrastructure Ireland

An observation was made by Transport Infrastructure Ireland (TII) on careful management of construction traffic, strict control of temporary road access, robust handling of heavy loads, and major caution around underground grid connections affecting national roads, and proposed conditions to protect national road infrastructure and road safety.

Statement: The proposed conditions by TII are as follows:

"Prior to the first delivery of any abnormal or exceptional abnormal load associated with the development, the applicant shall submit to, and agree in writing, with the relevant Roads Authority(s) an Abnormal Load and Exceptional Abnormal Load Management Plan. The Plan shall confirm the final haul route, pre- and post-delivery condition surveys of the public road network (including bridges and culverts where required), any necessary accommodation works, traffic management measures, and confirmation of statutory abnormal load permits and Garda escort arrangements. Prior to the first delivery of any exceptional abnormal load, the permitting process required under Department of Transport Circular RW18 of 2024 ('Exceptional Abnormal Loads') shall be completed to the satisfaction of the planning authority. The delivery of abnormal or exceptional loads may take place outside standard construction working hours where required under the statutory abnormal load permitting process and as agreed with the relevant Roads Authority(s)."

Response: The Applicant is committed to adhering to the TII conditions, should the application receive a grant of permission.

2.9 Uisce Éireann

An observation was received from Uisce Éireann (UÉ), formerly Irish Water, regarding the proposed drinking water abstraction. Uisce Éireann's current policy is to maintain safe and secure drinking water supplies and to ensure that new developments do not result in any deterioration of water quality.

Uisce Éireann confirmed that there is no surface water abstractions located within the footprint of the proposed wind farm site or within a 2 km radius of its boundaries. In addition, no works are proposed within any Zone of Contribution, and there are no surface water abstractions in the vicinity of the proposed grid connection route.

Statement: To ensure adequate protection of water facilities, Uisce Éireann recommends the following;

"1. The applicant shall ensure there is no deterioration in surface and ground water quality as a result of any pre-construction works and / or the operation of and/or the decommissioning of the development as proposed.

2. There shall be no build over of public infrastructure from these proposals. Separation distances as per Uisce Éireann's Standards Codes & Practices shall be achieved where public infrastructure is in situ within and/or adjacent to site boundaries.*

*3. The development shall not impact public drinking water sources and/or abstraction point(s) and/or abstraction infrastructure**.*

4. The applicant shall ensure compliance with the proposed mitigation measures outlined in the EIAR and the CEMP to ensure that there will be no negative impact to any of Uisce Éireann's Assets and / or infrastructure which may be in proximity to the development."

Response: The Applicant is committed to adhering to the UÉ conditions, should the application receive a grant of permission.

3 RESPONSE TO LOCAL AUTHORITY OBSERVATIONS

There was one no. submission received in response to the Application from a Local Authority, being from Mayo County Council. Their submission was broken into the number of subheadings refer to **3.1** to **3.8** below, each section contains the submissions key points referred to hereafter as the **Statement**, to which the Applicant notes a response, noted as the **Response**.

3.1 Ecology

Statement: "*As part of this assessment, the potential effects arising from the Proposed Development on any European sites in the Zone of Influence (ZoI) were considered. Seven European Sites were identified within the zone of Influence. On the basis of objective scientific information, it is concluded that in the absence of mitigation, likely or possible significant effects on three of the European sites - Lackan Saltmarsh and Kilcummin Head SAC (code 00516); Killala Bay/Moy Estuary SAC (code 000364); and Killala Bay/Moy Estuary SPA (code 002041) could not be excluded during the construction, operational and/or decommissioning stages of the Proposed Development. As a result, an Appropriate Assessment (AA) in respect of the Proposed Project must be carried out taking into consideration the aforementioned Natura sites. A Natura Impact Statement has been prepared to assist with the AA. (see **Section 3** of **Volume V** of the **EAIR**). For the other four sites within the identified zone of influence, i.e. River Moy SAC (code 002298); Bellacorick Bog Complex SAC (code 001972); Glenamoy Bog Complex SAC (code 00500); Lough Conn and Lough Cullin SPA (code 004228) the AA Screening provided identified no pathways between the source/site of the proposed project (including the grid connection route and turbine delivery route) and the relevant European site (receptor) and concluded that no further assessment is required for these four sites and that they can be 'screened-out'. In addition to the potential impact arising from the Proposed Development, the cumulative impact of the Proposed Development, in combination with the other existing, permitted, and applications pending planning decision is a source of some concern to the Local Authority and therefore An Coimisiún should give careful consideration to the proposal, given the increasing pressure from wind energy developments in this visually sensitive, coastal location. The Coimisiún ensure that the Natura Impact Statement including proposed mitigation measures adequately address the likely impact on the Natura 2000 sites identified, either alone in combination with other plans or projects and considers whether these impacts are likely to be significant.*

As part of this assessment, the potential effects arising from the Proposed Development on any European sites in the Zone of Influence (ZoI) were considered. Seven European Sites were identified within the zone of Influence. On the basis of objective scientific information, it is concluded that in the absence of mitigation, likely or possible significant effects on three of the

European sites - Lackan Saltmarsh and Kilcummin Head SAC (code 00516); Killala Bay/Moy Estuary SAC (code 000364); and Killala Bay/Moy Estuary SPA (code 002041) could not be excluded during the construction, operational and/or decommissioning stages of the Proposed Development. As a result, an Appropriate Assessment (AA) in respect of the Proposed Project must be carried out taking into consideration the aforementioned Natura sites. A Natura Impact Statement has been prepared to assist with the AA. (see ***Section 3*** *of* ***Volume V*** *of the* ***EAIR****). For the other four sites within the identified zone of influence, i.e. River Moy SAC (code 002298); Bellacorick Bog Complex SAC (code 001972); Glenamoy Bog Complex SAC (code 00500); Lough Conn and Lough Cullin SPA (code 004228) the AA Screening provided identified no pathways between the source/site of the proposed project (including the grid connection route and turbine delivery route) and the relevant European site (receptor) and concluded that no further assessment is required for these four sites and that they can be 'screened-out'. In addition to the potential impact arising from the Proposed Development, the cumulative impact of the Proposed Development, in combination with the other existing, permitted, and applications pending planning decision is a source of some concern to the Local Authority and therefore An Coimisiún should give careful consideration to the proposal, given the increasing pressure from wind energy developments in this visually sensitive, coastal location. The Coimisiún ensure that the Natura Impact Statement including proposed mitigation measures adequately address the likely impact on the Natura 2000 sites identified, either alone in combination with other plans or projects and considers whether these impacts are likely to be significant."*

"Investigate possibility of having the colour of one blade black to reduce bird strike incidents. Include other measures to alert wildlife including nocturnal species to the presence of the turbines e.g. predator calls etc."

Response:
Collision Risk Modelling (CRM) was carried out for six species of conservation value where flightlines were recorded within the rotor sweep height and inside the 2 km arc of the selected vantage points during the Vantage Point surveys (see **Section 7.4.3.1** of EIAR & **Appendix 7.9** for full CRM Report). These were:

- Hen harrier
- Sparrowhawk
- Buzzard
- Kestrel
- Peregrine Falcon
- Lesser black-backed gull

The mean number of collisions predicted for the species subject to analyses (with the application of avoidance rates) is summarised in **Table 7.5** of **EIAR** and is repeated below.

The number of predicted yearly collisions for sparrowhawk, hen harrier and peregrine are close to zero and are considered Negligible (Not Significant).

Table 7.5: **Summary of estimated mean number of collisions (with avoidance rates) predicted for key ornithological receptors over the lifetime of the Proposed Development.**

Species	Mean no. of predicted collisions over lifetime of the Project (nominal 35 years)	Mean number of predicted collisions per year	One bird collision every 'x' years
Kestrel	10.5 birds	0.3	3.33 years
Buzzard	10.5 birds	0.3	3.33 years
Lesser black-backed gull	7.0 birds	0.2	5 years
Sparrowhawk	0.0 birds	0.0	-
Hen harrier	0.0 birds	0.0	-
Peregrine	0.0 birds	0.0	-

(Where the number of predicted collisions is shown as 0.0, this indicates that predicted collisions are <0.01 per year).

The number of predicted yearly collisions for sparrowhawk, hen harrier and peregrine are either close to or at zero and are considered Negligible (Not Significant).

The collision risk for Kestrel and Buzzard is estimated each at 0.33 birds per year (or 10.5 birds over the nominal 35-year operational phase), and the collision risk for Lesser Black-backed Gull is estimated at 0.2 birds per year (or 7 birds over the nominal 35-year operational phase).

As Kestrel is a Red-listed species (though fairly widespread in the study area), the predicted collision risk of 0.33 birds per year or 10.5 birds over a 35-year period is rated as a 'Long-term Slight Adverse' effect. Mitigation will be implemented to lessen this risk (see below and **Section 7.6.2.1** of **EIAR**). This will involve control of vegetation around turbine bases (**Section 7.6.2.1** of **EIAR**). This will discourage small mammals and birds, which attract species such as kestrel and hen harrier to hunt near the turbines and increase risk of collision. This maintenance will be carried out on an annual basis by mowing or strimming. This approach has proved highly effective for lesser kestrel at several wind farms in central-eastern Spain.

For Buzzard, a widespread species with a favourable conservation status (Green listed), the significance of collision risk is rated as Not Significant.

For Lesser black-backed gull, an Amber listed species, the significance of collision risk is rated as a Long-term Slight Adverse effect.

Taking into account the relatively low predicted collision rates for species of conservation importance, as well as the proposed mitigation for Kestrel, it is considered that further mitigation to reduce collision rates is not necessary at this site.

Statement: S*tated in the Ornithological chapter "As the Wind Farm Site has not been identified through the baseline surveys or desk review as being along a migration route for birds, such as wetland species (swans, geese etc.) or birds of prey, there is not likely to be a barrier effect."*

However, potential to flag in-combination effect to SPA designated bird species of Killala Bay/Moy Estuary SPA (Golden Plover), given 17 wind farms within 20 km at different stages. See Owenduff/Nephin Complex SPA, designated for Merlin and Golden Plover, although outside 15km buffer applied, is there functionally pathways present between sites which may impact upon the Golden Plover migrating populations or breeding potential within the area. Foraging range of breeding Golden Plover seems to be 3-4 km – Killala Bay/Moy Estuary SPA is just within that range of the site, I believe. Merlin was recorded in the site and is also QI of Owenduff/Nephin Complex SPA, again potential in-combination impacts"

Response:

While Golden Plover is a Qualifying Interest for the Killala Bay/Moy Estuary SPA (see Table 2 of NIS), the species is a winter visitor to the SPA and not a breeding species (as no breeding habitat exists within the SPA). It is noted that despite the range of baseline surveys that were carried out over a 2-year period (see **Section 7.7.2.1** of **EIAR**), including monthly Vantage Point surveys and focused surveys on Lackan Bay, Golden Plover was not recorded within the study site at any time. This supports the statement in **Section 7** of the **EIAR** that there is no evidence that the Wind Farm Site is along a migration route for birds, such as wetland species (which includes golden plover).

While Golden Plover does breed within the Owenduff/Nephin Complex SPA, such birds would likely feed entirely on the blanket habitat at the breeding grounds. An approximate straight-line distance of 25 km between the proposed wind farm site and the SPA is well beyond the foraging distance for breeding golden plover, which NatureScot gives as 3 km for the core range and 11 km for the maximum range (NatureScot 2016, Assessing Connectivity with Special Protection Areas: Guidance).

Merlin was recorded at the proposed wind farm site on two occasions: 13th August 2022 and 24th September 2022. While there was no evidence of merlin breeding within the site during the baseline surveys, which included a breeding merlin survey (see **Section 7.7.2.1** of **EIAR**), the possibility of breeding occurring was not ruled out, with the following stated in **Section 7.3.13**: *Despite the absence of evidence of breeding merlin during the dedicated surveys, it is possible that merlin may breed within the study area (especially in the northern and southwestern sectors), or at least in the wider local area, as the scattering of remnant bog and conifer plantation provides suitable habitat. It is noted that merlin is a particularly difficult species to census and the traditionally used methods may not provide a true indication of the abundance, densities or distribution of the species (Lusby et al. 2011).*

While Merlin does breed within the Owenduff/Nephin Complex SPA, such birds would likely feed entirely in the vicinity of the SPA. An approximate straight-line distance of 25 km between the proposed wind farm site and the SPA is well beyond the foraging distance for breeding merlin, which NatureScot gives as 5 km for breeding birds (NatureScot 2016, Assessing Connectivity with Special Protection Areas: Guidance).

Statement: "*Consider inclusion of ponds to provide aquatic habitat for frogs/newts and other local wildlife disturbed by the development."*

Response: The retention of several ponds (derived from past quarrying activities) suitable for amphibian species is part of the **Biodiversity Enhancement Management Plan** (**BEMP**) (see **Appendix 6.4** of **EIAR**, specifically **Section 2.2**). Baseline monitoring surveys for amphibians will be part of the **BEMP**. Hence, it is considered that this issue raised is already being addressed in the **EIAR**.

Statement*: "Include for an Environmental Management Committee to be established with relevant state body representatives to ensure compliance with any planning conditions if granted."*

Response: The Applicant is committed to adhering to the Mayo County Councils recommendations and conditions, should the application receive a grant of permission.

Statement: "All mitigation measures included in the **NIS** and other documentation to be implemented in full to protect the environment."

Response: The Applicant is committed to adhering to the Mayo County Councils recommendations and conditions, should the application receive a grant of permission.

3.2 Archaeology

Statement: *"The report highlights some inaccuracies in the Cultural Heritage Chapter of the EIAR and notes the discrepancies between the zones of notification/constraint indicated the printed version of the Recorded Monuments and Places (RMP) map for Co. Mayo which was published in 1996 and the Historic Environment Viewer (HEV), as used by the author of the chapter. The report also notes the lack of any reference in the chapter to the work of Professor Graeme Warren, School of Archaeology, University College Dublin nor Ms. Gretta Byrne, Manager of the Ceide Fields Visitors Centre, both of whom have surveyed and mapped pre-bog field systems in the immediate vicinity of the site. The report goes on to identify and comment on a number of instances in the chapter where recorded monuments and pre-bog walls may extend into the development area.In relation to the route of the proposed grid connection and haulage route, the report lists 6 Recorded Monuments along the proposed route that may be impacted upon. The report concludes by recommending the attachment of the following nine specific conditions, in the event that ACP grants planning permission in this instance, these conditions are available in the Appendix to this report."*

Response: It is acknowledged that there can be some discrepancies between the printed RMP maps and manuals (1996) and the online HEV GIS datasets that depict the mapped area extent of Zones of Notification and site type classification for recorded RMPs. However, the physical location of upstanding and/or likely trace remains for recorded RMP and SMR sites throughout the Proposed Development has been duly and accurately identified, and appropriate impact assessment and determination of significance of effect has been undertaken in the submitted **EIAR Chapter 14**.

Statement: "*It would appear that the author of the Cultural Heritage Chapter did not consult with the work of Professor Graeme Warren, School of Archaeology, University College Dublin nor Ms. Gretta Byrne, Manager of the Ceide Fields Visitors Centre. Both of these archaeologists and their teams have probed, surveyed and mapped several pre-bog walls and pre-bog field systems in and in the near vicinity of the proposed wind farm development site."*

Response: The cited research references are not readily available for consultation. These refer to papers in an Italian publication (2018) that is quite inaccessible (paywall - without instruction of how to buy an English translation, and not catalogued or available in the UCD Academic Library resource). Notwithstanding this, there are no mapped recorded pre-bog walls located

within the Proposed Development site. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the Proposed Development site.

Statement: "*In Volume III; Fig.14.4 shows the location of the wind farm site superimposed on the 1st Edition 6 inch scale Ordnance map (1839). However, there is no map showing the location of the wind farm site, the grid connection route (GCR) and the Turbine Delivery Route (TDR) superimposed on the relevant RMP maps. This error has led to inaccuracies in the Cultural Heritage report. Some Proposed Development areas within the wind farm site, the grid connection route and the turbine delivery route are within the zones of notification/constraint areas surrounding protected RMP sites:*

1. *"The Proposed Development area at AT09 is within the zone of notification/constraint area for RMP No. MA014-011 - Archaeological Complex. Some pre-bog walls have been mapped adjacent to this area and some of these pre-bog walls may extend underground into the Proposed Development area."*

Response to Item (1): The Proposed Development area at AT09 is not within the zone of notification (ZoN) for RMP No. MA014-011--- Archaeological Complex. There is a very discreet portion at its easternmost ZoN extent that is the location of a north-south extending access road. However, mapped pre-bog walls by G Byrne do not extend into this area. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the Proposed Development site.

2. *"In addition, a separate part of the Proposed Development in the vicinity of AT09 will also be within the zone of notification /constraint area for RMP No.MA014-030---- Hillfort-Possible."*

Response to Item (2): A very discreet northmost portion of the ZoN for RMP MA014-030--- Hillfort – possible is within the red line boundary. However, the likely extent of this RMP (recorded as an enclosure on the HEV) is visible from satellite imagery and its northernmost edge is sited at least 25 m to the south of the Proposed Development access road footprint. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the Proposed Development site.

3. *"RMP No. MA014-030---- Hillfort-Possible is not shown in Fig.14.1 and in the text (Table 14.5) is stated to be located "55m north of Met mast". However, it would appear that the Met mast is in fact located west of AT02 and some distance from RMP No. MA014-030---- Hillfort- Possible."*

Response to Item (3): RMP MA014-030--- is shown and labelled on **Figure 14.1**. On-going design iteration during the EIAR has omitted to update the distance measurement to the nearest infrastructural element. This should read '25 m south of access track to AT08 and AT07'. Notwithstanding this update error, the mitigation measures (this has been identified as a particularly sensitive area due to proximity to the Proposed Development) is unchanged to that set out in the submitted Cultural Heritage **Chapter 14** (**See Sections 14.3.3**, **14.3.14**, **14.5.1**).

4. *"Also, a number of pre-bog walls in the townland of Castletown, Rathlackan are mapped close to AT17 and could extend underground into the forest area of AT17."*

Response to Item (4): No pre-bog field walls have been previously recorded or mapped within the area of AT17. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the *Proposed Development site.*

5. *"The Cultural Heritage Chapter states that there are no recorded cultural heritage constraints at any of the turbine delivery routes, however, Proposed Development works will take place within the zone of notification for RMP No. MA014-050 – Megalithic Structure."*

Response to Item (5): The submitted **EIAR Chapter 14 (Table 14.12**) sets out that 'A megalithic structure (MA014-050----) is located within a greenfield area 70 m to the northwest of the westernmost road widening area (**Volume III; Figure 14.7**)'. It also states 'There are no potential unrecorded Cultural Heritage features depicted within the work areas on the historic OS maps'. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the Proposed Development site.

6. *The grid connection route will also be located within the zones of notification/constraint area for the following RMP numbers;*
    - *RMP No. MA014-009---- Ringfort – Rath;*
    - *RMP No. MA021-022---- Ringfort – Rath;*
    - *RMP No. MA022-006---- Ringfort – Rath;*
    - *RMP No. MA022-011---- Ringfort – Rath;*
    - *RMP No. MA022-028---- Ritual Site – Holy Well;*
    - *RMP No. MA022-049---- Ringfort – Rath*

Response to Item (6): The submitted **EIAR Chapter 14** (**Section 14.3.11**) refers 'There are seven recorded archaeological sites located within the [Grid connection Route] Study Area, and these comprise six ringforts and one holy well…which are all located within private lands…A review of their depictions on historic OS maps and aerial/satellite images revealed that they are located at distances of 20 m - 35 m from the nearest sections of the roadways that the route follows' (see **Chapter 14**, **Table 14.10** and **Vol III Figure 14.5**). RMP MA014-009--- is not located near to or within the study assessment area for the Grid Connection route. Due cognisance has been taken throughout the EIAR for the potential to impact (and mitigate for) sub-surface unrecorded archaeological remains throughout the Proposed Development site.

7. *The Cultural Heritage Chapter does not recommend any Probing surveys or any programmes of Archaeological Pre-development Testing.*

   Response to Item (7): The need for a programme of advance archaeological test-trenching is stated in **Chapter 14, section 14.5.1, paras 2-4**. Probing surveys have not been recommended as part of the mitigation measures as the ability to accurately determine the archaeological authenticity of a stone feature that might be 'probed' is dependent on recourse to test excavation. The latter is considered a more efficient methodology to be applied within the Proposed Development footprint, wherever feasible. All mitigation measures and methodologies will be subject advance agreement with statutory bodies (NMS and NMI).

Statement: Recommendations:

"If Planning permission for the proposed Tirawley wind farm is granted the following (9) archaeological conditions should be included;

1. *Prior to the commencement of any development works the 3-no. undesignated 19th century vernacular farmhouses must be subject to a written, drawn and built heritage survey.*
2. *All tree felling on the Proposed Development site must be monitored by a suitably qualified archaeologist licensed by the National Monuments Service, Department of Housing, Local Government and Heritage.*
3. *A programme of Archaeological Survey undertaken by a suitably qualified and licensed archaeologist must be carried out across the proposed wind farm development site. This survey should be undertaken using the "Probing technique" utilised to detect the pre-bog walls and other archaeological features on the nearby and renowned Ceide Fields Archaeological Site. The results of this survey will inform any further archaeological studies that may be required.*

4. *When the results of the Archaeological Probing Survey are known a programme of Licensed Archaeological Pre-development Testing must be undertaken by a suitably qualified archaeologist on all areas of proposed groundworks across the Proposed Development site (e.g. turbine bases, hardstands, proposed roads, compounds, substation sites, operations buildings, meteorological mast etc.)*
5. *The programmes of Archaeological Probing Survey and Pre-development Testing must be carried out in consultation with the Planning Section, Mayo Co. Council and under licence from the National Monuments Section, Department of Housing, Local Government and Heritage.*
6. *Should archaeological features/material be uncovered during the course of the Archaeological Probing Survey or the Pre-development Testing, the archaeologist shall have work on the site stopped, pending a decision as to how best to deal with the archaeology. The developer shall be prepared to be advised by the National Monuments Section, of the Department of Housing, Local Government and Heritage with regard to any necessary mitigating action (e.g. preservation in situ, or excavation) and should facilitate the archaeologist in recording any features or material uncovered.*
7. *Licensed archaeological monitoring must be carried out by a suitably qualified archaeologist along the grid connection route and the turbine delivery route where they extend through the zones of notification/constraint areas of any Recorded Monument and Places.*
8. *Licensed archaeological monitoring of all groundworks associated with the proposed development including all sections of the grid connection route which are off road i.e. in fields must be carried out by a suitably qualified archaeologist.*
9. *The Planning Authority and the National Monuments Section of the Department of Housing, Local Government and Heritage shall be furnished with reports describing the results of the Probing Survey, Pre-development Testing and all of the monitoring."*

Response: The Applicant is committed to adhering to the UÉ conditions, should the application receive a grant of permission.

3.2.1 Céide Fields Visitors Centre – Grette Byrne Research

Submission Item 8: *Concerns are primarily with the irreversible impact on the unique archaeological remains of the area of the Proposed Development. Belief that the impacts of the Proposed Development were inadequately assessed in the EIAR.*

- *EIAR Chapter 14, Figure 14.1 is incomplete as only individual structures and tombs are marked and there is no indication of the integrated field systems [mapped by G Byrne in a research capacity]. Not all monuments, including some closest to the proposed turbines, are indicated.*

- *In EIAR "14.3.2.5 Archaeological monuments with landscape setting sensitivity" there is again a fundamental lack of understanding of the significance of this pre-bog archaeology. Individual stone prehistoric monuments are assessed "for ritual visual alignments or topographical settings across the wider landscape". The entire field systems are ignored and there is no appreciation that the whole landscape is in a sense one large integrated monument.*
- *The assessment of the two round cairns on Suifinn hill is incorrect in the observations. The Aghaleague cairn (MA014-002005) is clearly not "sited on the highest point of the hill". This can be seen on the OS Discovery maps as in the EIAR 6289-PL-000-01 SITE LOCATION MAP DISCOVERY MAPPING. The observation that there was "originally deliberate intervisibility" between that cairn and a similar large round cairn in Carrowcuilleen (MA014-002006) is also incorrect. In the opinion of this author who undertook extensive surveys of this hill included in Byrne 1986 and Byrne 2018 (cited above) these monuments were intentionally sited not to be intervisible.*
- *In EIAR "14.3.2.6 Céide Fields" it is stated "This prehistoric archaeological complex (Céide Fields) is located c. 9.5 km from the northern portion of the Proposed Development." This is misleading in that it gives the impression the Céide Fields are confined to the visitor centre and the immediate surroundings. It is also stated "The prehistoric agrarian complex does not in and of itself retain inherent attributes connected to landscape setting considerations in terms of visual astronomical and landscape alignments". This demonstrates a lack of understanding of the significance of the archaeological landscape. The fields and associated monuments demonstrate how the Neolithic people managed their entire landscape and how they farmed and lived their lives in addition to their ritual constructions. The landscape is the monument and would be seriously impacted by the presence of the sixteen proposed turbines.*

Response to Item 8: It is not accepted by the Applicant that cultural heritage impacts were inadequately assessed in the EIAR.

- All recorded SMR monuments have been mapped and indicated on **Figure 14.1**. GIS SMR datasets have been retrieved from open access data provided by the Archaeological Survey of Ireland (National Monuments Service) (see **Chapter 14, Section 14.3 Baseline Description**). There have been no omissions of monument locations on **Figure 14.1** (indicated by red dots) although not all associated SMR numbered labels are displayed on the image. Any non-display of an SMR number reference does not detract from **Chapter 14** impact assessment findings in any way.

- **Chapter 14 Section 14.3.2.5** deals only with monuments presenting inherent ritual alignments or deliberate topographical settings (i.e. megalithic tombs or structures). This assessment does not apply to agrarian field boundaries.
- **Chapter 14 Section 14.3.2.5** refers to two unclassified cairn features MA014-002005- and MA014-002006-, that are sited along and atop of a predominant high mountainous ridge. It is acknowledged that although MA014-002005- is not sited on *the* highest ODm point along the hill ridge (237 m OD). However, desk study and site inspections indicate that it is sited inside the highest contour line (230 m OD) and immediately adjacent to the highest point of the northernmost extent of the hill ridge (233 m OD), along a townland boundary (Aghaleague/Rathoonagh). Despite roof collapse, the cairn is very well preserved and emphasises the impactful visual nature of what its original height may have originally been. Cairn MA014-002006- (disturbed) is also sited on the hilltop ridge, but further south, within the highest contour line (230 m OD) and at approximately 231 m OD, thereby marginally downslope of cairn MA014-002005. It is also placed alongside a townland boundary (Ballinglen/Carrowcuilleen).
    - Given the site type and the high possibility of deliberate hilltop siting of these two monuments, likely originally built to be seen from the lower ground and surrounding areas as well as to be intervisible to each other (such as that demonstrated at the tentative World Heritage Property Passage Tomb Landscape of Co. Sligo[1]). It is considered that based on the available evidence (topography, bog growth and site type) there was likely originally deliberate intervisibility between these two monuments. As with many archaeological monuments, without recourse to archaeological research excavation and/or surveys this cannot be definitively stated.
    - The cited research references are not readily available for consultation. These refer to an unpublished MA thesis undertaken over forty years ago (1986) and a paper in an Italian publication that is quite inaccessible (paywall, without instruction of how to buy in English translation, and not catalogued or available in the UCD Academic Library resource).
    - Notwithinstanding the exact ODm placement of the cairn sites or the inaccessible reference material, it is considered by the Applicant that the assessment of significance effect on the prominently sited monuments is adequately and correctly assessed as an indirect Moderate operational significance of effect on heritage landscape setting (see **Chapter 14, Section 14.4.2, Table 14.16, Section 14.4.4 and Table 14.17**).
- **Section 14.3.2.6** refers to what is generally known as the Céide Fields, as described in G. Byrnes own submission (**Section 1.1, para 1**) *'What is generally known as the 'Céide Fields'*

[1] See Tentative WHP Statement of Outstanding Universal Value here: https://whc.unesco.org/en/tentativelists/6635/

is a smaller area that includes Céide Hill where the OPW Visitor Centre is located and Sralagagh Hill to the east with the intervening Glenurla Valley'.

- **Section 14.3.2.6** refers to the fact that the agrarian aspects (i.e. the field walls) of the Céide Fields do not have any astronomical or landscape alignments that contribute to landscape setting. Human management of a prehistoric landscape required accommodation of both secular and sacred needs and this is evidenced in the archaeological record throughout Ireland. **Chapter 14, Section 14.3.14** refers to the high volume of recorded archaeological prehistoric monuments in the Study Area and the potential to encounter hitherto unrecorded archaeological features (of all relevant archaeological time periods) throughout the Proposed Development site.

Submission Item 09: *Potential effects and mitigation*

- *In EIAR 14.4.1 it is acknowledged that "potential exists for direct, adverse, and permanent construction phase effects of medium to high magnitude (potential moderate significance of effect)" during the construction phase on any unrecorded archaeological remains within the footprint of the Proposed Development. However, there does not seem to have been sufficient weight given to the likely presence of such features.*
- *In EIAR 14.5.1 "Construction Phase Mitigation Measures" it is stated that a programme of archaeological test excavations will be carried out in advance of construction at four named areas of archaeological sensitivity. None of those are in the sub-peat Neolithic landscape areas. In fact they seem to want to specifically exclude "deep/wet pockets of bogland".*

Response to Item 09: Magnitude of impact and mitigation for unrecorded (sub-surface) archaeological features

- Due cognisance of the potential for the presence of unrecorded archaeological features is repeated several times throughout the assessment (see **Chapter 14, Sections 14.2.3, 14.2.4, 14.2.5, 14.3.6, 14.3.11, 14.3.12, 14.3.13, 14.3.14, 14.4.1, 14.4.3, 14.5.1, 14.5.2, 14.7** and **14.8**).
- The precise location of any potentially buried archaeological features is unknown and as such the likely magnitude of any such potential impact on an unrecorded archaeological feature has been assessed in the submitted EIAR as potentially medium-high (i.e. in whole or in part) (see **Chapter 14, Section 14.4.1**). This allows for a 'worse case' scenario of potential direct impact requiring excavation by record, whilst still acknowledging that preservation levels and/or survival of material remains may or may not be at significant levels. This approach is considered by the Applicant as both cautionary and sufficient.
- **Section 14.5.1** refers that an archaeological test trenching programme shall be carried out in advance of construction stage works 'throughout the Proposed Development design

footprint' and goes further to also highlight areas of heightened archaeological sub-surface sensitivity within the design footprint itself. In addition, in line with best practice provisions for working in archaeological wetland environments as well as adhering to on-site Health and Safety requirements, the EIAR (**Chapter 14, Section 14.5.1)** states '*Locations that are safe and practicably feasible for such test trenching investigations (that is, not deep/wet pockets of bogland, for example) shall be identified and agreed with the National Monuments Service in advance, as part of method statement preparations required for licenced archaeological work'*. Test trenching in very deep/wet bogland can result in trench collapse and/or water flooding ingress and poses a serious health and safety issue for on-site attending archaeological personnel.

Submission Item 10: *Impact on, and mitigation for, unrecorded archaeological features in forested areas*

- *In EIAR Appendix 2.1 CEMP 3.6.1 it is stated "A systematic advance programme of archaeological field-walking surveys will also be carried out within Proposed Development areas in forestry plantations following tree felling to confirm the conditions predicted in this assessment, i.e., that they contain no visible surface traces of potential unrecorded archaeological or architectural heritage sites". Given the extent of archaeological remains already recorded in areas that were surveyed prior to planting with forestry, shown on Fig 2 above [mapped pre-bog field walls by G Byrne], those predicted conditions are demonstrably inaccurate.*
- *The large block of forestry immediately west of AT12 was already mature forestry when the original archaeological survey was undertaken in the 1980s by this author. One of the Neolithic walls in Conaghra was followed for a distance of 60m into the forest where sufficient stones of the wall were visible in the drainage furrows dug prior to planting. It could not be traced further as it was not possible to use the probing technique in the forest. It is certain that there are other unrecorded walls in this forest as two further walls were traced as far as the forest edge.*

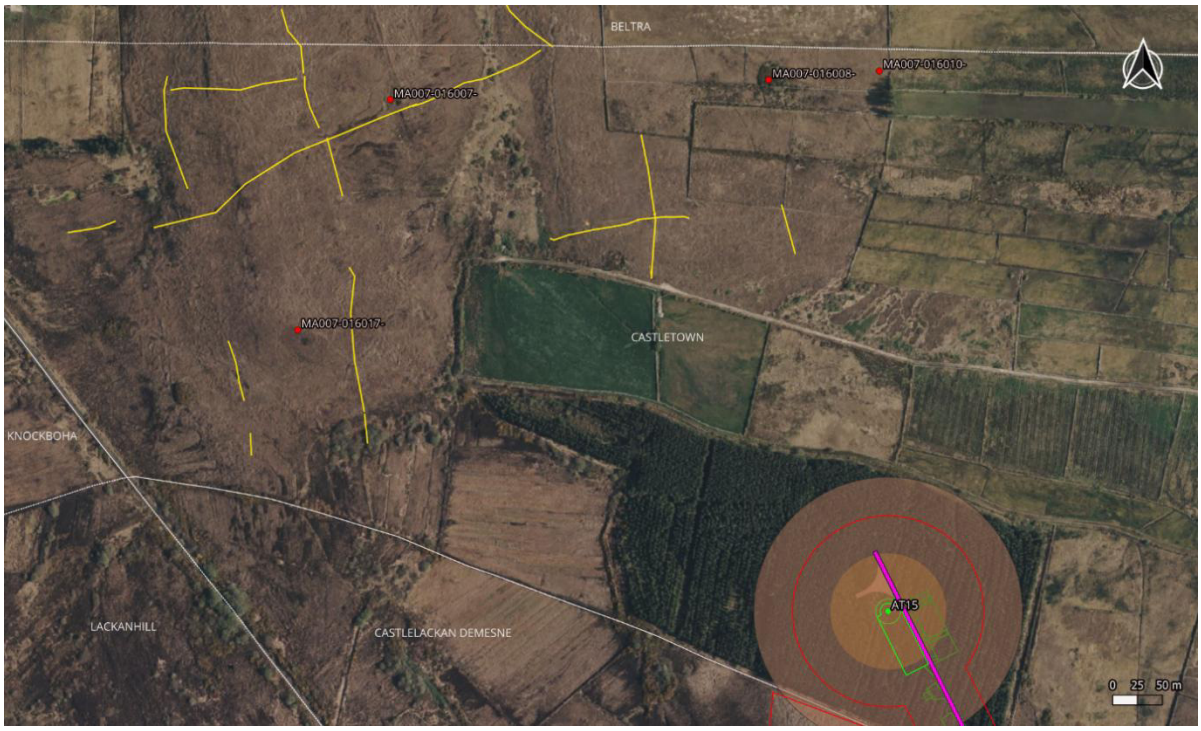
Response to Item 10: Impact on, and mitigation for, unrecorded archaeological features in forested areas

- It is not accepted by the Applicant that the submitted mitigation measures in the EIAR for design footprint areas currently occupied by forestry plantation (and inaccessible for archaeological survey) are 'demonstrably inaccurate'.
- There are no recorded SMRs/RMPs, or pre-bog field walls as recorded and mapped by G. Byrne, located within the design footprint. The forested areas within the design footprint are likely to have directly and permanently impacted any unrecorded archaeological features

during the initial planting period. However, due cognisance of the potential for unrecorded archaeological features to still exist in forested areas within the design footprint has been appropriately mitigated for by way of archaeological field-walking surveys following tree felling (see **Chapter 14, Section 14.5.1, para 4**) for the Proposed Development, and follow-up on-site investigation (test trenching and/or monitoring of ground works) as required, and per prior agreement with NMS (see **Chapter 14 Section 14.5.1, para 4**).



Approximate location of nearest mapped pre-bog field walls (yellow) per G. Byrne research to the Proposed Development site footprint at Lackanhill and Conaghra (AT12, AT13 and AT14)



Approximate location of nearest mapped pre-bog field walls (yellow) per G. Byrne research to the Proposed Development site footprint at Castletown (AT15)

Submission Item 11: *Effects on Cultural Heritage*

- *In EIAR Appendix 2.1 CEMP 3.6.1 it is stated "The identified temporary indirect negative impacts on the Cultural Heritage resource during construction stage are of a visual nature only…". This is a contradiction of the statement quoted in 3.0 above.*
- *In EIAR 14.5.2 "Construction Phase Residual Effects – Direct" it is stated "No residual construction phase direct effects are predicted following the implementation of these mitigation measures" (recording by record). However, even if archaeological remains that are discovered during the construction phase are properly recorded archaeologically, the result of their subsequent removal is a permanent direct effect with a consequent negative impact on this unique Neolithic landscape in North Mayo.*

Response to Item 11: Effects on Cultural Heritage

- The Applicant does not accept that the 'indirect temporary negative impacts…during construction stage ae of a visual nature only' is a contradiction of direct adverse permanent impacts identified at construction stage in **Chapter 14, Section 14.4.1**. Indirect impacts and direct impacts constitute two entirely different impact types. Indirect temporary (visual nature) impacts at construction stage are fully addressed in **Chapter 14, Section 14.4.2**.
- There are no recorded archaeological receptors within the Proposed Development site. Provision has been made to mitigate any potential newly discovered sub-surface features

(preservation in situ/by avoidance and/or preservation by record) (**Chapter 14, Section 14.5.2**). Given that the appropriate and best practice level of mitigation that will be applied, with agreement with NMS, for any type of currently unrecorded archaeological feature, this is not considered a direct residual impact on the Neolithic landscape of North Mayo.

3.3 Environment

Statement: "The report recommends that consideration should be given to the inclusion of a water retention pond for firefighting, along with the inclusion of additional ponds to provide an aquatic habitat for frogs/newts and other local wildlife. The establishment of an environmental management Committee is also recommended in order to, among other things, oversee the implementation of all mitigation measures outlined in the EIS. The report also investigates the possibility of colouring one blade black in order that they be more visible to birds, therefore reducing bird strike incidents. In further comments related specifically to the **Ornithological Chapter** of the **EIAR** the report, the Environment Section flags potential combination effects to the SPA designated bird species."

Response: Provisions for firefighting water have been incorporated into the project design refer to **Planning Drawing 6289-PL-2000 and 2006** which includes the provision of on-site water storage tanks. Firefighting measure will be established in consultation with the local authority, their Engineers, local Emergency Services and Local Fire Warden. The site layout also provides suitable vehicular access, sufficient road widths, and turning areas to allow unobstructed movement for the Fire and Rescue Service.

The preservation and enhancement of aquatic habitats are already core objectives of the Biodiversity Enhancement and Management Plan (BEMP). The BEMP area encompasses an abandoned commercial quarry at Castlelackan Demesne that contains existing ponds and recolonising habitats. These ponds are identified as providing a useful habitat for amphibians such as the common frog and possess potential to support the smooth newt.

The establishment of an environmental oversight body is a committed measure under the Construction Environmental Management Plan (CEMP). Prior to construction, the Applicant will form a core Environmental Management Group comprising an Environmental Manager and an Ecological Clerk of Works. This group will meet monthly to review environmental performance, advise site personnel, and ensure compliance with all environmental mitigation and monitoring requirements detailed in the CEMP and planning conditions.

Cumulative and combination effects on SPA-designated bird species have been thoroughly assessed. With appropriate mitigation measures in place to prevent impacts on water and habitat quality within the Killala Bay/Moy Estuary SPA, significant adverse effects on the Special Conservation Interests or wetland birds are not predicted. An assessment of 14 operational, consented, and proposed wind farms within a 20 km radius concluded that, given the separation distances and the rigorous environmental evaluations required for each project, the Proposed Development will not contribute to any significant cumulative effect on bird populations in the study area. Also refer to **Section 3.1 Ecology** for responses related to Ornithology.

3.4 Tourism

Statement: "*The report received from the Tourism, Recreation and Amenity Section of MCC raises concerns regarding the potential negative impact of the proposal on the Wild Atlantic Way, and most specifically the 15km Ceide Coastal Trail and the internationally recognised Ceide Neolithic field system. The report highlights the fact that this area has been identified by Mayo County Council and Fáilte Ireland as a key tourism asset, with ongoing development plans and potential investment of up to €10 million over the coming years. The Céide Coastal Trail is a cornerstone of the Fáilte Ireland Draft Destination and Experience Development Plan (DEDP) for North Mayo and is also included in Mayo County Council's draft Tourism Strategy. The report feels that the introduction of industrial-scale infrastructure in this area would compromise the integrity of these plans and diminish the long-term value of the destination. Furthermore, the area is home to the internationally recognised Céide Fields, one of Europe's most significant Neolithic archaeological landscapes. The report also considers that the development would also threaten the visual integrity of Downpatrick Head, one of Ireland's most iconic coastal landmarks. The sea stack and surrounding cliffs are a major draw for domestic and international visitors, offering a dramatic and immersive experience of the Atlantic coastline. The report reiterates that Ballycastle region forms a vital part of the Wild Atlantic Way, specifically the 15km Céide Coastal Trail which received planning approval in 2025. These Coastal Trails showcase unspoiled landscapes, dramatic sea cliffs, and panoramic views. The proposed wind farm development in close proximity to this location poses a direct conflict with these tourism objectives and risks undermining the quality of the visitor experience. For the reasons outlined above, the report concludes by asking ACP to give full consideration to the potential adverse impacts on tourism and heritage before making any determination on this application.*"

Response: Failte Ireland has raised similar concerns; these have been responded to in detail Please refer to **Section 2.3 Failte Ireland** of this response document.

3.5 Roads

Statement: "*The report from the Roads Section makes a number of comments and observations with regard to the proposal, including the haul route and grid connection. The report highlights the potential impact over a 20 km grid connection route on local roads, bridges, utilities and farming/commercial enterprises. This is felt to be compounded by the particularly rugged nature of the route, in terms of topography and geology, resulting in the potential for damage to road infrastructure, requiring widespread repair or reconstruction causing significant disruption to the transport service and utility services. The exceptionally abnormal loads applicable to the proposed Battery storage system will likely require strengthening of Bridges along the route, some of which are on the Record of Protected structures. The report concludes by listing a number of conditions that might be attached to any grant of planning permission, and these are included in the appendix."*

Response: The Grid Connection Route is 13.55 km in length, consisting of 12.43 km along the public road corridor and 1.12 km within the Killala Business Park (**EIAR Chapter 2 - Development Description, Section 2.6.12**). The local terrain is not exceptionally rugged, as the topography ranges from 20 m to 155 m OD with gentle sloping gradients between 0 and 10 degrees to the horizontal (**Appendix 8.1: Soils & Geology Assessment Report, No 2165-22, Section D.4**). Concerns regarding widespread road damage are addressed by the **Construction Environmental Management Plan (CEMP).** A pre-construction road condition survey will be completed, and the Applicant will, if required, lodge a bond with Mayo County Council prior to construction to guarantee the repair and upkeep of the local road network (**EIAR Chapter 17 - Traffic and Transport, Section 17.4.3**). During the construction phase, roads will be inspected weekly by the Resident Engineer, and the Contractor is contractually obligated to repair any identified defects within two weeks, with final reinstatement carried out in accordance with the Department of Transport, Tourism and Sport's "Guidelines for Managing Openings in Public Roads" (**EIAR Chapter 17 - Traffic and Transport, Section 17.4.3 and 17.4.4**). Potential disruptions to utilities and local farming or commercial enterprises will be mitigated through stringent planning and coordination. Prior to works commencing, ground penetrating radar and desk-based studies will confirm the exact locations of existing services, and any necessary diversions will be agreed directly with utility providers (**Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 5.1**). During road closures, local access for domestic, business, and farm traffic will be maintained at all times, and works will be actively scheduled in consultation with residents to avoid times of high agricultural activity, such as silage cutting (**EIAR Chapter 17 - Traffic and Transport, Section 17.6.1**).

The claim that Battery Energy Storage System (BESS) deliveries will constitute "exceptionally abnormal loads" requiring bridge strengthening is entirely unsupported. Delivery vehicle weights will not exceed 180 tonnes, meaning structures on the haul route are strictly not subject to a Category 3 structural assessment for "exceptional abnormal loads" as defined by Transport Infrastructure Ireland (TII) standards (**Appendix 2.1: CEMP - Management Plan 7 - Traffic Management Plan, Section 6**).

Additionally, a dedicated structural assessment of Palmerstown Bridge (a Protected Structure, RPS 017) confirms the bridge is structurally sound and capable of supporting the maximum axial loads applied by standard roadworthy construction vehicles without strengthening (**Appendix 17.2 Palmerstown Bridge Report, Section 4**).

To guarantee the protection of Palmerstown Bridge heritage structure, the grid connection at Palmerstown Bridge will be installed via Horizontal Directional Drilling (HDD), ensuring zero direct physical intervention to the bridge fabric or the riverbed (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.13**).

With regards to the Turbine Delivery Route and Abnormal Loads associated with the BESS and Substation, Palmerstown Bridge will be avoided and an alternate route taken via the R315, refer to **Appendix 17.1: Tirawley Turbine Delivery Report Figure 8 – The Second Leg: Ballina Town to the Wind farm Site.**

Typical Conditions for a Grant of Permission:

Mayo's Roads Design Section set out a number of Typical Conditions No. 1 to No. 8, refer Pg 60 and Pg 61 of their submission document. The Applicant is committed to adhering to these conditions, should the application receive a grant of permission.

3.6 Community Engagement & Benefit Fund

Statement: ***"****It is a policy of the Mayo County Development Plan 2022-2028 - 'To ensure that developers of proposed large-scale renewable energy projects carry out community consultation in accordance with best practice and commence the consultation at the initiation of project planning' (REP4)."*

Response: The Applicant is committed to adhering to the Mayo County Councils recommendations and conditions, should the application receive a grant of permission.

3.7 Local Authority Planning Assessment Observations

Statement: "*The Planning Statement accompanying this application includes a proposed site location with overlay of Map 8 of the Mayo Renewable Energy Strategy (see Fig 4.4 of the Planning Statement), it is noted that the proposed location does not conform to the site location maps provided elsewhere in the application. The location contained in Fig 4.4 would appear to be west of Ballycastle/Ballycastle Beach along the coast and does not correspond to the site location map(s) and location description provide in the documents submitted. The indicated area is outside of any wind designation contained within the Mayo RES 2011 and therefore taken therefore to be an error."*

Response: We can confirm that this is an error.

Statement: *"Provisions of the Mayo Renewable Energy Strategy 2011 Figure 4.1 provided in the submitted planning statement illustrated a more accurate overlay of the Proposed Development with the wind classification contained in the Mayo RES 2011, See Fig 4.1 below.*

The following is noted:

- *Of the 16 no. turbines, only 3 no. turbines (AT02, AT03 and AT04) are located within a preferred area i.e. Tier 1 Preferred Large Wind Farms.*
- *8 no. turbines (AT17, AT18, AT16, AT15, AT13, AT12. AT11 and AT06) are located within an area identified as 'Tier 2 Open for Consideration',*
- *5 no. turbines (AT01, AT05, AT09, AT10 and AT14) are located in the open countryside, an area that is unclassified as per the Mayo Renewable Energy Strategy 2011.*

In principle, only a small portion of the proposal is considered acceptable in principle i.e. turbines located within Tier 1 Preferred lands. In relation to Tier 2 lands - The Mayo RES 2011 states that lands within the Tier 2 - Open for Consideration classification may be considered for wind farms or small clusters of wind turbines but the visual impact on sensitive or vulnerable landscapes, listed highly scenic routes, scenic routes, scenic viewing points and scenic routes (as defined in the Landscape Appraisal for Co Mayo) will be the principal consideration. In this regards, it is of concern despite advice at preplanning stage that half of the Proposed Development (8 no. turbines) are proposed to be located on Tier 2 lands, and another 3 turbines are to be located in the open countryside. While it is put forward by the applicants that the RES makes provision for the Local Authority to consider proposed renewable energy developments on a case-by-case basis. It is observed that in pre-planning consultations, An Coimisiún note that a robust planning justification is required for the wind turbines proposed outside of the designated area for wind energy. In addition, it should be noted that the applicants were advised

in pre-planning consultations with MCC, albeit with a proposal for a greater number of turbines, that the Proposed Development would not be considered favorable at this location, owing to its proposed location in a highly scenic and sensitive coastal landscape, see notes of meeting in Appendix."

Draft Renewable Energy Strategy 2026

"Notwithstanding the comments above regarding the 2011 RES, the public consultation period has recently ended in relation to the Draft RES. The Draft RES proposes significant changes to Mayo Co. Council's approach to the assessment of wind energy developments within the county. Most significantly, as regards the current application, the areas identified as "Open for Consideration" for windfarm developments are predominantly located in the east and south of the county, whereas the areas further to the north and west, where there are considerable existing clusters of wind energy developments, are designated as having "Repowering Potential". The areas outside of these designations, within which the current proposal is located, are designated as "Unsuitable" (See ***Figure 4.2*** *below). The Draft Renewable Energy Strategy, when adopted, will replace the 2011 RES and will form part of the County Development Plan 2022-2028."*

Response: The applicant submits that the county-wide removal of positive wind zones in the newly adopted strategy represents a broad, strategic-level mapping exercise that lacks site-specific granularity. The RES itself explicitly admits it was finalised ahead of the Northern and Western Regional Assembly's (NWRA) formal county-by-county allocation targets under National Policy Objective 74 of the National Planning Framework (**EIAR Chapter 4 - Planning Policy, Section 4.5.1.2**). It is argued that an applicant who has expended significant capital conducting extensive baseline environmental surveys, preparing detailed Environmental Impact Assessment Reports (EIAR), and compiling Appropriate Assessments (AA) based on a previously valid land-use designation cannot be retroactively penalised without the planning authority demonstrating how live applications are to be fairly transitioned.

Under the previously active RES, the proposed 16-turbine layout was situated across Tier 1 (Preferred) and Tier 2 (Open for Consideration) lands, with only 5 turbines on unclassified lands immediately adjacent to the designated tiers (within 820 m of a designated area) (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.3.5**). Siting these 5 turbines on unclassified lands was a deliberate, site-specific outcome of a constraints-led process that prioritised the avoidance of sensitive environmental and archaeological assets—such as deeper peat, active Annex 1 bogs, and complex archaeological buffers—located within nearby Tier 1 areas (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.1, Section 3.5.3.5**).

Furthermore, the layout has been meticulously designed to comply with and exceed both current and proposed visual and separation guidelines. Under the 2006 Wind Energy Development Guidelines as well as the 4 times blade tip height (540-metre) setback required under the *Draft Revised Wind Energy Development Guidelines 2019*, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1**). In comparison, Section 6.18 of the 2019 Draft Revised Guidelines (SPPR 2) mandates a visual amenity setback equal to four times the turbine tip height, subject to a mandatory minimum of 500 m from any residential curtilage. Utilising the candidate Vestas V117 (4.3 MW) turbine model with a maximum tip height of 135 m, the 2019 draft visual setback requirement is calculated as exactly 540 m (4 x 135 m) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 and 12.3.4.1**). The proposed wind farm layout complies with and exceeds both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3), thus validating the robust, site-specific suitability of the proposed layout (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1, EIAR Chapter 5 - Population & Human Health, Section 5.3.1**).

3.8 Landscape and Visual and Visual Amenity

Statement: ***"****The area of the Proposed Development is located Policy Areas 1 and 4 as per the Landscape Protection Policy Areas set out in The Landscape Appraisal for County Mayo. The development impact of wind farm development in such policy areas are classified as 'high' in policy 1 areas; and 'medium' policy 2 areas. In the case of 'high sensitivity' - there is a high potential to create adverse impacts on the existing landscape, it is unlikely that such impacts can be reduced to a widely acceptable level. In the case of 'medium sensitivity' there is potential to create adverse impacts of the existing landscape character as such developments are likely to be discernible and distinctive but may, with careful siting and good design, minimise the significant and extent of impacts. The location of the Proposed Development in a visually sensitive landscape with many vulnerable features, including the north mayo coastline, its designated scenic routes, highly protected and protected views, the Wild Atlantic Way tourist route and the north mayo Céide Fields coastal landscape, including Downpatrick head, Lacken Strand, Rathfran Priory, Killala and Moyne Friary. The Mayo Landscape Appraisal for County Mayo sets out policy with regard to Scenic Routes (3.6(b)). It states that sightseeing visitors are more likely to be concentrated along these routes. The onus should be on the applicant…to demonstrate that there will be no obstruction or degradation of the views towards visually vulnerable features nor significant alterations to the appearance or character of sensitive areas."*

"It also sets out policy (3.7(b)) with regard to Protected Views, stating that - development located between the public road and the seashore, lakeshore or riverside should be subject to strict visual criteria. New development should only be considered where it can be demonstrated that it does not obstruct designated highly scenic vistas nor alters or degrades the character of the surrounding landscape."

The Wild Atlantic Way

"The Wild Atlantic Way is Ireland's first defined touring route, stretching along the Atlantic coast from Donegal to West Cork. It has become synonymous with spectacular landscapes, adventure activities and welcoming tourism operators — and has achieved impressive visibility within overseas tourist markets (Failte Ireland). Section 2.5.1 of the MCDP 2022-2028 stresses the importance of the Mayo Coastal Zone Corridor, recognising that the extensive coastline is one of the most valuable and sensitive resources in the county and supports a diverse array of related industries which generate significant economic productivity. Tourism is our Irelands largest indigenous industry, providing income and employment to all areas of the country. The Wild Atlantic Way is an important initiative that has showcased how the natural beauty of this landscape has contributed to the economic development of the County in recent years. Mayo has a lot to offer as a tourism destination with enormous potential to further develop its tourism industry as one of its key economic sectors."

"Mayo's unique wild and unspoilt landscapes is regarded as a major component of the county's tourism offering on The Wild Atlantic Way. The location of the proposed site is highly visible from several designated Discovery Points along the Wild Atlantic Way touring route. It should be noted that the Renewable Energy Strategy (RES) for Mayo 2011 predated The Wild Atlantic Way tourism initiative. Therefore, the consideration of the Proposed Development must take greater account of the demands and impacts placed on the landscape arising from modern renewable energy proposals, balanced against the importance of protecting and cultivating Mayo's tourism sector - in particular safeguarding our natural unspoilt landscapes on the Wild Atlantic Way. The large scale and highly visible nature of the Proposed Development has the potential to negatively impact the unique coastal landscape and sensitive natural environment in this area."

Response: This landscape and visual submissions response has been prepared in response to submissions provided to An Coimisiún Pleanála in respect of a planning application for the Tirawley Wind Farm development in Mayo. Given the high number and consistent nature of the issues raised, these will be addressed by way of themes rather than on an individual basis. The themes to be addressed are;

1. Perceived Impacts along Recreational Routes (Western Way) and Scenic Driving Routes (Wild Atlantic Way);
2. Perceived Visual Dominance of the Proposed Turbines and Industrialisation of the Prevailing Rural Landscape;
3. Perceived Conflicts with Landscape Policies and Designations within the Current Mayo CDP;
4. Perceived Effects at the Céide Fields and their Visual Setting;
5. Accuracy of the photomontages and representative nature of the viewpoint locations;
6. Perceived cumulative landscape and visual effects.

Note: Refer to Appendices 1 Landscape and Visuals for Original copies of Figures 1 to 3 referenced in the response.

'Perceived Impacts along Recreational Routes (Western Way) and Scenic Driving Routes (Wild Atlantic Way)'

The potential for effects on recreational and tourism routes was considered throughout the submitted LVIA. The Wild Atlantic Way (WAW) follows coastal roads within the study area and passes approximately 1.5 km northeast of the nearest proposed turbine, whilst the Western Way National Waymarked Trail traverses the northern and central parts of the Wind Farm Site. These receptors, and all other tourism, heritage and recreational amenity receptors were therefore treated as important landscape and visual receptors and informed the representative viewpoint selection within the assessment. Indeed, as a result of the Proposed Developments location in the vicinity of the coastline, which encompasses numerous tourism, amenity and heritage features up to 20 views (VP1, VP2, VP3, VP4, VP5, VP7, VP8, VP10, VP11, VP13, VP14, VP17, VP19, VP24, VP25, VP29, VP30, VP32, VP34, VP35 and VP36) were selected to represent amenity and heritage assets within the study area.

With specific regard to the WAW and Western Way linear routes, these are extensive linear routes within this part of the west of Ireland, with the WAW one of the most extensive linear driving routes within Ireland. The Proposed Development only has the potential to be visible along relatively short sections of these route corridors.

With regard to the WAW, it is important to distinguish between visibility of the Proposed Development and an adverse landscape and visual effect on the recreational or scenic experience of the route. The WAW in this area, and for the majority of its route by nature of its name, is strongly associated with the coastline, where the principal visual amenity relates to views towards the Atlantic Ocean and its surrounding coastal features. In many instances where

the turbines are potentially visible, they occur inland and in a different and often opposite viewing direction to these principal coastal views, which are most visually susceptible to change. The WAW is represented by over 12 representative viewpoints within the study area - refer to VP1, VP2, VP3, VP4, VP5, VP6, VP13, VP20, VP24, VP29, VP30 and VP32. Indeed, the large number of representative viewpoints associated with the WAW both indicate its importance and extensive nature within the study area. Residual visual effects at these representative ranged between Moderate to Slight-imperceptible, with the majority of these views classified as Slight or less. Indeed, the most notable effects along the WAW within the study area represent inland sections of the route (refer to VP24) where the degree of visual amenity is more limited and is influenced by more traditional rural land uses such as pastoral lands and forestry.

Some submissions provide commentary that the LVIA relies on static viewpoints and does not take account of the full experience of the WAW within the study area. The considerable number of representative viewpoints located along the route within the study area (12 representative VPs out of a total of 36 VPs) clearly indicates that the LVIA provides a comprehensive representation of the WAW experience. This includes views from some of the most visually susceptible parts of the route (refer to VP1 at Downpatrick Head), as well as some of the more typical and less visually susceptible parts of the surrounding landscape through which the WAW passes. It should be noted that it is neither practicable nor necessary to include each and every location along the WAW within the study area from which visibility of the proposed turbines may potentially be afforded. In this regard, representative viewpoints have been selected from a variety of landscape contexts along the WAW where the proposed turbines have the potential to be most visible. Many of these viewpoints also represent a range of other receptor types, including designated scenic views, local community views and centres of population. Collectively, these viewpoints provide a robust representation of the likely visual experience of receptors travelling along the WAW within the study area. It is also important to note that, in respect of 'representative viewpoints', GLVIA3[2] states that these are "*selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included and where the significant effects are unlikely to differ – for example, certain points may be chosen to represent the views of users of particular public footpaths and bridleways*."

This contextual separation of the Proposed Development and the WAW route is also an important consideration in this instance. Whilst the WAW route passes just over 1.5 km northeast of the site at its nearest point, the LVIA does not suggest that the Proposed Development will be invisible from the WAW. Instead, it demonstrates that the turbines will

[2] *3rd Edition Guidelines on Landscape and Visual Impact Assessment (2013) and subsequent updates.*

generally be experienced inland and away from the most sensitive coastal viewing aspects. Consequently, the defining experience of travelling along this section of the WAW, its relationship with the coastline and seascape character, will remain unaltered. It is also important to note that wind farm developments are not uncommon built feature viewed along the WAW route, with numerous existing wind farm developments view from the route corridor throughout the both County Mayo and the wider western coastline.

A different visual relationship occurs along the Western Way, as the trail passes directly through parts of the Wind Farm Site. However, in contrast to the WAW route, the sections of the Western Way route within the central study area are most often characterised by the more typical rural lands that characterise large parts of the central study area. Whilst other sections of the Western Way within the wider study area take in views of more susceptible landscape features and areas, such as the coastline or more remote elevated upland areas, the nearest sections of this route to the proposed turbines is most often characterised by traditional rural land uses where the degree of visual amenity is less susceptible to change. Four representative viewpoints were selected to represent this linear receptor – refer VP7, VP11, VP14 and VP19. The residual visual effect at these viewpoints ranged from Substantial-moderate to Slight-imperceptible with the principal effects relating to the nearest sections of the waymarked trail to the proposed turbines along Lackan Hill. From this elevated viewing context (refer to representative viewpoint VP11) some of the clearest views of the proposed turbine array are afforded, with the proposed turbines becoming one of the defining built features in across the immediate and wider landscape. Notwithstanding, the proposed turbines do not block or heavily obstruct visibility here, with open views still afforded across the landscape to the south (the opposite direction to the coastline).

Overall, the submitted LVIA acknowledges that users of the Western Way will experience the turbines at close range and that they will become prominent features along localised sections of the route. Nonetheless, the experience of the Western Way waymarked trail encompasses numerous landscape types and area, with the proposed turbines viewed along only a very small portion. Indeed, whilst the Proposed Development will result in some detraction in visual amenity afforded along localised sections of this route, this will be experienced in parts of the landscape that are characterised by more robust working lands uses. Indeed, the Western Way experiences views of wind farm developments along several sections of its route, and thus, the proposed turbine will not present as an incongruous form of development.

Overall, the submitted LVIA demonstrates that the potential effects on both the WAW and Western Way have been appropriately and comprehensively assessed, with representative viewpoints selected to reflect the range of visual experiences likely to occur along these

extensive linear routes. Whilst visibility of the Proposed Development will occur from sections of both routes, visibility alone does not equate to a significant adverse effect on their recreational or tourism function. Along the WAW, the turbines will generally be experienced inland and away from the principal coastal and seascape views that define the scenic experience of the route, with the majority of assessed visual effects being Slight or less. More notable effects will occur along localised sections of the Western Way closest to the proposed turbine array, where the turbines will become prominent features, although these effects occur principally within a more robust working rural landscape and extend across only a small proportion of the overall route. Views from either route will not be blocked or heavily obstructed in any sense, with the turbines often presented in the opposite direction from, or offset from, the principal aspects of visual amenity. Consequently, whilst some localised higher ranging visual effects are noted, the Proposed Development will not materially undermine the overall recreational, tourism or scenic function of either the WAW or the Western Way.

'Perceived Visual Dominance of the Proposed Turbines and Industrialisation of the Prevailing Rural Landscape'

Several, submissions note the prominence/visual dominance of the proposed turbines and the potential for the Proposed Development to result in an industrialisation of the local and surrounding landscape.

With regard to the visual prominence of the Proposed Development, the turbine array has been designed to fully comply with the visual amenity offsets outlined in the draft WEDGs. In this instance, the mandatory minimum setback distance of 500 metres applies, with the nearest relevant residential receptor located some 554 m from the nearest turbine. Whilst two other dwellings are located at closer distances, both of these are under the control of the developer. The scale of the proposed turbines is also an important consideration when discussing the visual prominence of the Proposed Development. In this instance, the proposed turbines rise to a maximum height of some 135 m above existing ground level. It should be noted that turbines of this scale are substantially smaller than many of the turbines currently being proposed and consented throughout Ireland. Indeed, some of the most recently consented wind farm developments, in addition to surrounding operational wind farm developments, comprise turbines that rise between 180–200 m above existing ground level. Whilst structures of 135 m still represent sizeable built forms, within this landscape context, which is influenced by broad underlying land uses and more distant, broad-scale landscape features, the scale of the proposed turbines can be well visually assimilated. The submitted LVIA takes full account of the scale of the proposed turbines, with some of the nearest visual receptors to the Proposed Development classified as experiencing a Substantial-moderate residual significance of visual

effect, representing notable visual effects. However, the visual prominence, and consequently the visual effects, reduce with increasing distance from the proposed turbines, with the residual significance of effect decreasing to Moderate and Slight as the turbines are perceived as progressively smaller features within the wider surrounding landscape. It is also important to note that visual prominence does not indicate significant visual effects. Indeed, a development can present with a dominant visual effects and still be classified with residual visual effects that are deemed Not Significant. Overall, the submitted LVIA does not understate the scale or visual prominence of the proposed turbines. Indeed, the full range of perceived turbine scales and associated residual visual effects is identified and appropriately assessed throughout the LVIA.

With regard to impacts on the character of the surrounding landscape, it is important to note from the outset that the prevailing character of the site and its immediate surrounding landscape is not one of pristine and naturalistic character. Indeed, whilst there are areas of the central and wider study area that present with more distinctive and naturalistic character, such as many of the coastal sections of the study area and localised areas of the uplands in the wider western parts of the study area, much of the site and immediate surrounding landscape is that of a more typical robust working landscape. Indeed, the local landscape character is heavily influenced by the surrounding traditional rural land uses that are productive in nature and are less susceptible to change than other surrounding distinctive landscape areas. Indeed, as per the submitted LVIA, much of the Wind Farm Site comprises rolling transitional terrain cloaked in commercial conifer forestry, pastoral farmland and peatland and is influenced by established working rural land uses. The immediate site context was assessed as having relatively little sense of rarity or distinctiveness when compared with the more susceptible coastal areas.

With regard to landscape effects on the character of the surrounding landscape generated by the proposed turbines, there is no doubt that a wind farm development of this scale and extent will have an effect on the prevailing working character and will markedly increase the intensity of built development within the immediate surrounding landscape. Nonetheless, the proposed turbines and ancillary infrastructure associated with the Proposed Development are dispersed across the surrounding landscape, with the turbines presenting as relatively slender built forms. In this regard, whilst the Proposed Development will result in a further intensification of built development, the prevailing rural character of the study area will not be notably altered. Indeed, it is robust working rural landscapes such as this, which are influenced by transitional working land uses including commercial-scale forestry, that can accommodate wind energy development without undue conflict with their prevailing landscape character. Overall, the rural characteristics of this landscape will remain its defining features and will continue to be readily discernible to surrounding receptors. It should also be noted that the Proposed Development represents a

long-term, but not permanent, form of development. Following the cessation of its operational lifespan and full decommissioning, the turbines and associated above-ground infrastructure will be removed, with little evidence of the Proposed Development remaining within the landscape.

Overall, the submitted LVIA appropriately acknowledges the scale and visual prominence of the Proposed Development and does not seek to understate the notable visual effects that will occur from some of the nearest surrounding receptors. Whilst the proposed turbines will increase the intensity of built development within the immediate landscape, this occurs within a robust working rural landscape already influenced by commercial forestry, pastoral agriculture and other productive land uses, rather than a pristine or highly naturalistic landscape context. The proposed turbines will therefore introduce a prominent new built feature but will not fundamentally alter or result in the industrialisation of the prevailing rural character, which will remain readily discernible throughout the surrounding landscape. Furthermore, visual prominence does not in itself equate to a significant visual effect, with the perceived scale and influence of the turbines progressively reducing with increasing distance. Consequently, whilst localised notable landscape and visual effects are acknowledged, the Proposed Development can be appropriately accommodated within this receiving landscape without undue conflict with its prevailing character.

'Perceived Conflicts with Landscape Policies and Designations within the Current Mayo CDP'

It is important to note that a full review of all relevant landscape policies and designations outlined in the current Mayo County Development Plan (CDP) 2022-2028 forms an important part of the submitted assessment and baseline landscape and visual assessment. As demonstrated in the submitted LVIA, the Proposed Development extends across two landscape character units: Area D – North Coast Plateaux and Area G – North Mayo Drumlins. Area D is characterised by elevated coastal vistas, smooth terrain and low vegetation, whilst Area G is characterised by undulating topography, shelter vegetation, prominent ridgelines and localised lake vistas. With regard to landscape policy areas outlined in the CDP, the Proposed Development is contained across Landscape Policy Area 1 and Policy Area 4, which have differing sensitivities to wind energy development. It is noted within the submitted assessment that Policy Area 1 is classified with a 'High' sensitivity in relation to wind farm development, which is likely associated with its more distinctive and susceptible coastal landscapes and seascapes, whereas Policy Area 4 relates to the more inland robust working landscapes and is classified with a 'High/medium' sensitivity with respect of wind farm development. One key consideration here is the fact that a 'High/medium' sensitivity classification with regard to wind farm development is the lowest sensitivity classification with regard to this development type.

Indeed, this policy area represents the area with the highest potential for wind farm development throughout all policy areas within County Mayo.

The Mayo CDP Renewable Energy Strategy is also another key consideration with regard to the Proposed Development, with the site contained across lands identified as Tier 1 – Preferred (Large Wind Farms) and Tier 2 – Open for Consideration, together with some undesignated lands. Tier 1 identifies areas where the potential for large wind farms is greatest, whilst Tier 2 allows wind farm development to be considered, subject particularly to its relationship with sensitive landscapes, highly scenic routes, scenic routes and scenic viewing points. Thus, the location of the Proposed Development within landscape policy areas classified as having a High or High/medium sensitivity to wind farm development does not directly equate to a policy conflict. Rather, the Proposed Development should be assessed against the localised characteristics and sensitivities of the receiving landscape context.

The preservation of scenic amenity in County Mayo is also noted throughout the current CDP. In this regard, scenic routes and views are defined within the CDP and should be protected. **Section 12.3.7.2** of the submitted LVIA provides a full summary of scenic routes and views within the entire study area, not just those within County Mayo. Indeed, the submitted assessment identifies nine representative viewpoints (VP1, VP2, VP3, VP4, VP5, VP6, VP13, VP20 and VP32) throughout the study area that were specifically selected to represent scenic designations. The nearest scenic routes relate to the coastal roads to the northeast and west of the site, where the primary viewing aspects relate to views across the coast and out across the bay. Whilst these views are highly susceptible to change, it is important to note that, where the Proposed Development is visible from these scenic designations, it is generally viewed in the opposite direction to the principal aspect of visual amenity, i.e. the coastal views.

Where visibility is afforded from other scenic designations within the wider surrounding study area, the Proposed Development either similarly presents in the opposite direction to the principal aspect of scenic amenity or as a distant background feature with a sub-dominant to minimal visual presence. The LVIA demonstrates that the Proposed Development will generate residual visual effects ranging between Moderate-slight and Slight-imperceptible at surrounding scenic designations. Importantly, these effects are classified as Not Significant, and the Proposed Development does not impact upon the principal scenic qualities or visual experience associated with these scenic designations. These outcomes are particularly relevant to Mayo CDP NEP 14, which seeks to protect and contribute to Mayo's physical, visual and scenic character, and NEO 27, which requires development proposals to be consistent with the Landscape Appraisal and associated Landscape Sensitivity Matrix. They are also relevant to

NEO 25 and NEO 26 concerning development along scenic routes and within sensitive coastal areas.

Overall, it serves no purpose for Macro Works to understate or disregard landscape and visual policies within any relevant development plans or guidance documents relative to the Proposed Development. The submitted LVIA provides a comprehensive consideration of the relevant landscape character areas, landscape policy areas, renewable energy designations and scenic amenity policies contained within the Mayo CDP, with these forming an integral part of the assessment of landscape and visual effects.

'Perceived Effects at the Céide Fields and their Visual Setting'

The Céide Fields are identified within the submitted LVIA as a highly sensitive receptor due to their considerable heritage and tourism value. This is demonstrated in the LVIA, where, in **Table 12.9,** representative viewpoint VP4, which was selected to represent the Céide Fields as a visual receptor, is classified as having a Very High sensitivity, the highest sensitivity classification possible for a visual receptor within the assessment. It should be noted that the Céide Fields Visitor Centre, which is the principal visual receptor in this instance, is located some 10 km west/northwest of the proposed turbine array and is situated directly along the coastline on the WAW. In this regard, the receptor possesses susceptible values relating to heritage, amenity, tourism and scenic amenity and, thus, has been classified as having the highest level of visual receptor sensitivity.

VP4 was specifically selected to assess views from the Céide Fields Visitor Centre and its surrounding visual setting. The assessment identifies potential partial visibility of up to six turbines. However, at a distance of more than 10 km, the turbines will be perceived as small-scale background elements within a broad and expansive panorama. Importantly, the turbines occur inland and are well separated from the immediate coastline, which forms the most visually susceptible and distinctive component of the setting. The resulting magnitude of visual effect is assessed as Low-negligible, giving rise to a Slight / Negative / Long-term effect.

With regard to the Office of Public Works (OPW) submission, reference is made to the need for additional photomontages to assess the full potential effects on the Céide Fields complex. It should be noted that the Céide Fields Visitor Centre is located upwards of 10 km from the site, with the proposed turbines visible as small-scale features in the background. The OPW submission requests additional views from the more elevated lands further south, along the boardwalk at the Visitor Centre, and from a viewing point directly along the coastline immediately north of the Visitor Centre. A further viewpoint is requested from the R314 regional road, which

forms part of the WAW. In accordance with the OPW request, additional wireframes have been provided from the above locations and are set out below:

WF VP1 – Views from the more elevated parts of the Céide Fields boardwalk, south of the Visitor Centre. An almost identical view of the proposed turbines will be afforded from this location to that presented at representative viewpoint VP4 in the submitted LVIA. Indeed, whilst the wireframe depicts the view from a more elevated section of the boardwalk, the intervening ridge to the east of the site continues to provide substantial screening of the wider development, whilst the visual presence and perceived scale of the visible turbines remain broadly unchanged from those assessed at VP4, at a distance of over 10 km. Thus, there is no change to the residual visual effects identified for VP4 in the submitted LVIA.



Figure 1: Wireframe VP1 – Viewpoint from Céide Fields boardwalk at more elevated ground than VP4 (submitted LVIA)

RFI VP2 – Viewpoint from the R314 at Muingelly. This viewpoint is located along a section of the regional road on the eastern approach to the Céide Fields Visitor Centre. The road forms part of the WAW and affords pleasant views across the surrounding coastal environs. The wireframe depicts potential visibility of up to eight turbines along the distant ridge, which present at a modest scale against the skyline. Representative viewpoint VP6 is located further to the east and affords a similar, but broader, view of the Proposed Development from a very similar visual context. Overall, visual effects from this location will be no greater than those identified for VP6, where the residual visual effect was assessed as Slight. Indeed, it is not considered that visual effects from this location will be 'profound', as referred to in the OPW submission. Instead, the turbines will be viewed in the opposite direction to the principal aspect of visual amenity, which is generally oriented northwards across the coastline, and will have a relatively limited effect on the overall visual amenity afforded from this location.



Figure 2: Wireframe VP2 – Viewpoint from R314 at Muingelly

WF VP3 – View from the R314 north of the Céide Fields Visitor Centre at the WAW Discovery Point. This viewpoint is located directly along the coastline to the north of the Céide Fields Visitor Centre, at a viewing platform that affords expansive views across the surrounding dramatic coastline and out to sea. The key consideration from this location is that the principal aspect of visual amenity is orientated across the coastline and seaward, whilst the proposed turbines will be potentially visible along a distant inland ridge in the background of the view, at a distance of some 10 km. Indeed, the visual presence and perceived scale of the Proposed Development remain broadly unchanged from those identified at representative viewpoint VP4 and WF VP1 above. The partial views of the turbines will be perceived against the sky at a relatively small scale and with a low degree of visual contrast. Consequently, the residual visual effects from this location are considered to be consistent with those identified for representative viewpoint VP4 in the submitted LVIA (i.e. Slight).



Figure 3: View from R314 north of Céide Fields Visitor Centre at WAW Discovery Point

As demonstrated in the submitted LVIA and the additional wireframe views above, the proposed turbines, whilst visible, will have a very limited visual presence at this distance and will have little influence on the visual amenity afforded from the Céide Fields and its surrounding landscape context. Overall, the low level of visual effect identified for this highly sensitive receptor is principally influenced by the sensitivity of the receptor (Very High) rather than the magnitude of visual effect, which is typically no greater than Low-negligible within the immediate surroundings of the Céide Fields Visitor Centre.

Overall, whilst the international and national importance of the Céide Fields and its landscape setting is fully acknowledged within the submitted LVIA, the Proposed Development will neither materially alter the character of that setting nor significantly detract from the principal scenic, heritage and visual qualities for which it is valued. The turbines will remain distant, relatively small-scale background features, principally experienced inland and away from the dramatic coastal and seaward views that form the defining aspect of visual amenity at the Céide Fields. Consequently, the additional wireframe views do not alter the findings of the submitted LVIA,

and the residual visual effects on the Céide Fields and its immediate visual setting remain Slight and Not Significant.

'Accuracy of the photomontages and representative nature of the viewpoint locations'

Several submissions call the accuracy of the photomontages into question highlighting them as "deceitful" and question the rationale behind the selection of viewpoints and the 20km study area.

In terms of the accuracy, Macro Works produce photomontages in line with the current Nature Scot Guidelines and guidance set by the British Landscape Institute 2011 – Advice Note 01/11. Viewpoints are selected (in consultation with the planning authority) and high-quality photography in RAW format is captured using a digital Single-Lens Reflex (SLR) camera with a fixed 50mm lens on a Monfrotto panoramic head and leveller. Viewpoint locations are then spatially captured using a survey grade Global Positioning System (GPS) unit to within 10cm of accuracy. High resolution 360-degree panoramas are generated from the captured photography. The scheme is then modelled using a Digital Terrain Model (created with a combination of LiDAR and OS Terrain Data) and real world reference points. It is rendered in Autodesk 3DS Max 2023 with identical image characteristics to that of the camera used for the baseline photography allowing the render and the photography to be merged with a high degree of accuracy.

A number of submissions also question the number, location and representativeness of the selected viewpoints and request photomontages from specific parts of the study area. The LVIA viewpoint assessment is based on the established principle that viewpoints are representative locations rather than views from every possible location from which a development may be visible. Their purpose is to provide a representative sample of the range of receptor types, viewing directions, distances, sensitivities and landscape contexts from which the Proposed Development may be experienced.

In terms of the selection of the viewpoint locations for assessment, this is guided by the GLVIA3 (Guidelines for Landscape and Visual Impact Assessment). The viewpoint selection is undertaken utilising the ZTV (Zone of Theoretical Visibility) mapping, which provides the basis for selection of key viewpoints from which to study the visual and landscape impact of the Proposed Development in detail. It is not practical to include every single location that provides a view of the Proposed Development as this would result in an unwieldy report and make it difficult to draw out the key impacts arising. Instead, the assessors endeavoured to select a

variety of location types that would provide views of the proposed project from different distances, different angles and different contexts. The locations selected are significant because they comprise, for example, centres of population and important communication routes whether due to traffic volume or their scenic value. It should also be noted that the representative viewpoints for assessment were shared with the planning authority**.** Each representative VP is chosen to represent visual receptor groups from the following receptor types;

- Key Views - from features of international or national importance;
- Amenity Views - from important heritage or amenity locations;
- Designated Scenic Routes and Views;
- Local Community Views;
- Centres of Population;
- and Major Routes.

It is important to note that some VPs may be applicable to several receptor categories, in which case, they will be assessed under the group that best reflects that location's particular sensitivities. Whilst every effort is made to select viewpoints with the clearest and most unimpeded view of the proposed project, in some instances, only a partial view of the proposed project will be visible from the nearest publicly accessible location that was selected to represent the visual receptor. In instances where the Proposed Development is heavily screened from a specific receptor, a photomontage has been included to highlight the degree of intervening screening afforded between the visual receptor and the proposed turbines. In circumstances where a branch or cluster of vegetation partially screens a turbine or section of the development, the wireframe view is utilised to understand the potential visual impacts and perceived scale of the development from that receptor.

Finally, it is important to note that Macro Works always attempts to use the most open views relative to the receptor being represented, whether these are views from a town or a designated scenic route. It serves no purpose to assess visual impacts from a location, which can be readily proven not to be representative of worst-case visual exposure from a particular receptor, as this only undermines the assessment.

With regard to the defined 20 km study area, this follows the current and draft WEDGs, which specify different study area radii for examining the Zone of Theoretical Visibility (ZTV) of proposed wind farm developments. The WEDGs set out a study area radius of 20 km for turbines with a "blade tip greater than 100 m", which is applicable to the Proposed Development, as the proposed turbines rise to a maximum height of 135 m. In this regard, the submitted LVIA follows the relevant guidance with respect to the definition and extent of the study area.

Comments within the submissions also suggest that the ZTV mapping ignores the Céide Fields, which is entirely incorrect. The Céide Fields and the full extent of the 20 km study area are fully accounted for within the submitted ZTV mapping (refer to Plate 12.8 of the LVIA). It should be noted that the ZTV pattern is eliminated directly west of the Céide Fields Visitor Centre, as the proposed turbines will be entirely screened by intervening terrain within this part of the study area.

'Perceived cumulative landscape and visual effects'

Cumulative landscape and visual effects were full considered in **Section 12.5** of the submitted LVIA, reinforced by cumulative ZTV analysis and cumulative wireframes. The submitted assessment defines two scenarios; the current cumulative scenario, comprising existing and consented wind farms; and the potential future cumulative scenario, which takes account of cumulative developments at planning and pre-planning stage where sufficient information was available.

In summary, with regard to the current cumulative scenario, the submitted LVIA identifies a relatively limited cumulative effect with existing and consented wind farms, principally due to the absence of other wind energy developments within the central study area and the separation of over 5 km from the nearest existing wind farm (Killala). Whilst instances of combined and sequential visibility have the potential to occur, the surrounding developments remain distinctly separated, and the overall magnitude of cumulative effect is assessed as Low.

The potential future cumulative scenario includes for the potential addition of up to 48 turbines associated with developments across the wider western and southwestern parts of the study area. If all of these developments were consented and constructed, wind energy would become a considerably more characteristic features of the surrounding landscape, resulting in a High-medium magnitude of cumulative effect. Nonetheless, the Proposed Development remains contextually and spatially separated from these developments, with no other wind farms located within the central study area and the principal concentrations of future development generally contained away from the most sensitive coastal receptors. Full details of both cumulative scenarios are provided in **Sections 12.1.1** and **12.1.2** of the submitted LVIA.

4 RESPONSE TO THIRD PARTY OBSERVATIONS

A total of 221 Third Party Submission was received by the Commission in response to the Tirawley Wind Farm planning application. The Applicant and project team have thoroughly reviewed them. Given the large volume of submission and after reviewing their content, it quickly became apparent that there were several reoccurring themes and concerns raised by the third parties, a total of 117 themes and concerns. **Section 4** address these 117 primary consolidated themes and concerns. Once identified they were then grouped and categorised into their corresponding EIAR chapters to align with the lodged application, refer to **Sections 4.1 to 4.15** below. Submissions are referred to as an "**Item**" following immediately by the Applicants response referred to as the "**Answer"**.

4.1 Alternatives

Item 1: Site/layout suitability and alternatives not adequately considered

Answer: The **EIAR Chapter 3 Alternatives Considered** outlines the strategic site selection process in **Section 3.5**. The site selection process for the proposed wind farm was undertaken as a strategic, county-wide assessment to identify land capable of accommodating a viable wind energy development while minimising potential environmental, social and technical impacts.

Constant Energy Limited initially undertook a mapping and constraints exercise across County Mayo to identify potential areas suitable for wind energy development. This assessment was informed by national, regional and local planning policy, including the Mayo Renewable Energy Strategy and the wind energy designations contained within the Mayo County Development Plan. Areas designated as suitable or preferred for wind energy development were considered alongside a range of site-specific constraints.

The strategic assessment considered a broad range of factors, including wind resource, grid connectivity, European and other ecological designations, ornithology, archaeology and cultural heritage, landscape and visual sensitivity, tourism, terrain, land use, housing density and planning precedent. The assessment also considered the availability of sufficiently large landholdings capable of accommodating the turbines, access roads, grid infrastructure and other elements of the Proposed Development.

As part of the process, areas within and adjoining designated wind energy areas were examined in greater detail. Agricultural land and commercial forestry were generally preferred where they could accommodate development without giving rise to significant environmental effects.

Residential constraints were also incorporated through GIS analysis, including appropriate separation distances from existing dwellings and permitted but not yet constructed residences.

Once the appropriate site was selected a detailed constraints led approach process as detailed in **EIAR Chapter 3, Alternatives Considered, Section 3.6.1**.

Constraints mapping was carried out at the preliminary stage of the project (Q1-Q2 2024) for the selected Site. The constraints mapping process involved the placing of buffers around different types of constraints to identify the areas within which no development works could take place. The constraints map for the Wind Farm Site, encompasses the following constraints and associated buffers:

- *Wind Turbine's: 4 x Blade Tip Height (4 x 135 m = 540 m) buffer of residential dwellings curtilage*
- *Operator specific buffer of Telecommunication Links*
- *50 m buffer of Watercourses*
- *10 m buffer of manmade drains*
- *50 m – 100 m buffer of Archaeological Sites or Monuments*

The proposed wind farm went through a significant design process, and all environmental aspects were assessed for each position of the proposed turbine locations.

Table 3.2: Summary of Wind Farm Layout Iterations

Layout Iteration	No. of Turbines	Turbine Specifications (Example)	Total Potential Output (MW)
Layout 1	42	(Not specified)	(Not specified)
Layout 2	31	28 x 3.45 MW (125 m blade tip) & 3x 6.0 MW (180 m blade tip height)	114.6 MW
Layout 3	25	21 x 3.45 MW (125 m blade tip height) & 4 x 6.0 MW (180 m tip blade tip height)	96.45 MW
Layout 4	21	21x 3.45 MW (125 m blade tip height)	72.45 MW
Layout 5	18	18 x c. 4.3 MW (135 m tip)	77.40 MW
Final Layout	16	16 x c. 4.3 MW (135 m tip)	68.8 MW

Inconclusion, the EIAR demonstrates that the suitability of the selected site and the proposed layout was subject to a comprehensive and iterative assessment, with environmental, technical, planning and social constraints informing the final design. The consideration of alternatives was therefore proportionate to the nature and scale of the Proposed Development, and it is

concluded that site/layout suitability and alternatives have been adequately considered and appropriately addressed within the EIAR.

4.2 Planning and Policy

Item 1: Inadequate or absent community benefit scheme

Submitters argue the community benefit fund on offer is too small, vaguely defined, or not legally guaranteed, and does not adequately compensate the host community for bearing the impacts of the development.

Answer: The assertion that the proposed community benefit scheme is inadequate, vaguely defined, or lacks a legal guarantee is factually incorrect and is systematically refuted by the concrete financial projections, administrative structures, and statutory RESS requirements detailed in the planning application (**EIAR Chapter 2 - Development Description, Section 2.12, Section 2.12.2**). If consented, the Proposed Development will establish a legally binding Community Benefit Fund, which is projected to generate an average of €341,121 per annum—amounting to approximately €10,237,710 over the lifetime of the project (**EIAR Chapter 2 - Development Description, Section 2.12, Section 2.12.2**). Rather than being vaguely defined, the fund's administration and allocation are strictly governed by the Terms and Conditions of the Government's Renewable Electricity Support Scheme (RESS), which are legally mandatory for any project exporting electricity to the national grid. RESS regulations legally guarantee direct household payments, mandating a minimum near-neighbour payment of €1,000 annually to each household located within a 1-kilometre radius of the wind farm, with additional near-neighbour payments extending to households located between 1 km and 2 km. Furthermore, the scheme ensures direct social investment by legally reserving a minimum of 40% of the overall fund for local not-for-profit community enterprises focusing on UN Sustainable Development Goals (such as local education, energy efficiency, and climate action), while capping administrative costs at 10% to ensure maximum local utility and transparent governance. To align the fund with direct local aspirations, a benefit fund development working group consisting of representative neighbours and nearby community members will be established to design the structure of the local community entity that will administer the fund (**EIAR Chapter 2 - Development Description, Section 2.12.1**).

Item 2: Objection to specific turbine locations / receptor proximity references

A number of submissions focus narrowly on the proximity of specific turbines (e.g. AT14, AT15, AT16) to specific named dwellings/receptors, objecting to those particular siting decisions rather than the project as a whole.

Answer: The spatial and technical positioning of turbines AT14, AT15, and AT16 has been systematically verified to comfortably comply with and exceed both national and draft regional separation thresholds. Under the current 2006 Wind Energy Development Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings. Furthermore, Section 6.18 of the 2019 Draft Revised Wind Energy Development Guidelines (SPPR 2) mandates a visual amenity setback equivalent to 4 times the maximum tip height of the relevant wind turbine, subject to a mandatory minimum distance of 500 m from any residential curtilage. Utilising the candidate turbine model—the Vestas V117 (4.3 MW) with a maximum blade tip height of 135 m—the required setback under the 2019 Draft Guidelines is calculated as exactly 540 m (4 x 135 m).

Modelling confirms the proposed turbine locations meet all required standards. Specifically, the closest non-associated inhabited residential receptor to turbine AT14 is H11, located at a distance of 722.87 m. For turbine AT15, the closest non-associated inhabited residential receptor is H7, situated at a distance of 601.44 m. Similarly, the closest non-associated inhabited residential receptor to turbine AT16 is H11, located at a distance of 623.60 m (**EIAR Chapter 2 - Development Description, Section 2.6.1, Table 2.3**). All of these distances exceed both the 500 m statutory baseline of the 2006 Guidelines and the 540 m amenity setback mandated under the 2019 Draft Guidelines, ensuring that the physical siting of these specific assets does not compromise local residential or visual amenity.

Item 3: Aarhus Convention / access-to-justice and human-rights concerns

A smaller set of submissions frame their objection in terms of the Aarhus Convention's guarantees of public participation and access to justice in environmental decision-making, or broader human-rights arguments.

Answer: The physical guarantees of public participation and community protection are comprehensively demonstrated through the developer's strict adherence to protective planning guidelines. While pre-application community consultation is not a mandatory statutory requirement under the Irish planning system or the adopted 2006 Wind Energy Guidelines, the developer engaged with the local community in accordance with the 2016 Code of Practice for Wind Energy Development in Ireland and the Draft Revised Wind Energy Guidelines (2019)

(**Appendix 1.6 Community Engagement Report, Section 1.1 & 2).** This public participation process was centered on a Public Information Day held on June 6, 2023, at the Ballina Manor Hotel—selected to ensure maximum regional accessibility—which was attended by 31 individuals (**Appendix 1.6 Community Engagement Report, Section 3.1 & 3.2**). The event featured detailed informational displays and interactive digital tools, including panoramic monitors showing landscape photomontages and an interactive tablet-based visual simulation tool that allowed residents to view the exact visual impact of the turbines from their own homes (**Appendix 1.6 Community Engagement Report, Section 3.4**). Feedback from these attendees was formally recorded, evaluated, and integrated into the iterative project design and Environmental Impact Assessment (EIA) processes (**Appendix 1.6 Community Engagement Report, Section 4.1, 5.1 Table 5.1 & 6**).

Furthermore, to protect the community from physical and visual impacts, the project layout has been designed in strict compliance with the protective thresholds of both the 2006 Wind Energy Development Guidelines and the 2019 Draft Revised Guidelines. Under the 2006 Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings. In comparison, Section 6.18 (SPPR 2) of the 2019 Draft Guidelines mandates a visual amenity setback equal to four times the turbine tip height, subject to a mandatory minimum distance of 500 m from any residential curtilage (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1**). Applying the 135 m blade tip height of the proposed candidate Vestas V117 turbines, the 2019 visual setback requirement is calculated as exactly 540 m (4 x 135 m) (EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 & 12.3.4.1) The proposed wind farm layout complies with and exceeds both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1).**

Item 4: Zoning Incompatibility & Council Opposition:

Why is the wind farm being proposed in an area that Mayo County Council's planners and executive explicitly designated as "Unsuitable" in the Draft Mayo Renewable Energy Strategy (RES) 2026, and which they formally opposed during pre-planning? Under the Mayo RES 2011, why are 5 of the proposed turbines sited in open, unclassified countryside entirely outside Tier 1 (Preferred) and Tier 2 (Open for Consideration) lands, and 8 turbines in Tier 2 without robust, site-specific justification.

Answer: The planning application was finalised in April 2026 when the strategy was still in draft format.

The applicant submits that the county-wide removal of positive wind zones in the newly adopted strategy represents a broad, strategic-level mapping exercise that lacks site-specific granularity. The RES itself explicitly admits it was finalised ahead of the Northern and Western Regional Assembly's (NWRA) formal county-by-county allocation targets under National Policy Objective 74 of the National Planning Framework (**EIAR Chapter 4 - Planning Policy, Section 4.5.1.2**). It is argued that an applicant who has expended significant capital conducting extensive baseline environmental surveys, preparing detailed Environmental Impact Assessment Reports (EIAR), and compiling Appropriate Assessments (AA) based on a previously valid land-use designation cannot be retroactively penalised without the planning authority demonstrating how live applications are to be fairly transitioned.

Under the previously active RES, the proposed 16-turbine layout was situated across Tier 1 (Preferred) and Tier 2 (Open for Consideration) lands, with only 5 turbines on unclassified lands immediately adjacent to the designated tiers (within 820 m of a designated area) (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.3.5**). Siting these 5 turbines on unclassified lands was a deliberate, site-specific outcome of a constraints-led process that prioritised the avoidance of sensitive environmental and archaeological assets—such as deeper peat, active Annex 1 bogs, and complex archaeological buffers—located within nearby Tier 1 areas (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.1, Section 3.5.3.5**).

Furthermore, the layout has been meticulously designed to comply with and exceed both current and proposed visual and separation guidelines. Under the 2006 Wind Energy Development Guidelines as well as the 4 times blade tip height (540-metre) setback required under the *Draft Revised Wind Energy Development Guidelines 2019*, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1**). In comparison, Section 6.18 of the 2019 Draft Revised Guidelines (SPPR 2) mandates a visual amenity setback equal to four times the turbine tip height, subject to a mandatory minimum of 500 m from any residential curtilage. Utilising the candidate Vestas V117 (4.3 MW) turbine model with a maximum tip height of 135 m, the 2019 draft visual setback requirement is calculated as exactly 540 m (4 x 135 m) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 and 12.3.4.1**). The proposed wind farm layout complies with and exceeds both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3), thus validating the robust, site-specific suitability of the proposed layout (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1, EIAR Chapter 5 - Population & Human Health, Section 5.3.1**).

Item 5: Gaeltacht & Language Protections:

Why was there a complete failure to consult with Údarás na Gaeltachta, and why were no planning documents or public engagements made available in the Irish language, despite the Proposed Development directly impacting a small, vulnerable indigenous Gaeltacht population in North Mayo?

Answer: With respect to the third-party submissions alleging a "complete failure" to consult with Údarás na Gaeltachta, this assertion is factually incorrect and directly contradicted by the statutory consultation records compiled within the planning application (**EIAR Appendix 1.3: Scoping Opinion**).

The developer has engaged in a proactive and documented scoping process with Údarás na Gaeltachta:

An initial scoping letter was formally transmitted via email to Údarás na Gaeltachta (dnag@udaras.ie) on 02/03/2023 (**Appendix 1.3: Scoping Opinion**). No response or submission was received.

A follow-up scoping invitation was issued in late 2025, which was formally acknowledged by Údarás na Gaeltachta on 15/12/2025 (**EIAR Appendix 1.3: Scoping Opinion**).

Despite these repeated opportunities to participate in the pre-planning process, no further response or comment was received from Údarás na Gaeltachta by the final EIAR reporting deadline of 17/04/2026.

The absence of a scoping submission is a matter for the consultee, and the record demonstrates that the applicant fully discharged its consulting obligations in accordance with best-practice standards (**Appendix 1.6 Community Engagement Report, Section 2**).

Nonetheless, the subject site is located approximately 9.6 km outside any statutory Gaeltacht boundary, where no specific linguistic planning objectives apply.

Legislation Accused of Being Broken and Why

Submitters accuse the development of breaching several local planning policies, national statutes, and European environmental directives**:**

Item 6: Mayo County Development Plan 2022–2028 (MCDP)

The Accusation: Material contravention of landscape-protection, target-capping, and built environment policies.

Why:

- Landscape Appraisal Policy Area 1 (Montane Coastal Zone): Siting turbines on these protected ridgelines violates MCDP policies as the Landscape Sensitivity Matrix identifies wind farms as having high potential for unacceptable adverse impacts in Area 1. It specifically violates Policies 2, 3, 4, 5, 6, 7 and Objectives NEO 25, NEO 27, and REO 8.
- Target Exceedance (Objective REO 23): Under the MCDP, County Mayo has already far exceeded its local wind generation target (producing 714 MW / 1,114 MW permitted/operational vs. the 600 MW target). Objectors argue there is no planning policy justification for overriding local environmental protections when regional renewable targets are already exceeded.
- Objective BEO 2 (UNESCO World Heritage Protection): Siting turbines directly over Neolithic field systems associated with the Céide Fields (currently on Ireland's tentative list for UNESCO World Heritage status) directly contravenes BEO 2, permanently destroying unrecorded subterranean archaeology with deep concrete foundations.
- Built Heritage Objectives (BEO 1 to BEO 6, BEP 4, BEP 7, BEP 13, and BEP 14): Permitting turbines within 300m of the protected Lacken Gazebo folly (NIAH 31300708) and country houses/demesnes (such as Castlelacken Demesne and Carrowmore House) directly damages their classical vistas, attendant grounds, curtilages, and settings.

Answer:

Landscape Appraisal Policy Area 1 and Sensitivity Matrix

The assertion that the Proposed Development materials contravene the landscape protection policies of the Mayo County Development Plan 2022–2028 (MCDP) is technically unfounded. The proposed wind farm is situated across Landscape Policy Area 1 ("Montane Coastal Zone") and Policy Area 4 ("Drumlins and Inland Lowland") (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.5.1**). While the Landscape Sensitivity Matrix notes that wind farms in Policy Area 1 have a high potential for adverse impacts, the EIAR's Landscape and Visual Impact Assessment (LVIA) demonstrates that the specific terrain can absorb the development without significant visual effects on coastal vistas or protected landscapes (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.10, EIAR Chapter 4 - Planning Policy, Section 4.5.3.1**).

The layout has been meticulously designed to comply with Area 1 Policies:

- **Policies 3 & 4 (Scenic Coastal Vistas)**: To minimise visual prominence, the candidate Vestas V117 turbine model was chosen because of its compact size, and the maximum blade tip height was restricted to 135 m (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.6, Section 4.5.3.8, EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.12.4**). All turbines are located in lowlands to prevent intrusion on coastal views.
- **Policy 5 (Primary Ridgelines)**: Siting turbines on prominent ridgelines has been minimised, natural vegetation and commercial forestry blocks which provide natural visual barriers and screen linear profiles (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.5, Section 4.5.3.8**).
- **Policy 6 (Undisturbed Coastal Character)**: The turbines are located entirely within modified agricultural pastures and commercial conifer plantations, completely avoiding intact, undisturbed coastal habitats or active Annex 1 blanket bogs (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.8**).
- **Policy 7 (Steep Slopes)**: Siting on steep slopes has been bypassed to mitigate geotechnical and peat slide hazards, complying with the Peat Slide Risk Assessment (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.8**).

Regarding Mayo's objectives, the design directly aligns with:

- **NEO 25 (Scenic Routes)**: The delivery of large turbine components along the R314 and R315 scenic routes will take place at night to prevent daytime disruption, and any visual presence from the public realm is minor and temporary.
- **NEO 27 (Landscape Appraisal & Sensitivity Matrix Consistency)**: The design maintains consistency with the Landscape Sensitivity Matrix by utilising irregular spacing and a dispersed layout, which preserves visual permeability and prevents a sense of visual enclosure (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1, EIAR Chapter 4 - Planning Policy, Section 4.5.3.1**)
- **REO 8 (Wind Energy Promotion & Siting Guidelines)**: The layout complies with the visual setback requirements of both national and draft regional guidelines. Under the 2006 Wind Energy Development Guidelines, a 500 m separation distance is recommended to protect residential amenity, as well as the 4 times blade tip height (540-metre) setback required under the *Draft Revised Wind Energy Development Guidelines 2019* (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1**). Under Section 6.18 of the 2019 Draft Guidelines (SPPR 2), a visual setback of 4 times the turbine tip height (4 x 135 m = 540 m) must apply between each turbine and the nearest point of the curtilage of any residential property. The proposed layout complies with both standard metrics, maintaining a minimum

separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residence (H3) (**EIAR Chapter 12 - Landscape & Visual Amenity, Chapter 12, Section 12.3.4.1**, **EIAR Chapter 5 - Population & Human Health, Section 5.3.1**).

Target Exceedance (Objective REO 23)

The objectors' assertion that County Mayo has already exceeded its wind energy targets is factually incorrect and directly refuted by the baseline planning data in the EIAR. Under Objective REO 23, the MCDP establishes a minimum renewable wind energy target of 600 MW for County Mayo (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.3.1**, **EIAR Chapter 4 - Planning Policy, Section 4.5.3.1**). At the time the EIAR was submitted installed renewable wind capacity of County Mayo is only 358 MW. The proposed 68.8 MW development will bring Mayo's total installed capacity to 426.8 MW, which was 173.2 MW below the adopted 600 MW county target. County Mayo has since exceeded its 600 MW target. However, this 600 MW figure is an operational baseline floor to be achieved, not an absolute cap or maximum limit on renewable development within the county. The objectors' figure of ~793.3 MW combines both *connected* and *contracted* capacity. Contracted pipeline capacity does not equate to operational generation on the grid; pipeline projects remain subject to planning variations, grid connection delays, commercial attrition, or non-delivery.

Relying on unbuilt pipeline capacity to claim target completion is premature and flawed. Under the Northern & Western Regional Assembly (NWRA) framework and the Regional Spatial and Economic Strategy (RSES), sub-regional renewable allocation targets are undergoing upwards revision. County Mayo—as a key wind resource area in the NWRA region—will be required to absorb higher capacity allocations to meet regional targets, rendering a 600 MW benchmark obsolete as an indicator of sufficiency.

The proposed 68.8 MW development does not represent an "excess." Rather, it delivers active, realisable generation to address current operational deficits while positioning County Mayo to satisfy its forthcoming higher targets under the NWRA framework.

Objective BEO 2 (UNESCO World Heritage Protection & Céide Fields)

Siting of turbines does *not* occur directly over the Neolithic field systems of the Céide Fields. The Céide Fields archaeological complex (MA006-032002-) is located approximately 9.5 km northwest of the northernmost turbine of the Proposed Development (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6**). Furthermore, while Objective BEO 2 protects the tentative World Heritage Site (**EIAR Chapter 14 - Cultural Heritage, Section 14.2.3.3**), the Céide Fields

neolithic complex has not been included in Ireland's revised 2022 Tentative List for UNESCO World Heritage status (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6**) Visual modelling (LVIA Chapter 12, VP4) confirms that visual impacts on the Céide Fields are Slight indirect significance of effect; any views of the turbines from the site are a low-magnitude background feature, and primary vistas from the visitor center entrance are oriented north across the ocean, entirely away from the wind farm to the southeast (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.2.6, Section 14.4.4**). To protect potential unrecorded subterranean archaeology, the CEMP mandates "a programme of archaeological test excavations carried out as part of advance construction phase works" and continuous "archaeological monitoring... under licence by the National Monuments Service" during all ground works (**EIAR Chapter 14 - Cultural Heritage, Section 14.5.1**), (**Appendix 2.1 Construction Environmental Management Plan (CEMP), Chapter 3, Section 3.6.1**).

Built Heritage Objectives (BEO 1 to BEO 6, BEO 10, BEO 17)

The assertion that turbines are permitted within 300 m of the country houses and demesnes of Castlelacken or Carrowmore, thereby directly damaging their settings, is factually incorrect:

- Castlelacken House (RPS 188) is located 924 m southwest of the nearest development area a, spoil deposition area and is not within 300 m of any turbine (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.7. Table 14.8**).
- Carrowmore House (RPS 190) is located 940 m east of turbine AT07 (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.7**).
- Lacken Gazebo (RPS 16 / NIAH 31300708) is located 293 m southeast of turbine AT16 and 185 m east of the soil deposition area within the quarry (**EIAR Chapter 14 - Cultural Heritage, Chapter 14, Section 14.3.7, Section 14.3.13, Section 14.4.4**).

The placement of turbine AT16 at this location represents a sensitive, constraints-led decision, as the turbine and spoil deposition areas are sited within an existing, heavily disturbed 1990s quarry area rather than on undisturbed landscape. No direct physical works will occur at the Gazebo structure. Visual modelling confirms that the principal vistas from Lacken Gazebo toward the sea at the northeast, east, and southeast will remain completely unaffected (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.13, Section 14.4).** The proposed turbines (AT15 and AT16) are located to the northwest of the structure (behind its primary aspect) where views are already heavily obstructed by extensive gorse, elevated bogland topography, and commercial forestry plantations (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.13, Section 14.4.4**). This ensures the integrity of its classical vistas and setting are preserved.

Item 7:Planning and Development Act 2000 (as amended)

The Accusation: Breach of Section 10 statutory obligations and invalid Strategic Infrastructure Development (SID) status.

Why:

- Section 10 Requirements: The development is inconsistent with Section 10 obligations, which require planning authorities to promote the preservation of landscape character, scenic views, archaeological heritage, and public amenities.

The substantive claims that the Proposed Development is inconsistent with the preservation of landscape character, scenic views, archaeological heritage, and public amenities, or that its Strategic Infrastructure Development (SID) status is invalid, are technically unfounded. With an anticipated output of 68.8 MW, the wind farm comfortably exceeds the legal threshold to qualify as an SID under National Policy Objective 70 of the National Planning Framework, directly addressing the 4.2 GW national shortfall in wind capacity required to meet Ireland's binding 2030 climate targets (**EIAR Chapter 3 - Alternatives Considered, Section 3.5.1**).

To protect the local visual and landscape character, the wind farm design complies with and exceeds both current and proposed visual and separation guidelines Under the 2006 Wind Energy Development Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings. In comparison, Section 6.18 of the 2019 Draft Revised Wind Energy Development Guidelines (SPPR 2) mandates a visual amenity setback equal to four times the turbine tip height, subject to a mandatory minimum of 500 m from any residential curtilage. Sited on a plateau of low rolling hills, the project utilises the candidate Vestas V117 (4.3 MW) turbine model with a maximum tip height of 135 m, which yields a 2019 visual setback requirement of exactly 540 m (4 x 135 m) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 and Section 12.3.4.1**). The proposed layout complies with both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3).

Furthermore, independent visual appraisals conducted by Macro Works Ltd confirm that the irregular and dispersed spacing of the turbines ensures high visual permeability, preserving panoramic vistas and preventing any overbearing impact or sense of visual enclosure (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.4 & Section 12.4.2.10**). Turbines are situated in lowlands and integrated with existing commercial forestry and modified pasture, avoiding primary ridgelines, steep slopes, and sensitive coastal vistas (**EIAR Chapter 4 -**

Planning Policy, Section 4.5.3.6). Primary views from coastal scenic routes and tourism receptors (such as Downpatrick Head and Céide Fields) are oriented out to sea or away from the turbine array, resulting in visual effects that are assessed as Not Significant (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.6 & Section 12.4.2.7**).

To preserve the archaeological heritage of the area, the wind farm was designed using a constraints-led approach that avoided all known archaeological monuments, establishing a mandatory 50 m minimum buffer around all recorded features (**EIAR Chapter 2 - Development Description, Section 2.6.1**). Ground works will have no direct physical effects on any known archaeological monuments and will be subject to continuous monitoring by a qualified archaeologist under license from the National Monuments Service (**Appendix 2.1 Construction Environmental Management Plan (CEMP), Section 3.6**). To safeguard potential unrecorded, sub-surface remains, a programme of advance archaeological test excavations will be carried out at identified areas of archaeological sensitivity prior to construction works (**EIAR Chapter 14 - Cultural Heritage, Section 14.5.1**). In the event that any sub-surface features are discovered, they will be securely cordoned off, cleaned, and recorded in situ, and the National Monuments Service will be consulted to determine appropriate mitigation (preservation in situ or by record) (**Appendix 2.1 Construction Environmental Management Plan (CEMP), Section 3.6.**).

Finally, local public amenities are protected and enhanced under the project's design. Potential construction-phase impacts on the **Western Way national waymarked walking trail**, which traverses a localised section of the Wind Farm Site, will be minimised using clearly marked temporary diversions to ensure hiker safety During the operational phase, the trail will remain fully accessible, and the upgrading of public roads within the site will provide improved, more durable surfaces and better drainage for recreational users. Siting has also maintained significant physical separation distances from core regional heritage and tourism hubs, such as Downpatrick Head and Céide Fields, to ensure the integrity of the regional tourism brand (**EIAR Chapter 5 - Population & Human Health, Section 5.4.5**. Ultimately, this layout and design are well-assimilated within the broad scale of the working rural landscape and will not interfere with landscape character, scenic views, archaeological heritage, and public amenities of the area.

Item 8: EIA Directive (2011/92/EU, as amended by 2014/52/EU) & RED III

The Accusation: Unlawful "Project Splitting" and inadequate cumulative impact assessment.

Why:

- Project Splitting: Felling 31.86 ha of forestry requires "off-site compensatory forestry". Excluding those replanting lands and the separate grid corridor to Ballaghadereen from the current EIAR constitutes illegal project splitting under EU planning law.
- Article 3 Cumulative Assessment: The EIAR fails to properly evaluate the cumulative, interactive visual and environmental impacts of the turbines in combination with the 110kV substation, the 1.6-acre BESS compound (which has no GLVIA3 photomontages), and the 12-month public road cabling works.
- RED III Limitations: Objectors stress that while the RED III directive (Directive (EU) 2023/2413) seeks to streamline renewable permissions, it cannot legally override or dilute substantive environmental protection standards under the EIA and Habitats Directives (as established in CJEU Joined Cases C-531/24 and C-895/24)
- Incorporating the 150 MW BESS via a second application to bypass integrated Environmental Impact Assessment (EIA) screening constitutes illegal project splitting under EU law

Answer: Regarding the specific legal interpretations of "Project Splitting" under the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the legal limits of the RED III Directive (Directive (EU) 2023/2413), and the cited CJEU Joined Cases C-531/24 and C-895/24, the underlying factual assertions regarding the omission of development elements and the inadequacy of cumulative impact assessments are incorrect and directly contradicted by the project design and environmental modelling:

- **Underground Grid Connection is Fully Assessed**: The accusation of splitting the grid corridor is factually incorrect. The 13.55 km underground Grid Connection Route (GCR) is fully included, described, and assessed within the EIAR. The GCR consists of a 110 kV underground cable system routed from the proposed onsite substation in Barroe townland directly to the existing Tawnaghmore 110 kV Substation in Killala Business Park—not to Ballaghadereen (**EIAR Chapter 2 - Development Description, Section 2.2**).
- **BESS Compound is Fully Integrated and Assessed**: The claim that the 150 MW BESS is in a second application to bypass EIA screening is factually incorrect. The standalone BESS compound (comprising 20 container units with up to 150 MW storage capacity and a 6,360 m² footprint) is explicitly included in the current planning application and fully assessed as an integrated component throughout all technical chapters of this EIAR.

- **Forestry Felling and Environmental Protections**: The felling of 31.86 hectares of coniferous forestry is fully assessed at this application stage, with the felling and replanting works to be executed in strict compliance with the Forest Service's regulations and felling licence requirements under the Forestry Act 2014 (**Appendix 13.1 Forestry Report**). To prevent catchment-level cumulative environmental impacts, the developer has legally committed to locating the alternative afforestation lands in excess of 10 km from the Wind Farm Site and entirely outside the hydrological pathways of connectivity i.e. outside the catchment within which the Proposed Development is located (**EIAR Chapter 2 - Development Description, Section 2.3, Appendix 13.1 Forestry Report**). Sourcing alternative lands post-consent ensures that the subsequent afforestation licensing process fully reflects up-to-date environmental information and current legislative standards **(Appendix 13.1 Forestry Report).**
- **Interactive and Cumulative Impact Assessment**: The EIAR comprehensively evaluates the cumulative, interactive visual and environmental impacts of all proposed elements—including the 16 turbines, the 110 kV substation, the BESS compound, and the GCR cabling works—in accordance with EPA Guidelines (2022). The visual impacts of the onsite substation and BESS compound are comprehensively evaluated, showing they are located in a topographically contained part of the site with very limited visibility restricted to the immediate surroundings. These features are explicitly integrated into visual modelling (specifically Viewpoint VP21), which demonstrates that the main structures will be finished in a muted green tone to visually assimilate them into the surrounding rural landscape (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.4, 12.4.2.10, 12.5**). Furthermore, the temporary, short-term visual, noise, dust, and traffic impacts associated with the underground road cabling works along the GCR are fully assessed and managed under the project's environmental and traffic controls, causing no significant cumulative or long-term effects on the receiving population (**EIAR Chapter 10 - Air Quality and Climate, Section 10.2.4.1.1, EIAR Chapter 11 - Noise, Section 11.4, EIAR Chapter 17 - Traffic and Transport, Section 17.4, Section 17.5.11**).
- **Compliance with Guidelines and Setbacks**: To safeguard the local community from cumulative physical and visual impacts, the development layout has been designed in strict compliance with the protective setbacks of both the 2006 Wind Energy Development Guidelines and the 2019 Draft Revised Wind Energy Development Guidelines (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1**). Under the 2006 Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings as well as the 4 times blade tip height (540-metre) setback required under the *Draft Revised Wind Energy Development Guidelines 2019* (**EIAR Chapter 11 - Noise, Section 11.2.3.1**). In comparison, Section 6.18 of the 2019 Draft Guidelines (SPPR

2) mandates a visual amenity setback equal to four times the turbine tip height, subject to a mandatory minimum distance of 500 m from any residential curtilage. Sited on a plateau of low rolling hills, the project utilises the candidate Vestas V117 (4.3 MW) turbine model with a maximum tip height of 135 m, which yields a 2019 visual setback requirement of exactly 540 m (4 x 135 m) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3, 12.3.4.1**. The proposed wind farm layout complies with and exceeds both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3), thus validating the robust, site-specific suitability of the proposed layout.

Item 9: EU Habitats Directive (92/43/EEC) & Appropriate Assessment (Article 6(3))

The Accusation: Failure to prove "no adverse effect on site integrity" beyond reasonable scientific doubt.

Why: Excavation of 97,369 m³ of peat and the construction of roads and a BESS compound on active blanket bog (including the 7.65 ha active Sphagnum bog at AT13) fails the strict CJEU *Waddenzee* (C-127/02) and *Sweetman* (C-258/11) standards. Furthermore, relying on future, post-consent monitoring or unproven habitat offsets (like the BEMP at Castlelackan quarry) as a form of mitigation to pass AA screening is a direct violation of CJEU jurisprudence (*People Over Wind* C-323/17)

Answer: Regarding the specific legal standards and interpretations of CJEU jurisprudence, including *Waddenzee* (C-127/02), *Sweetman* (C-258/11), and *People Over Wind* (C-323/17) under Article 6(3) of the Habitats Directive, the physical and ecological assertions regarding the excavation of peat and impacts on active blanket bog are comprehensively addressed and mitigated. The 7.65 ha blanket bog surrounding turbine AT13 is not situated within any European protected site (**EIAR Chapter 6 - Biodiversity, Section 6.3.2.1**). Rather, it is rated as of Local Importance (higher value) because it represents a small, relatively shallow (maximum 1.1 m depth at turbine location) bog area showing clear signs of past agricultural disturbance (**EIAR Chapter 6 - Biodiversity, Section 6.3.8.1**). Siting the infrastructure in this location was a deliberate, site-specific outcome of a constraints-led process designed to avoid deeper peat, active Annex I bogs of national or European significance, and complex archaeological buffers. The actual permanent loss of blanket bog at the wind farm site is limited to approximately 0.68 ha, representing a localised impact of significance only (**EIAR Chapter 6 - Biodiversity, Section 6.4.4.1, Page 78; Section 6.5.2.1**).

The objectors' claim that the developer is relying on the Biodiversity Enhancement and Management Plan (BEMP) at Castlelackan quarry as a "mitigation" measure to bypass or satisfy Appropriate Assessment (AA) screening is factually incorrect. The BEMP which preserves and enhances 3.94 ha of relatively intact blanket bog at Castlelackan Demesne quarry for the lifetime of the project—is proposed solely as an ecological *offset* to compensate for the localised, local-scale habitat loss of 0.68 ha of bog (**EIAR Chapter 6 - Biodiversity, Section 6.5.2.1, Section 6.8**). The BEMP is not proposed or relied upon as a mitigation measure to satisfy AA screening or to prevent adverse effects on any European site (**EIAR Chapter 6 - Biodiversity, Section 6.11**).

The AA screening and Natura Impact Statement (NIS) identify that the potential for effects on downstream European sites—namely the Lackan Saltmarsh and Kilcummin Head SAC, the Killala Bay/Moy Estuary SAC, and the Killala Bay/Moy Estuary SPA—arises exclusively from hydrological connectivity, specifically the potential for sediment-laden runoff or contaminants to enter local watercourses during construction (**EIAR Chapter 6 - Biodiversity, Section 6.4.2, Section 6.5.1**). To break this pathway and ensure the protection of downstream water quality, the project relies on robust, immediate physical design and drainage controls, including a mandatory minimum 50 m buffer zone from all natural watercourses, a 20 m buffer to significant drains, double-row silt fencing down-gradient of construction areas, and stilling/settlement ponds (**EIAR Chapter 6 - Biodiversity, Section 6.5.1, Section 6.5.7.1, EIAR Chapter 9 - Hydrology and Hydrogeology, Section 9.5.1.1**). These proven, physical mitigation measures ensure that surface water runoff from the site will be equivalent to baseline conditions, preventing any adverse effects on the water quality, status, or ecology of the downstream designated European sites (**EIAR Chapter 9 - Hydrology and Hydrogeology, Section 9.5.1.14).** On the basis of this objective scientific evidence, the NIS demonstrates that the Proposed Development, either on its own or in-combination with other projects, will not result in any adverse effect on the integrity of any European site (**Volume V - NIS**).

Finally, to protect the surrounding landscape and visual amenity, the project has been designed in strict compliance with the protective separation thresholds of both current and draft national guidelines. Under the 2006 Wind Energy Development Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings. In comparison, Section 6.18 (SPPR 2) of the 2019 Draft Guidelines mandates a visual amenity setback equal to four times the turbine tip height (4 x 135 m = 540 m based on the proposed Vestas V117 turbines) from any residential curtilage (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3, 12.3.4.1**). Sited on a plateau of low rolling hills, the proposed layout complies with and exceeds both standard metrics, maintaining a minimum separation distance of 554 m

between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3). This setback ensures that the physical and visual presence of the turbines is well-assimilated and does not compromise local visual or residential amenity (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.10**).

Item 10: Climate Action and Low Carbon Development Act 2015 (as amended)

The Accusation: Misinterpretation of Section 15(1) climate obligations.

Why: The developer argues that the national climate mandate overrides local planning policies. However, objectors cite the Supreme Court ruling in *Coolglass v An Coimisiún Pleanála IESC*, which established that the Climate Action Act does not oblige planning boards to set aside local development plans, protected zoning tiers, or established landscape protection policies

Answer: With respect to the third-party submissions alleging a misinterpretation of Section 15(1) climate obligations in light of the Supreme Court ruling in *Coolglass Wind Farm Limited v the Commission* (2026 IESC 5), it is submitted that the ruling does not support the objectors' position. Rather than allowing planning boards to disregard climate objectives, the Supreme Court confirmed that planning authorities have a strict statutory obligation to ensure that any decision to grant or refuse planning permission is consistent with the climate objectives set out under Section 15(1) of the Climate Action and Low Carbon Development Act 2015. The Court explicitly emphasised that departure from these climate objectives is permissible only where there are "genuine practical difficulties" that make full alignment impracticable, and that such departures cannot be justified by convenience alone (**EIAR Chapter 4 - Planning Policy, Section 4.5.1.5**). Because the Proposed Development will deliver an anticipated output of 68.8 MW maximum export capacity and displace an estimated 1,740,156 tonnes of carbon dioxide over its 35-year lifetime (**EIAR Chapter 4 - Planning Policy, Section 4.1**, **EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4.3**), granting permission actively furthers the national climate objective, whereas a refusal in the absence of genuine practical difficulties would run counter to the statutory mandate established in *Coolglass* (**EIAR Chapter 4 - Planning Policy, Section 4.5.1.5**).

Furthermore, the applicant does not argue that the national climate mandate overrides local planning policies, nor does the development require the planning authority to set aside local development plans, protected zoning tiers, or landscape protection policies. The Proposed Development is supported by and aligned with local planning policy, specifically Chapter 11 (Climate Action and Renewable Energy) of the Mayo County Development Plan 2022–2028,

which contains Chapter 11 Climate Action and Renewable Energy and Objective REO 23 to support and facilitate the achievement of a minimum renewable energy target of 600 MW for County Mayo.

County Mayo has since exceeded its 600 MW target. However, this 600 MW figure is an operational baseline floor to be achieved, not an absolute cap or maximum limit on renewable development within the county. The objectors' figure of ~793.3 MW combines both *connected* and *contracted* capacity. Contracted pipeline capacity does not equate to operational generation on the grid; pipeline projects remain subject to planning variations, grid connection delays, commercial attrition, or non-delivery.

Relying on unbuilt pipeline capacity to claim target completion is premature and flawed. Under the Northern & Western Regional Assembly (NWRA) framework and the Regional Spatial and Economic Strategy (RSES), sub-regional renewable allocation targets are undergoing upwards revision. County Mayo—as a key wind resource area in the NWRA region—will be required to absorb higher capacity allocations to meet regional targets, rendering a 600 MW benchmark obsolete as an indicator of sufficiency.

The proposed 68.8 MW development does not represent an "excess." Rather, it delivers active, realisable generation to address current operational deficits while positioning County Mayo to satisfy its forthcoming higher targets under the NWRA framework.

Additionally, the development is in strict compliance with the protective setback thresholds of both the 2006 Wind Energy Development Guidelines and the 2019 Draft Revised Guidelines. Under the 2006 Guidelines, a physical setback of 500 m is recommended from the nearest noise-sensitive properties and dwellings. In comparison, Section 6.18 of the 2019 Draft Guidelines (SPPR 2) mandates a visual amenity setback equal to four times the turbine tip height between each turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum of 500 m . Sited on a plateau of low rolling hills, the project utilises the candidate Vestas V117 (4.3 MW) turbine model with a maximum tip height of 135 m, which yields a 2019 visual setback requirement of exactly 540 m (4 x 135 m) (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 & 12.3.4.1).** The proposed layout complies with both standard metrics, maintaining a minimum separation distance of 554 m between the nearest turbine (AT08) and the closest occupied, non-associated residential property (H3). Since the project protects local residential and visual amenity while demonstrating in the EIAR and Natura Impact Statement (NIS) that it will not give rise to any significant effect on the environment or have an adverse effect on the integrity of any European site, the planning board

is obliged under Section 15 of the Climate Act to exercise its evaluative judgment to reach an outcome favouring these integrated national, regional, and local policy goals (**EIAR Chapter 4 - Planning Policy, Section 4.5.1.5)**

4.3 Population and Human Health

Item 1: Adverse impact on tourism and hospitality sector

Many submitters, including tourism operators, warn that turbines visible from the Wild Atlantic Way and other scenic routes will deter visitors, undermining a coastal tourism economy that Fáilte Ireland and Mayo County Council have actively invested in promoting.

Answer: This issue has been addressed in the Fáilte Ireland response (**Section 2.3**) of this document.

Item 2: Property devaluation / loss of property value

Residents near the proposed turbines expect a measurable drop in the resale value of their homes and land due to noise, visual dominance and shadow flicker, and say the EIAR does not compensate for or even acknowledge this economic loss.

Answer: In the **EIAR Chapter 5 Human Health and Population, Section 5.3.7** assessed potential impacts on local property value. The available evidence indicates that wind farm development is unlikely to result in a significant or sustained long-term reduction in property values. While some studies identify a potential short-term effect on properties located very close to turbines, this effect generally diminishes over time and becomes statistically insignificant following the operational phase.

The large-scale LBNL studies in the United States, the Scottish study involving over 500,000 property transactions, and the UK evidence found no consistent or detectable long-term negative effect on surrounding property prices. More recent U.S. research similarly found that initial reductions in property values following project announcement substantially recover after construction, with impacts becoming small and statistically insignificant approximately nine years after announcement.

Although the 2023 CERIS study identified a potential reduction in asking prices within 1 km of turbines in parts of western Ireland, it also found that this effect decays over time and becomes insignificant after approximately 10 years and was limited to a subset of properties.

Accordingly, the weight of the available evidence supports the conclusion that, while temporary or localised effects on individual properties cannot be entirely ruled out, the proposed wind farm is not expected to result in a significant or sustained long-term impact on property values in the surrounding area.

Item 3: Loss of residential amenity, rural tranquillity and quality of life

A broad complaint that day-to-day life for nearby residents — peace, quiet enjoyment of gardens and homes, and the general rural character people moved to the area for — will be permanently diminished by the presence and operation of the turbines**.**

Answer: The EIAR has thoroughly assessed the potential impacts on residential amenity and quality of life, specifically regarding noise, shadow flicker, and general operational effects, and does not support the assertion that rural tranquillity will be permanently diminished.

To protect residential amenity, the Proposed Development maintains a strict housing buffer. The closest inhabited dwelling to a turbine not associated with the Proposed Development is located 554 m away, which complies with the 540 m housing buffer requirement (calculated as 4 times the 135 m blade tip height) (**EIAR Chapter 5 – Human health & population, Section 5.3.1**). Regarding the operational phase, the EIAR concludes that effects on residential amenity and settlement patterns will be imperceptible (**EIAR Chapter 5 – Human health & population, Section 5.4.1**) Specifically, operational noise is designed to meet the strict limits set out in the 2006 Wind Energy Development Guidelines and noise limits attached as conditions to recent 2021 An Coimisiún Pleanála decisions. The residual noise effect will remain within guideline limits and is classified as Not Significant. Furthermore, the assessment of shadow flicker concludes that the Proposed Development will result in neutral, imperceptible, long-term effects overall, with no predicted cumulative effects (**EIAR Chapter 5 – Human health & population, Section 5.4.6**).

While the EIAR acknowledges that there is potential for limited effects on the residential amenity of the local population during the construction phase—primarily due to an increase in construction traffic causing noise, dust, and traffic volume—these effects are strictly short-term. They are defined as slight negative during the construction and decommissioning phases and reduce to imperceptible during the operational phase (**EIAR Chapter 5 – Human health & population, Section 5.4.1**). Therefore, based on the objective assessments of noise, shadow flicker, and spatial buffers, the day-to-day residential amenity of nearby properties will be safeguarded during the operational lifespan of the wind farm.

Item 4: Impact on physical and mental health (incl. sleep disturbance, epilepsy, migraines, noise-related stress)

Submitters cite specific health effects they expect or are already sensitive to — disrupted sleep from noise, flicker-triggered epilepsy or migraines, and chronic stress — and argue the EIAR underplays the cumulative effect of noise, shadow flicker and visual intrusion acting together on human health.

Answer: The concerns regarding sleep disturbance, epilepsy, migraines and stress are acknowledged. However, wind farms are subject to established noise limits and shadow-flicker assessment criteria, with mitigation available where required.

Predicted turbine noise levels and the associated assessment are detailed in **Chapter 11: Noise** of the **EIAR**. The assessment considers nearby sensitive receptors, with predicted noise levels remaining below the accepted standards. The assessment confirms that noise levels at the nearest receptors are orders of magnitude below levels associated with hearing damage or adverse health effects.

Similarly, shadow flicker is a predictable and assessable effect of wind turbines and can be mitigated through turbine curtailment where necessary. **EIAR Chapter 15: Shadow Flicker** outlines the full assessment carried out for Tirawley Wind Farm and impact on all sensitive receptors. Outlined in **Section 15.2.1**, *Persons with photosensitive epilepsy can be sensitive to flickering light between 3 and 60 Hertz (Hz). This is supported by research in recent years asserting that flicker from turbines must interrupt or reflect sunlight at frequencies greater than 3 Hz to pose a potential risk of inducing photosensitive seizures. The frequencies of flicker caused by modern wind turbines are less than 1 Hz and are well below the frequencies known to trigger effects in susceptible individuals.* The possibility of sensitivity to flicker does not, in itself, demonstrate that the wind farm will cause epilepsy or migraines.

The suggestion that noise, shadow flicker and visual effects will combine to create a significant health impact is not supported by evidence. These effects are assessed separately using established methodologies, and the presence of several environmental effects does not automatically equate to a cumulative adverse health outcome. Overall, the evidence does not indicate that the proposed wind farm would result in significant impacts on human health.

Item 5: Socio-economic decline: depopulation, local economy, employment and community cohesion

Concern that the development will accelerate rural depopulation, weaken the local economy and job base, and fracture community cohesion, particularly if construction jobs are short-term and long-term operational employment is minimal.

Answer: The assertion that the Proposed Development will result in depopulation, economic decline, reduced employment or weakened community cohesion is not supported by the available evidence. Population change is influenced by a range of factors, including employment, housing, services and wider demographic trends, and there is no basis to conclude that the Proposed Development would, in itself, cause depopulation.

As outlined in (**EIAR Chapter 5 Human Health and Population, Section 5.3.5**), the Proposed Development has the potential to generate significant economic activity through construction, professional services, transport, procurement, operations and maintenance, landowner income and community-related benefits.

BiGGAR Economics has estimated that the onshore wind sector supported approximately 840 jobs and generated approximately €110 million in regional expenditure in the Atlantic Region in 2022, demonstrating the sector's capacity to contribute meaningfully to the regional economy.

The employment benefits of the Proposed Development will arise through direct, indirect and induced effects. Direct employment will arise from construction, operation and decommissioning; indirect employment through the supply chain and procurement of goods and services; and induced employment through the wider spending of incomes generated by these activities.

While it is acknowledged that significant turbine components, including blades and towers, are likely to be imported, this does not negate the domestic economic contribution. Ireland has established capabilities in construction, engineering, professional services, transport, grid development, controls and instrumentation, while local and regional businesses can benefit from project expenditure. Potential logistics through Killybegs Harbour, Galway Port or Foynes Port could also generate activity in transport, port services and associated sectors.

Claims regarding community cohesion should likewise be considered in the context of the project's actual community-benefit measures, local procurement and economic participation.

Renewable-energy development does not inherently result in social fragmentation; where benefits are retained locally, it can provide additional income and support for community activity.

Item 6: Concern that energy generated will not benefit local end-users

Some submitters question the net climate/energy benefit of the project, arguing the electricity generated will not directly serve the local community and that national renewable targets do not justify local environmental cost.

Answer: The Proposed Development will generate renewable electricity for export to the national grid rather than supplying electricity directly to local properties. This is consistent with the operation of the national electricity network, where renewable generation contributes to meeting demand across the wider system.

The project would therefore contribute to reducing reliance on fossil-fuel generation and supporting Ireland's renewable-energy and climate objectives. While the project must be assessed against its local environmental and amenity impacts, the fact that the electricity is not used exclusively by local residents does not diminish its wider energy and climate benefits.

The overall planning assessment appropriately considers these benefits alongside the potential local impacts and the mitigation measures proposed.

Item 7:

Glare impacts on residents

In addition to shadow flicker, a small number of submissions separately flag glint/glare from rotating blades or turbine surfaces catching sunlight, including in relation to road safety for drivers.

Answer: The potential for glint or glare from wind turbines has been considered separately from the issue of shadow flicker. Unlike shadow flicker, which is caused by the periodic interruption of sunlight by rotating blades, glint or glare refers to a brief reflection of sunlight from a turbine blade, tower or other surface.

Modern wind turbines are designed with non-reflective, low-glare surface finishes to minimise the potential for significant reflected sunlight. As outlined in the (**EIAR Chapter 2 Project description, Section 2.6.2.1**) *The turbines appearance will be a matt non-reflective finish in a light grey colour (RAL 7035).* This surface is not comparable to conventional glass or polished metallic structures in their ability to produce sustained reflections like solar panels. Any reflected

light is also dependent on the relative position of the sun, turbine and receptor and therefore would occur only under particular combinations of circumstances.

It is therefore considered unlikely that residents would experience persistent or material glare effects as a consequence of the proposed turbines. Where a brief reflection were to occur, its duration and intensity would vary with the movement of the sun and the orientation of the turbine blades. The potential for such effects is consequently limited and should not be considered equivalent to continuous illumination or a fixed source of glare.

The potential implications for road users have also been considered. Wind turbines are commonplace features of the modern landscape and, where appropriately sited and designed, are not generally expected to create a significant road-safety hazard through reflected sunlight. In particular, the possibility of a momentary reflection does not in itself demonstrate a material risk to drivers.

Item 8: The public, medical, and scientific submissions raise serious concerns regarding the direct impacts of turbine operations and battery storage facilities on human physiology, mental well-being, and community safety:
Sleep Disturbance & Autonomic Stress (Infrasound): How will the 35-year exposure to subaudible infrasound (0.1–20 Hz) and low-frequency noise (20–200 Hz) affect local residents? Scientific and medical evidence submitted by objectors argues that these unheard pressure pulses stimulate the outer hair cells in the inner ear vestibular system, causing ear pressure, ear fullness, nausea, tinnitus, dizziness, vertigo, and balance disturbances. Chronic exposure is warned to activate the sympathetic nervous system ("fight-or-flight"), raising cortisol and catecholamines, which induces vascular endothelial dysfunction and increases the risk of hypertension, ischemic heart disease, myocardial infarction, and cardiac arrhythmias (such as atrial fibrillation). Furthermore, sleep fragmentation prevents the glymphatic system from flushing metabolic waste from the brain during deep sleep, increasing long-term neurodegenerative risks (such as Alzheimer's disease)

Answer: The concerns regarding infrasound, low-frequency noise, sleep disturbance and potential physiological effects are acknowledged. However, the health effects alleged in the submission are not supported by the available scientific evidence at the levels associated with wind turbines.

EIAR Chapter 11: Noise assesses the potential noise effects of the proposed Tirawley Wind Farm, including low-frequency noise and infrasound, at nearby sensitive receptors. The

predicted noise levels are assessed against recognised standards and guidance and are well below levels associated with hearing damage or established adverse health effects.

In **Section 11.2.8** of the EIAR outlines relevant independent research which provides further evidence in this regard. A Finnish Government-commissioned multidisciplinary study, led by the Technical Research Centre of Finland (VTT), investigated wind turbine infrasound through long-term measurements, questionnaires and controlled laboratory exposure tests. Infrasound was measured for 308 days at two wind farm locations, including within nearby dwellings. The laboratory testing used samples representing the highest infrasound and pulsation levels recorded. The study found that participants could not detect the presence of the infrasound, it did not increase perceived annoyance, and it did not produce an involuntary nervous-system response indicative of stress. No differences were found between participants who reported symptoms attributed to wind turbine infrasound and those who did not.

The research therefore does not support the assertion that wind turbine infrasound causes vestibular effects, chronic activation of the sympathetic nervous system, cardiovascular disease, neurodegenerative disease or disruption of the glymphatic system. The Finnish Government's final report concluded that infrasound did not explain the symptoms reported in association with wind power.

Potential audible noise effects, including sleep disturbance and annoyance, are addressed through the established noise assessment methodology. On the basis of the predicted noise levels, the assessment undertaken and the available scientific evidence, there is no evidence to conclude that the proposed Tirawley Wind Farm would result in significant adverse health effects arising from infrasound or low-frequency noise.

Item 9: Impact on Children and School Environments:

Why did the developer misclassify St. Patrick's College / Lacken Cross Secondary School as a simple domestic dwelling in its visual and noise models? Parents and school boards ask why the EIAR failed to conduct mandatory health, safety, and acoustic studies for the school, warning that operational noise and shadow flicker will cause cognitive delays, sleep loss, and learning impairment in students, particularly those with additional educational or sensory needs.

Answer: The claim that the EIAR treated St. Patrick's College / Lacken Cross Secondary School as a simple domestic dwelling and therefore failed to consider its health and safety is not, in itself, supported by the planning assessment. The relevant issue is whether the school was correctly identified as a sensitive receptor and whether potential noise and shadow-flicker

impacts were appropriately assessed. Potential audible noise effects, including sleep disturbance and annoyance, are addressed through the established noise assessment methodology in **Chapter 11**. On the basis of the predicted noise levels, the assessment undertaken and the available scientific evidence, there is no evidence to conclude that the proposed Tirawley Wind Farm would result in significant adverse health effects arising from infrasound or low-frequency noise. Similarly, shadow flicker is a predictable and assessable effect of wind turbines and can be mitigated through turbine curtailment where necessary. Shadow flicker only occurs under specific conditions, typically when the sun is low in the sky, such as around sunrise and sunset, and when other conditions—including the relative position of the turbine and receptor and suitable weather conditions—are present.

EIAR Chapter 15: Shadow Flicker outlines the full assessment carried out for Tirawley Wind Farm and the potential impact on all sensitive receptors. As outlined in (**Section 15.2.1)**, *"Persons with photosensitive epilepsy can be sensitive to flickering light between 3 and 60 Hertz (Hz)."* This is supported by research in recent years asserting that flicker from turbines must interrupt or reflect sunlight at frequencies greater than 3 Hz to pose a potential risk of inducing photosensitive seizures. The frequencies of flicker caused by modern wind turbines are less than 1 Hz and are therefore well below the frequencies known to trigger effects in susceptible individuals.

The possibility of sensitivity to flicker does not, in itself, demonstrate that the wind farm will cause epilepsy or migraines. Furthermore, because shadow flicker is predictable, it can be assessed in advance and, where necessary, appropriate mitigation measures such as turbine curtailment can be implemented to prevent or minimise its occurrence at sensitive receptors. Items related to Shadow Flicker are dealt with in full in **Section 4.12** of this document.

Item 10: BESS Thermal Runaway and Toxic Gas Plumes:

What are the public health consequences of a thermal runaway event at the proposed 150 MW BESS compound? Objectors point out that lithium-ion battery fires can burn uncontrollably for days and release highly toxic, lethal gases, including Hydrogen Fluoride (HF), Carbon Monoxide (CO), and Hydrogen Cyanide (HCN), as well as heavy metal PM2.5 nanoparticles (cobalt, nickel, manganese). HF gas reacts with moisture to form hydrofluoric acid, posing severe inhalation, chemical burn, and DNA-damage hazards to residents in downslope and downwind areas.

Answer: This issue has been addressed in the **Major Accidents and Natural Disaster** section of this document (**Section 4.13**, Item 1 and **Item 2**).

Legislation Accused of Being Broken and Why

Submitters accuse the development of breaching several local planning policies, national statutes, and European environmental directives**:**

Item 11: Population and Human Health) EIA Directive (2011/92/EU, as amended by 2014/52/EU

The Accusation: Inadequate human health assessment, baseline omissions, and "Project Splitting".

Why:

- Article 3 Obligations**:** The developer is accused of failing to properly evaluate the direct, indirect, and cumulative effects of the project on population and human health. Instead of a comprehensive Health Impact Assessment (HIA) as recommended by the WHO, the EIAR relies on a narrow, generic "Source-Pathway-Receptor" model.
- Omission of Host Community: The planning documents repeatedly omit any mention of Lacken as the primary host community (describing the site vaguely as "between Ballycastle and Killala"), failing to accurately describe the receiving population.

Answer: The submission's assertion that the EIAR provides an inadequate assessment of population and human health is not supported. The EIAR has assessed the direct, indirect and cumulative effects of the Proposed Development on population and human health in accordance with the requirements of the EIA Directive. A standalone Health Impact Assessment is not a requirement of the EIA Directive; rather, human health is assessed through the relevant environmental topics and their potential pathways to human receptors.

(EIAR Chapter 5: Human Health & Population, Section 5.1.1) Population and Settlement Patterns specifically identifies and characterises the receiving population. Study Area 1 comprises the Ballycastle, Killala, Lackan North and Lackan South Electoral Divisions, covering approximately 160.09 km². The 2022 Census records a combined population of 2,676 persons across 1,088 occupied permanent residences within these Electoral Divisions. The individual populations are 585 in Ballycastle, 306 in Lackan North, 460 in Lackan South and 1,325 in Killala.

The EIAR also identifies the settlement pattern and proximity of the main population centres. Ballycastle is approximately 4 km from the Wind Farm Site and has a population of 220, while

Killala is approximately 5.2 km away and has a population of 587. Ballina, the nearest larger urban settlement, is approximately 14.5 km away and has a population of 10,556. The area surrounding the Proposed Development is correctly characterised as predominantly rural, with agricultural land, peatland, forestry and dispersed housing.

Accordingly, the suggestion that the Lackan area or host community has been omitted from consideration is incorrect. Lackan North and Lackan South are explicitly included within Study Area 1 and population statistics for both Electoral Divisions are provided. The reference to the development being located between Ballycastle and Killala is a geographical description and does not replace the detailed assessment of the surrounding population and settlement pattern.

The EIAR also considers the population along the Grid Connection Route (GCR) and Turbine Delivery Route (TDR). Properties and planning applications in the vicinity of the proposed works were reviewed, with particular consideration given to residential properties and other potentially sensitive receptors. Construction effects associated with the GCR are localised and temporary, while works along the TDR are primarily associated with existing public roads and include temporary widening and surface-level works, with reinstatement following completion.

At a wider level, Study Area 2 considers County Mayo, including its population, settlement characteristics and predominantly rural nature. This provides the appropriate wider population context for the assessment.

The human health assessment therefore does not rely on a generic Source–Pathway–Receptor approach in isolation. Relevant environmental pathways, including noise (**EIAR Chapter 11: Noise**), traffic (**EIAR Chapter 17: Traffic & Transport**), shadow flicker (**EIAR Chapter 15: Shadow Flicker**), air quality (**EIAR Chapter 10: Air & Climate**) and other potential effects on people, these are assessed through the respective EIAR chapters, with the population and human health chapter providing an overall assessment of their implications for the receiving population. Cumulative effects and other permitted or existing developments are also considered where relevant.

Item 12: Planning and Development Act 2000 (as amended) — Section 172

The Accusation: Failure of the competent authority to satisfy environmental and health evaluation thresholds.

Why: Under Section 172, the planning board has a statutory duty to ensure all human health and population impacts are thoroughly evaluated. Objectors argue this has not been met because the application completely ignores the subaudible infrasound and low-frequency noise impacts of the turbines on the human vestibular system

Answer: EIAR Chapter 11: Noise assesses the potential noise effects of the proposed Tirawley Wind Farm, including low-frequency noise and infrasound, at nearby sensitive receptors. The predicted noise levels are assessed against recognised standards and guidance and are well below levels associated with hearing damage or established adverse health effects.

In **Section 11.2.8** of the EIAR outlines relevant independent research which provides further evidence in this regard. A Finnish Government-commissioned multidisciplinary study, led by the Technical Research Centre of Finland (VTT), investigated wind turbine infrasound through long-term measurements, questionnaires and controlled laboratory exposure tests. Infrasound was measured for 308 days at two wind farm locations, including within nearby dwellings. The laboratory testing used samples representing the highest infrasound and pulsation levels recorded. The study found that participants could not detect the presence of the infrasound, it did not increase perceived annoyance, and it did not produce an involuntary nervous-system response indicative of stress. No differences were found between participants who reported symptoms attributed to wind turbine infrasound and those who did not.

The research therefore does not support the assertion that wind turbine infrasound causes vestibular effects, chronic activation of the sympathetic nervous system, cardiovascular disease, neurodegenerative disease or disruption of the glymphatic system. The Finnish Government's final report concluded that infrasound did not explain the symptoms reported in association with wind power.

Potential audible noise effects, including sleep disturbance and annoyance, are addressed through the established noise assessment methodology. On the basis of the predicted noise levels, the assessment undertaken and the available scientific evidence, there is no evidence to conclude that the proposed Tirawley Wind Farm would result in significant adverse health effects arising from infrasound or low-frequency noise.

Item 13: UN Convention on the Rights of the Child (UNCRC)

The Accusation: Violation of children's rights to health, environmental safety, and development.

Why: Siting heavy turbine haul routes and placing operational turbines near educational and recreational settings directly violates Article 3 (best interests of the child), Article 24 (protection from environmental pollution and health hazards), Article 31 (right to rest, leisure, and play), and General Comment No. 26 (2023), which legally protects children up to the age of 18 from environmental harm.

Answer: The concerns regarding the potential effects of the Proposed Development on children are acknowledged. However, the proximity of a wind farm or construction traffic to locations used by children does not, in itself, constitute a violation of the UNCRC.

The potential environmental and health effects associated with the Proposed Development, including noise, traffic, shadow flicker and visual effects, have been assessed within the EIAR. The assessment considers sensitive receptors and identifies appropriate mitigation measures to minimise potential impacts during both construction and operation.

In relation to construction traffic, appropriate traffic management measures will be implemented to manage heavy vehicle movements and maintain safety for all road users, including children and other vulnerable road users.

The UNCRC principles, including consideration of the best interests of the child and protection from environmental risks, do not establish that wind energy development is prohibited in proximity to educational or recreational facilities. Rather, the relevant consideration is whether the development gives rise to unacceptable environmental, health or safety impacts. Based on the assessments undertaken and the mitigation proposed, the EIAR does not identify significant adverse effects on children's health, safety, development or ability to access recreational facilities.

Accordingly, the submission's assertion that the Proposed Development would directly violate Articles 3, 24 or 31 of the UNCRC is not supported by the findings of the **EIAR**.

Item 14: UN Convention on the Rights of Persons with Disabilities (UNCRPD)

The Accusation: Failure to evaluate disproportionate burdens on disabled community members.

Why: Public authorities are legally bound under the UNCRPD to promote accessibility, inclusion, and equal participation. The developer is accused of completely failing to assess or mitigate the disproportionate neurological, auditory, and mobility impacts of the development on local residents with autism, ADHD, and physical disabilities**.**

Answer: The concerns regarding potential impacts on persons with disabilities are acknowledged. However, the assertion that persons with disabilities have not been considered in the EIAR is not supported.

The EIAR applies established environmental assessment standards that assess impacts on human health and population, rather than excluding people based on disability. Accordingly, sensitive receptors are assessed based on their location and potential exposure to environmental effects such as noise, shadow flicker, traffic, air quality and visual effects. This approach inherently includes residents and other people with disabilities who may be located within the assessment areas.

For example, **Chapter 11: Noise** assesses predicted noise levels at nearby sensitive receptors against recognised criteria designed to protect people from unacceptable noise impacts, including potential effects such as sleep disturbance and annoyance. Similarly, **Chapter 15 Shadow Flicker** assesses potential effects at sensitive receptors and considers recognised health sensitivities associated with flicker.

The assessment therefore does not require residents to be categorised by individual medical or disability status in order to protect them. Applying established environmental limits and assessment criteria to all relevant sensitive receptors ensures that the assessment considers the population as a whole, including people who may have disabilities or increased sensitivity to particular environmental effects.

On this basis, the EIAR provides an appropriate assessment framework for considering potential effects on all members of the community, including persons with disabilities, and there is no evidence that the development would impose a significant or disproportionate environmental burden on this group.

Item 15: European Convention on Human Rights (ECHR) — Article 8

The Accusation: Direct infringement of the right to respect for private and family life, and home.

Why: Subjecting local citizens to 35 years of unmitigated noise nuisance, sleep fragmentation, and shadow flicker, while failing to provide transparent, receptor-specific mitigation or informed consent, directly violates Article 8 rights.

Answer: The concerns regarding Article 8 and the potential effects of noise, sleep disturbance and shadow flicker are acknowledged. However, the assertion that the Proposed Development would directly infringe Article 8 is not supported by the EIAR assessment.

Article 8 does not provide an absolute right to be free from all environmental effects. The relevant consideration is whether environmental impacts reach a level of severity that materially interferes with an individual's private or family life or enjoyment of their home.

The EIAR assesses operational noise and shadow flicker at relevant sensitive receptors using established assessment methodologies, with mitigation measures identified where required. Predicted effects are therefore assessed on a receptor-specific basis rather than assuming a universal impact.

The Proposed Development will also be subject to applicable planning conditions and operational controls. On the basis of the assessments undertaken and proposed mitigation, there is no evidence that the Tirawley Wind Farm would result in effects of such severity as to constitute an infringement of Article 8 rights.

Item 16: EU Drinking Water Directive (Directive (EU) 2020/2184) — Article 16

The Accusation: Threat to the right to safe, clean potable water.

Why: Under Article 16, the planning authority is legally bound to improve or maintain access to safe drinking water. By failing to carry out baseline physical testing of unserved private spring-fed wells or evaluate the risk of "red water" iron/arsenic mobilisation and BESS chemical run-off, the development violates these public health protection.

Answer: This issue has been addressed in the **Hydrology and Hydrogeology** section of this document (**Section 4.6**, **Item 5**).

4.4 Biodiversity & Ornithology

4.4.1 Bats

This section groups submissions within specific bat topics and authored by John Curtin, BSc (Consultant Ecologist, Bat Specialist).

Item 1: Survey Temperature Threshold Non-Compliance

Objectors: Lacken Ballycastle Community Landscape Protection Group and Liam Donoghue.

Answer: The available evidence indicates that the objection conflates qualitative spatial validation with quantitative baseline requirements. The primary 2022 baseline (May–October) was fully compliant with the >8°C at sunset threshold. The April 2026 surveys were not intended as a primary baseline; rather, they were qualitative validation checks conducted at 8°C–9°C to confirm habitat usage. The evidence base demonstrates continuity: distribution patterns (highest at edges, lowest in interiors) remained consistent across the four-year interval, supporting the validity of the original findings.

Item 2*:* Inadequacy of Survey Effort & Spatial Coverage

Objectors: Lacken Ballycastle Community Landscape Protection Group, Dutton & Edmondson, Jack Kelly, Maria McLoughlin, Susan Tighe, Anne Jacob, and Des & Terri Kiernan.

Answer: The survey effort was designed to provide robust spatial coverage for the final 16-turbine layout. We deployed 13 static detectors, building upon a 2022 baseline of 21 detectors over 47 nights that yielded 15,362 registrations. At turbines AT03 an AT12, "keyholing" assessments used co-located detectors (D3a/D3b and D12a/D12b) to compare canopy and edge activity in accordance with BCI (2026) guidelines. This spatial resolution provides a detailed evidence base for interpreting bat movement within the site.

Item 3*:* Baseline Data Currency and Reliability

Objectors: Wild Ireland Defence CLG (Peter Sweetman), Dutton & Edmondson, Lacken Ballycastle Group, Anne Jacob, Antje Keller, Chris & Una Rees, and Maria McLoughlin.

Answer: The objection that data is outdated is moot. Under CIEEM (2019) guidelines, data remains valid if site conditions are stable. Dr. Brian Madden's site visit on April 16, 2026, confirmed that land use (forestry/agriculture) remains materially unchanged. The 2026 "spatial validation" serves as a "temporal bridge" that confirms the continued relevancy of the 2022 dataset, proving that the ecological status quo has been maintained.

Item 4: Species-Specific Concerns – Lesser Horseshoe Bat (Annex II & IV)

Objectors: Wild Ireland Defence (Sweetman), Liam Donoghue, Dutton & Edmondson, Keller, Tighe, Jacob, Kelly, and Munnelly.

Answer: We acknowledge the "near threatened" status of the Lesser Horseshoe Bat (LHB), as noted by objector Anne Jacob. The site is 40km outside the species' known range. A single registration occurred on October 12, 2022, at 20:24 (1h 38m post-sunset) at detector *viii* (Kilfian West). This land has been completely excluded from the final project boundary. This individual was a "vagrant," and its presence in an excluded area confirms that no resident population or commuting corridor exists within the development footprint.

During the 2022 surveys, static detectors (including those on lands since excluded) were set recording for a total of 646,526 minutes. The single Lesser Horseshoe bat represents an average bat pass per hour rate of (BpHr) 0.00000155. At this rate, impacts of the Tirawley proposed Windfarm will have a Negliable impact on the viability of the Irish Lesser Horseshoe bat population.

Further, this species is a low flying bat with (SNH, 2021) categorising the species as at low risk to turbine collision. While impacts to landscape features can affect low flying woodland bats, this has been identified and mitigated both within the Bat and biodiversity reports with a proposed 1.414 ha of planting proposed in addition to a BEMP area located at Castlelackan Demense.

Item 5: Species-Specific Concerns – Nathusius' Pipistrelle

Objectors: Liam Donoghue, Lacken Ballycastle Group, Dutton & Edmondson, Jacob, Keller, Tighe, and Jack Kelly.

Answer: Only one registration for this species occurred in 2022 in a now-excluded area. Despite this, we have adopted a precautionary, conservative measure by grouping all 40kHz Pipistrelle recordings with Nathusius'. Because Nathusius' Pipistrelle is a high-flying species, Constant Energy Ltd has committed to blade-feathering below cut-in speeds to minimise potential collision risk. Given the very low recorded Nathuius Pipistrelle bat activity in the area in combination with proposed mitigation, no significant impacts on this species is expected.

Item 6*:* Internal Inconsistencies in Risk Classification and Mitigation

Objectors: Brendan Boyd, Edward Farrell, Lacken Ballycastle Group, Antje Keller, Anne Jacob, and Dutton & Edmondson.

Response: Objectors Antje Keller and Anne Jacob cite the "removal of 4km of hedgerow" as a major impact. This risk is acknowledged in the various reports including the bat report and compensation, and enhancement measures have been identified.

Brendan Boyd queried why October's data was excluded from the risk assessment. Should this very low activity period be included in the risk assessment the overall median activity would have been so reduced, no curtailment would have been required. Average activity over this period was 0.3 bat passes per hour (BpHr) (see **Appendix 5** of original bat report).

Regarding the bat risk assessment, our curtailment strategy is highly targeted: 12 out of 16 turbines feature customised curtailment:

- **AT02, AT03, AT04:** Curtailment per SNH (2021) for Soprano Pipistrelle.
- **AT05, AT06, AT09, AT10, AT12, AT15:** Curtailment per BCI (2026) for Leisler's bat.
- **AT08, AT14, AT16:** Managed via mature tree retention and strategic avoidance.

Item 7*:* Absence of At-Height Monitoring
Objectors: Lacken Ballycastle Group & Dutton & Edmondson.

Response: The third-party objections regarding the absence of pre-construction at-height monitoring are based on a fundamental misunderstanding of bat behaviour and vertical stratification in the Irish landscape. The assertion that ground-level static detectors systematically underestimate risk is directly refuted by empirical, site-specific Irish data.

In a comparable Irish upland conifer and peatland setting the Cahermurphy Two Wind Farm in Co. Clare MKO ecologists conducted 57 nights of simultaneous, ground-level (2m) and hub-height (~75 m) static monitoring using a meteorological mast (MKO, 2020). Out of 1,338 total bat passes recorded, 99% of all bat activity was concentrated at ground level, while only 1% of passes occurred at height (comprising just 12 *Myotis sp.* and 5 *Soprano Pipistrelle* registrations across the entire 57-night deployment).

This empirical precedent demonstrates that for the bat assemblages typical of Irish wind farm sites (predominantly *Pipistrellus* and *Myotis* species), flight and foraging activity are heavily restricted to ground-level linear features and mature canopy edges. High-altitude rotor-swept airspace is utilised less frequently (Roemer C. D., 2017), (Roemer C. C., 2019), (PLOS-One, 2018). Ground-level monitoring is therefore a more conservative method to assess baseline activity. For high-flying species where vertical risk is realised (such as Leisler's bat), the

applicant has pre-emptively bypassed any monitoring limitations by implementing a conservative operational curtailment at 12 of the 16 proposed turbines, combined with a three-year post-construction carcass monitoring program utilising trained sniffer dogs the recognised standard for verifying actual collision rates."

Item 8: **Post-Construction Monitoring Deficiencies**
Objectors: Lacken Ballycastle Group, Edward Farrell, and Dutton & Edmondson.

Answer: The project will implement a robust post-construction monitoring protocol using trained sniffer dogs to conduct carcass searches from April to October for three years following commissioning.

Section 7.3.4 of the bat report states: "*Annual monitoring reports should be submitted to the local authority and the NPWS. Should significant casualties be found at a particular turbine(s) additional mitigation may be required to prevent further fatalities. (Wellig, 2018)*". This provision establishes an adaptive-management mechanism under which the Ecological Clerk of Works (EcOW) may recommend increased curtailment at individual turbines where monitoring identifies significant casualties. This is a material improvement on older approaches in which EcOWs were required to monitor impacts but lacked clear authority to initiate corrective action.

Item 9: **Battery Energy Storage System (BESS) ALAN Impacts**
Objectors: Liam Donoghue, O'Grady, and Kathryn Dutton.

Answer: Artificial Light at Night (ALAN) will be strictly mitigated. BESS lighting will utilise warm-white LEDs (< 2400 K) with peak wavelengths > 550 nm. All fixtures are directional, shielded, and motion-censored to ensure zero light spill into dark bog habitats or ecological corridors.

Item 10: Landowner Access, Survey Legitimacy, and Trespass
Objectors: Liam Donoghue, O'Grady, and Lacken Ballycastle Group.

Answer: The survey programme distinguished between landholdings where access had been authorised, and external landholdings assessed by non-invasive observation from public locations.

While discussions were ongoing between the client and Mr Donoghue regarding his possible participation in the project, the survey team attended the landholding, Folio MY85163F, believing that access had been authorised through the land manager, Mark Kearney. The visit

was intended to assess buildings in connection with a turbine then proposed approximately 180 m to the east. Mr Donoghue met the surveyors on site, informed them that they did not have permission to remain and asked them to leave. They left immediately. No information obtained during the visit was included in the bat report. The nearby turbine was subsequently removed from the Proposed Development, and the closest remaining turbine is now more than 800m from the buildings on the landholding.

Elsewhere, where structures on external lands required assessment, ecologists used thermal-imaging scopes and night-vision camcorders from public roads. These non-invasive methods provided information on roost use without requiring access to the landholding.

The absence of a direct survey of this individual landholding does not, of itself, render the overall bat survey deficient. Survey adequacy must be considered across the complete evidence base, including the spatial coverage and duration of the detector programme, the wider multi-year dataset, the relationship of the landholding to the final development layout, and the alternative non-invasive observations undertaken from public locations.

The survey programme was proportionate to the likely ecological effects of the final 16-turbine layout and was designed and interpreted by suitably qualified ecologists using professional judgement. This approach is consistent with Collins (2023), Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition), which recognises that guidance is not prescriptive and that justified departures from a standard method may be appropriate where supported by a clear ecological rationale and evidence, and with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland, which promote a scientifically rigorous, transparent and proportionate assessment. Accordingly, the access constraint at this landholding does not create a material gap in the baseline or alter the conclusions of the bat assessment.

Overall Conclusion

The Tirawley Wind Farm proposal is characterised by a high level of scientific and legal integrity. The evidence base demonstrates a clear absence of significant adverse effects on local bat populations, a conclusion supported by over four years of site-specific data and the adoption of the absolute latest BCI (2026) standards.

The precautionary curtailment applied to 12 of the 16 turbines, the implementation of dog lead collision monitoring, and the strategic reduction of the project footprint represent a sophisticated,

expert-led response to the site's ecology. It is our professional opinion that this project represents a model of ecological responsibility.

We respectfully request that An Bord Pleanála accept these technical clarifications as the final resolution to all bat ecology objections.

John Curtin, BSc Ecologist (Bat Specialist)

4.4.2 Ornithology

This section groups submissions within specific ornithological topics and authored by Dr. Brian Madden, (Consultant Ecologist) Principal Ecologist Biosphere Environmental Services.

Item 11: Hen Harrier Impacts: Breeding and Wintering

Accusation: the site is said to support the protected Hen Harrier (an EU Birds Directive Annex I species), including winter roosting and foraging habitat, and submitters argue survey work was incomplete or excluded the area's most likely to be used by the birds. States no winter roost survey carried out.

Answer: Hen Harrier was indeed identified as a target species (see section 7.2.3 of EIAR), and observations were made for this Annex I listed species during the various surveys over a 2 year period and particularly during the Activity (Vantage Point) Surveys and the Winter Roost Survey (**see Section 7.2.4** of **EIAR**).

It is noted that all observers were highly experienced ornithologists, with familiarity of hen harrier on both breeding and wintering grounds throughout Ireland (see **Section 7.4.1**).

Breeding status

As noted in **Section 7.3.13** of **EIAR**, there was no evidence of breeding activity during the surveys and north Mayo is outside of the known breeding range for hen harrier (Ruddock *et al*. 2016, 2024).

Autumn/Winter status

As summarised in **Section 7.3.13** of **EIAR**, hen harrier is an autumn/winter visitor to the study area.

All flight activity records, apart from one, were from the northern sector of the study area and involved birds hunting and/or flying over grassland and bog habitats. The majority of records were of male birds, with only two ringtails observed.

A winter roost in the Lackan Bay area was used at least in winters 2022/23 and 2023/24. One to two male birds used the roost, with a (probable) ringtail on one occasion in 2023/24. The roost was still in use in winter 2025/26, with three to four birds in December and January.

Overall, the study area is considered to provide good habitat for hen harrier in autumn and winter.

Impacts

Potential effects on hen harrier were considered as follows:

Disturbance to wintering birds during construction phase

Section 7.4.2.2 of EIAR notes the following:

"Hen harrier is considered in the NatureScot (2022) review of disturbance distances in birds. The species is rated as of 'medium sensitivity' to disturbance, with a buffer zone of 300 - 750 m suggested for both breeding birds and non-breeding birds. The winter roost, which is within an area of swamp vegetation in inner Lackan Bay, is at a minimum distance of 1.5 km from the nearest area of construction (turbines AT07 & AT08). Between the roost and the Wind Farm Site, there is active agricultural land, local residences and public roads. On this basis, it is considered that there is no potential for the construction works to have effects on birds entering or leaving the roost area. Apart from the roost, the potential for disturbance to foraging birds elsewhere in the study area is considered low as hunting birds are still likely to pass through areas of the site away from the immediate construction works area. Overall, it is considered that the effect on wintering hen harrier as a result of construction works is rated as 'Not Significant'."

Collision risk

Collision Risk Modelling (CRM) was carried out for six species of conservation value (inc. Hen Harrier) where flightlines were recorded within the rotor sweep height and inside the 2 km arc of the selected vantage points during the Vantage Point surveys (see **Section 7.4.3.1** of **EIAR** & **Appendix 7.9** for full CRM Report).

The number of predicted yearly collisions for hen harrier were close to zero and are considered Negligible (Not Significant) (see **Table 7.5** of **EIAR**).

Displacement effect

In the review of upland raptors and wind farms, Madders and Whitfield (2006) tentatively rated foraging hen harriers as having a 'low-medium' sensitivity to displacement, though all studies appear to have been in the breeding season. Pearce-Higgins *et al*. (2009) cited a predicted reduction in flight activity of 52.5% within 500 m of the turbine array for breeding birds.

As hen harrier is entirely a winter visitor to the site of the Proposed Development, it is expected that hunting birds would still pass through the area when the turbines are in operation and that the potential for disturbance is low and likely to decrease with time. Birds using the night roost at Lackan Bay (c. 1.5 km distance from nearest turbine) would not likely be affected by the presence of the turbines.

On basis of the high conservation value of hen harrier, this potential displacement effect by foraging birds is rated as an adverse effect of Slight Significance and of short- to medium-term duration.

Overall Response to Issues Raised re. Hen Harrier

We contend that a thorough assessment, following best practice guidance, was carried out on the status of hen harrier within the study area.

A key issue is that the study area is outside of the national breeding range for hen harrier.

While a winter roost was identified within the Lackan Bay area of the study, it is unlikely that the continued use of this roost would be affected by disturbance during the construction phase of the project (closest distance to a turbine is approx. 1.5 km).

During the operational phase, foraging birds may show some avoidance of the areas around turbines but this is likely to decrease with time (rated as an adverse effect of Slight Significance and of short- to medium-term duration).

The risk of collision is close to zero for hen harrier.

Item 12: Collision Risk and Flight Path Barrier Effect

Accusation: "How does collision risk modelling demonstrate safety for red-listed and Annex I migratory waterbirds crossing the North Mayo coastal flyway?"

Answer: Collision Risk Modelling (CRM) was carried out for six species of conservation value where flightlines were recorded within the rotor sweep height and inside the 2 km arc of the

selected vantage points during the Vantage Point surveys (see **Section 7.4.3.1** of EIAR & **Appendix 7.9** for full **CRM Report**).

These were:

- Hen harrier
- Sparrowhawk
- Buzzard
- Kestrel
- Peregrine Falcon
- Lesser black-backed gull

The mean number of collisions predicted for the species subject to analyses (with the application of avoidance rates) is summarised in **Table 7.5** of **EIAR**.

The number of predicted yearly collisions for sparrowhawk, hen harrier and peregrine are close to zero and are considered Negligible (Not Significant).

The number of predicted yearly collisions for sparrowhawk, hen harrier and peregrine are close to zero and are considered Negligible (Not Significant).

The collision risk for Kestrel and Buzzard is estimated each at 0.33 birds per year (or 10.5 birds over the nominal 35-year operational phase), and the collision risk for Lesser Black-backed Gull is estimated at 0.2 birds per year (or 7 birds over the nominal 35-year operational phase).

As Kestrel is a Red-listed species (though fairly widespread in the study area), the predicted collision risk of 0.33 birds per year or 10.5 birds over a 35-year period is rated as a 'Long-term Slight Adverse' effect. Mitigation will be implemented to lessen this risk (see below and **Section 7.6.2.1** of **EIAR**). This will involve control of vegetation around turbine bases (**Section 7.6.2.1** of **EIAR**). This will discourage small mammals and birds, which attract species such as kestrel and hen harrier to hunt near the turbines and increase risk of collision. This maintenance will be carried out on an annual basis by mowing or strimming. This approach has proved highly effective for lesser kestrel at several wind farms in central-eastern Spain.

For Buzzard, a widespread species with a favourable conservation status (Green listed), the significance of collision risk is rated as Not Significant.

For Lesser black-backed gull, an Amber listed species, the significance of collision risk is rated as a Long-term Slight Adverse effect.

It is noted that there was no evidence from the baseline surveys of Annex I migratory waterbirds (such as whooper swan, barnacle goose etc) crossing through the study area (see summary **Table 7.3** in **Chapter 7** of **EIAR**).

4.4.3 Habitats & Biodiversity

This section groups submissions within specific ecological topics and authored by Dr. Brian Madden, (Consultant Ecologist), Principal Ecologist BioSphere Environmental Services.

Item 13: EU Directives / AA

Accusation: Broad concerns about overall uncertainty within the outcomes of the AA Screening Report or NIS.

Answer: AA / NIS carried out in accordance with best practice guidance (see **Section 1** of **NIS**) and is based on detailed baseline assessments of the study area (see **Section 1.4** of **NIS**) carried out by experienced personnel (see **Section 1.3** of **NIS**).

It is noted that the appellants have not identified any examples of scientific uncertainty within the **AA Screening Report** or **NIS**.

Item 14: General Biodiversity / Ecological Impact Concerns

Accusation: Broader concerns about the overall ecological footprint of construction — habitat fragmentation, disturbance during sensitive breeding/roosting periods, and felling of forestry — beyond the specific species and habitat issues listed separately below.

Answer: Chapter 6 and **Chapter 7** of **EIAR** describes the range of ecological and ornithological baseline surveys which were carried out according to relevant legislation and policy (see **Section 6.2.2** of **EIAR**). All surveys were undertaken by appropriately qualified and experienced personnel (see **Section 6.1.2**).

The assessment of impacts and effects on habitats and species was in accordance to standard guidance from NRA (2009), (EPA 2022) and CIEEM (2024) (see **Section 6.28** of **EIAR**).

Where required, mitigation will be implemented to minimise identified negative effects on habitats and species. These include an extensive hedgerow planting programme (see **Section**

6.5.2.1 of **EIAR**) and the preservation and enhancement of an area of blanket bog at Castlelackan Demesne (as part of a **BEMP** – see **Appendix 6.4**).

Item 15: Blanket Bog and Peatland Habitats

Accusation: Objectors highlight that the site sits on active blanket bog, a protected and slow-to-recover habitat, and that turbine foundations, access roads and associated peat extraction will cause long-term, largely irreversible damage.

Answer: It is noted that Turbine AT13 is the only turbine of the 16 that is located on blanket bog. This area of blanket bog is described accurately in **Section 6.3.3.4** of **EIAR**, with the area shown in **Plates 6.7** & **6.8**.

A conservation evaluation for the bog area is given in **Section 6.3.8**, as follows:
"While the blanket bog at the proposed location for wind turbine AT13 is considered active, i.e. dominated by peat-forming species, the area of bog is rated not more than Local Importance (higher value) as it is a relatively small area (7.65 ha) of shallow bog (maximum 1.1 m depth at turbine location), which shows signs of past disturbance, especially in the southwest (2 small former fields adjoining local road) and the northwest. To the north, there is conifer plantation and to the west wet grassland fields. A local playing field adjoins the bog to the south-east."

The effect of the loss of blanket bog is assessed in **Section 6.4.4.1** of **EIAR**, as follows:
*"The construction of wind turbine AT13 will result in the permanent loss of approximately 0.68 ha of blanket bog, the total plot having been rated as Local Importance (higher value). While this plot of bog, which has a total area of 7.65 ha, will also be fragmented by the turbine and associated Site Access Track, it is noted that the remaining area of bog between the turbine and the public road to the south had been used as two small fields in the past and is now a mix of blanket bog and wet heath on shallow bog. Due to the importance of any area of peatland habitat (as noted in Section 10.4.5 of the Mayo County Development Plan 2022-2028), the loss and disturbance of blanket bog at this location is rated as an Adverse Significant Effect of Permanent Duration at a Local level of importance. The loss of blanket bog will be offset through a Biodiversity Enhancement and Management Plan (BEMP) (see **Section 6.8** and **Appendix 6.4**)."*

In **Chapter 7** of the **EIAR**, the effect on birds by loss of the blanket bog is assessed in **Section 7.4.2.1**,as follows:

"The peatland habitat (mainly blanket bog) at the AT13 location provides habitat suitable for breeding meadow pipit (Red-listed) and skylark and provides foraging habitat for species such as kestrel and hen harrier. While any loss of bog habitat is of some significance for associated bird species, the significance by the loss of 0.68 ha of bog habitat at this location is rated as a Moderate Adverse Effect of Permanent duration. It is noted that the Biodiversity Enhancement and Management Plan (BEMP) will preserve and enhance an area of 3.94 ha of blanket bog at nearby Castlelackan Demesne for the lifetime of the Proposed Development."

It is considered that in the context of the proposed project, a relatively small area of blanket bog will be lost and that this will be adequately offset by the preservation and management of a larger area of blanket bog as part of the BEMP.

Item 16: Hedgerow Loss and Habitat Connectivity

Accusation: Multiple submissions cite the loss of four kilometres of hedgerow for access roads and turbine delivery, removing wildlife corridors that connect habitats and support birds, bats and other species across the landscape. How will the permanent loss of over 3,600 m of native hedgerows and 31.86 ha of commercial forestry be compensated to prevent severe ecological corridor destruction and concerns over impacting ACRES farm Biodiversity Score.

Unlawful Hedgerow & Landscape Feature Removal: Developer proposes removing 1,625 m of site hedgerows and 2,394 m along turbine delivery routes (17 locations). Proposed compensatory block planting (0.73 ha and 0.41 ha) violates CAP regulations, EU Habitats Directive, and DAFM EIA (Agriculture) Regulations, which mandate a 2:1 linear replacement ratio (3,250m) prior to removal. Omits removal details for drainage ditches/drains (FW4) and private landowner legal obligations. Unassessed collision risk to Annex I migratory birds (Golden Plover, Bar-tailed Godwit, Whooper Swan, Brent Goose) along North Mayo flyway.

Answer: The importance of hedgerows and their role in habitat connectivity have been fully acknowledged in the EIAR. The hedgerows are described in **Section 6.3.3.8** of the **EIAR** and are given a rating of Local Importance (Higher value) (see section 6.3.8.1 of EIAR). In the impact assessment, the following is noted in **Section 6.4.4.1** of **EIAR**:
"Hedgerows are important habitats in the local area, rated Local Importance (higher value), and support a range of flora and fauna species including breeding and feeding birds, foraging bats and small mammal species. The Mayo County Development Plan 2022-2028 recognises the importance of hedgerows in Natural Environment Objective 4: "To protect and enhance biodiversity and ecological connectivity in County Mayo, including woodlands,

trees, hedgerows….". The significance of the loss of hedgerows due to the Proposed Development is rated as an Adverse Significant Effect of Permanent Duration at a Local level of importance. The loss of hedgerows will be offset through a replanting scheme within the study area (see ***Section 6.5.2.1****). "*

In recognition of the loss of hedgerows, both permanent and temporary, an extensive programme of replanting (where hedging is removed temporarily) and new plantings (to offset losses) will be implemented (see full details in **EIAR Section 6.5.2.1**). The estimated total loss of 1.39 ha will be offset by the planting of 2.79 ha (a net gain). For maximum biodiversity value, the new plantings shall comprise both linear strips and broader stands of native woodland located at three locations across the proposed wind farm (at AT01, AT06, AT16). The new plantings shall connect with ecological features such as existing hedgerows and treelines.

Loss of conifer forest plantation

The loss of conifer forest is not rated as a significant ecological impact. **Section 6.4.4.1** of **EIAR** notes the following:

"It is noted that conifer plantation is a non-native habitat and can have adverse effects on local areas of bog due to the spread of self-seeded trees. The effect by the loss of these habitats is rated as Not Significant."

Item 17: Impact on Special Areas of Conservation / Special Protection Areas (sac/spa)

Accusation: Concern that runoff, construction disturbance or habitat loss on site could affect designated SAC/SPA sites nearby including Lacken Saltmarsh and Killala Bay/Moy Estuary which have their own separate legal protection under EU law.

Answer: The potential for impacts and effects on the conservation objectives and integrity of European Sites is assessed in the AA Screening Report and the NIS respectively. This was prepared in accordance with standard guidance and relied on detailed baseline surveys and assessment by relevant experts (see section 1 of AA Screening Report/NIS).

The AA Screening Concluding Statement (Section 2.5) notes the following:

On the basis of objective scientific information, it is concluded that in the absence of mitigation, likely or possible significant effects on the Conservation Objectives of three of the European sites listed in ***Table 2*** *(and listed below) could not be excluded during the construction, operational and/or decommissioning stages of the Proposed Development:*

- *Lackan Saltmarsh and Kilcummin Head SAC (code 00516)*
- *Killala Bay/Moy Estuary SAC (code 000364)*

- *Killala Bay/Moy Estuary SPA (code 002041)*

As a result, it is respectfully submitted that the competent authority should carry out an Appropriate Assessment (AA) in respect of the Proposed Project. A Natura Impact Statement has been prepared to assist with the AA and is presented in Section 3 of this report.

With the implementation of best practice mitigation measures where required, the Conclusion of the **NIS** (**Section 4**) is as follows:
"This Natura Impact Statement has assessed the potential effects of the proposed Tirawley Wind Farm Project in Co. Mayo on the integrity of identified relevant European sites. For the reasons set out in detail in this NIS, in the light of the best scientific knowledge in the field, all aspects of the proposed Project, by itself or in combination with other plans or projects, which may affect the relevant European Sites have been considered.

The NIS contains information that the Commission, as competent authority, may consider in making its own complete, precise and definitive findings and conclusions as to the effects of the proposed Project. It is respectfully submitted that the information contained in this NIS is such that the competent authority will be capable of determining that all reasonable scientific doubt has been removed as to any adverse effects of the proposed Project on the integrity of the relevant European sites.

In conclusion, on the basis of the assessment set out in this NIS, it is respectfully submitted that the competent authority is able to determine that no reasonable scientific doubt remains that the proposed Project will not adversely affect the integrity of any European sites, in view of the conservation objectives of those sites."

Item 18: Impact on Other Protected Fauna

Accusations:

- Beyond the Hen Harrier, submitters list a range of other protected or notable species using the site — including several bat species, pine marten, golden plover, snipe, merlin and marsh fritillary butterfly — that they say were inadequately surveyed. Unassessed collision risk to Annex I migratory birds (Golden Plover, Bar-tailed Godwit, Whooper Swan, Brent Goose) along North Mayo flyway.
- Lack of robust, seasonally appropriate field surveys. Fails to demonstrate no direct adverse impact on pine martens (breaching Reg 51 of S.I. 477/2011)

- Dismisses impacts on red-listed mammals (badger, deer, rabbit, hare, hedgehog, otter, shrew) as not significant based on limited/absent surveys.
- EIAR relies on outdated decibel guidelines (2006 ETSU-R-97) rather than UK Defra 2025 guidance adopted by Irish High Court (Webster v Meenacloghspar, Byrne v ABO Energy); Scottish Carbon Calculator underestimates Irish peat depth; Hen Harrier 53% decline.
- What measures are incorporated to safeguard protected bat species (including Leisler's bat and the Annex II Lesser Horseshoe Bat) against collision mortality, barotrauma, and habitat corridor destruction during forestry felling and operation?
- Bat Mitigation Deficiencies: Proposed 50m vegetation-free buffer from blade tips to treelines is insufficient for Myotis and Pipistrellus species in semi-wooded North Mayo. Compensatory planting inside turbine envelopes risks attracting bats into rotor zones. EIAR lacks specific curtailment parameters (acoustic monitoring protocols, wind speed/temperature triggers) and delaying smart curtailment until Year 2 is unacceptable as collision mortality peaks early (citing Arnett et al. 2016, BCT 2019). Demands a 3-year post-construction monitoring program and enforceable adaptive management triggers.
- "What specific mitigation is provided for recorded colonies of the Annex II Marsh Fritillary Butterfly and local amphibian populations near Castlelackan quarry?
- Direct flight path and collision/disturbance risk for Annex I and SCI bird species (Whooper Swan, Corncrake observed May 2026 near Palmerstown bridge, Hen Harrier). Breaches Habitats Directive 92/43/EEC (Art 6(3)), Birds Directive 2009/147/EC (Arts 4–5), European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), Bonn Convention, AEWA, Precautionary Principle, and Wildlife Acts 1976–2018 (risk to Badger setts, Otters, and Bovine TB/Blackleg spread).
- EU Law & Habitats Directive Article 6 Compliance: Detailed legal analysis based on Squintani (2019) and Court of Justice of the European Union (CJEU) landmark jurisprudence (Waddenzee C-127/02, Sweetman C-258/11, Briels C-521/12, Orleans C-387/15, Dutch PAS C-293/17 & C-294/17). Article 6(3) Appropriate Assessment requires scientific certainty beyond all reasonable doubt that no adverse effect on site integrity will occur before consent is granted. Future, unproven, or offset measures (such as proposed 3.9 ha BEMP) cannot be treated as mitigation under Art 6(3) to pass screening/AA. Four strict cumulative criteria for mitigation: functional linkage, specificity to conservation objectives, guaranteed prevention of damage, and absolute scientific certainty at authorisation. Precautionary principle mandates refusal where scientific doubt exists.
- Inadequate surveys and ALAN impacts on Annex II Lesser Horseshoe Bat (Rhinolophus hipposideros).

Answer: A wide range of protected fauna species are referred to in the submissions in the context that inadequate or out-of-season surveys were conducted. The species referred to include badger, otter, and pine marten, as well as marsh fritillary butterfly and various bird species (inc. snipe, golden plover and merlin).

For ground mammals, a series of surveys were conducted between May 2022 and February 2024, with search for signs of badger within the recommended winter period (see **Section 6.2.7.2** of **EIAR**).

Similarly, for birds following desk review and initial site visits, a range of surveys were carried out between April 2021 and June 2023 with specific surveys for species that had potential to occur, namely merlin and breeding waders (inc. woodcock) (see **Section 7.2.4** of **EIAR**). All surveys were within the appropriate seasons.

For marsh fritillary, it was established that none of the habitats affected by the Proposed Development (predominantly improved/semi-improved grassland, wet grassland and conifer plantation) support the foodplant of the butterfly, devil's-bit scabious in sufficient quantity (see **Section 6.2.7.5**).

As described in the EIAR, it is considered that the level of surveys carried out was sufficient for the species of conservation importance which had potential to occur within the study area.

Further, for key species such as badger and otter, pre-construction surveys will be carried out so as to determine if distribution has changed since the baseline surveys (see **Section 6.9.2** and **6.9.3** of **EIAR**). Similarly for target bird species such as snipe and merlin, pre-construction confirmatory surveys will be carried out (see **Section 7.8.1.1** of **EIAR**).

Item 19: Hydrological Pathways & Natura 2000 sites

Accusation: "What hydrogeological controls and sediment management systems are mandated to prevent polluted runoff, cementitious discharge, and heavy metals from entering streams hydrologically connected to European sites?"

Answer: The issue of hydrological pathways of connectivity with European sites is dealt with detail in the **AA Screening Report** and **NIS**.

Connectivity is identified for three European sites (see **Table 2** and **AA Screening Conclusion**), namely:

- *Lackan Saltmarsh and Kilcummin Head SAC (code 00516)*
- *Killala Bay/Moy Estuary SAC (code 000364)*
- *Killala Bay/Moy Estuary SPA (code 002041)*

For these, rigorous mitigation will be implemented (as detailed in **Chapter 9: Hydrology & Hydrogeology** of **EIAR**) during the construction, operation and decommissioning phases to avoid, minimise and control contaminated run-off entering drains and local watercourses and potentially the identified European sites which are hydrologically linked to the project site. With these measures in force, it can be concluded that there is no risk of significant effects on the integrity of the identified European sites as a result of the proposed project.

Item 20: Otter Disturbance and Salmonid Habitat Protection

Accusation: "How will breeding holts of the Annex II Eurasian Otter and salmonid fish spawning habitats in the Cloonaghmore catchment be protected from disturbance and sedimentation?"

Answer: Habitat suitable for the Annex II listed Eurasian otter will be protected by the rigorous water protection measures, which will be implemented on all watercourses throughout the site during all stages of the proposed project (as detailed in **Chapter 9: Hydrology & Hydrogeology** of **EIAR** and in the **NIS**).

Similarly, salmonid spawning habitats will be protected by the above, as well as through the specific measures detailed in the Aquatic Ecology Assessment (see **Section 6.5.7** and **Appendix 6.3** of **EIAR**).

Item 21: Invasive Alien Plant Species Control

Accusation: "What biosecurity protocols and eradication controls prevent the spread of invasive species during road widening, site clearing, and soil transport?" Noted by landowners along access tracks located on local roads.

Answer: Measures to control the possible introduction and spread of invasive species during the construction phase are given in **Section 6.5.8** of **EIAR**.

These are in accordance with the w guidelines issued by the National Roads Authority - The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010).

4.5 Soils and Geology

This section groups submissions within soils and geology topics, authored by John Whiteford, Whiteford Geoservices Limited (WGL).

Item 1: Groundwater vulnerability and karst aquifer contamination risk

Accusation: Geological submissions warn that the area's karst aquifer, identified by the GSI as having high groundwater vulnerability, could be contaminated by construction runoff, fuel/chemical spills, or excavation into the water table.

Lack of Localised Bedrock Characterisation & Karst Risks: Why did the developer rely on desk-based studies rather than completing physical, site-specific bedrock testing? The local geological bedrock comprising the Downpatrick Formation, Moyny Point Limestone, and Mullaghmore Sandstones is highly vulnerable to karstification, sinkholes, and subterranean caves. Technical objections warn that placing massive turbine foundations (for 135m turbines requiring tens of thousands of tons of concrete) on uncharacterised, faulted bedrock could lead to structural failure, sinkhole collapse, or the destruction of Neolithic stone-wall networks connected to the Céide Fields.

Answer: Mitigation has been proposed to effectively manage any contaminated surface water runoff.

The Proposed Development has been assessed in terms bedrock character, karstification, sinkholes and subterranean caves. This assessment does not rely merely on desk studies but has been supplemented by walkover surveys and ground investigations. We are satisfied that the Proposed Development is not at significant risk in this respect.

Item 2: Peat slide / landslide risk and geotechnical instability

Accusation: Given the depth and instability of blanket bog on site, submitters warn that excavation and loading from turbine foundations and roads could trigger a peat slide or landslide, similar to documented events at other Irish wind farm sites.

Peat Landslide & Bogslide Risks: How has the developer assessed the landslide risk on these steep, peat-covered slopes? Objectors highlight a history of catastrophic landslides in Ireland—including the 2003 Dooncarton/Barnachuille slides, the 2003 Derrybrien slide, and the 2000 Shanettra slide—to argue that deep excavations, civil works, and storing thousands of tons of peat spoil on steep slopes risk triggering a major bog slide. They point out that the developer's summary simplifies "Low Risk" ratings for several turbines to "Negligible".

Answer: The peat landslide hazard has been undertaken in a phased approach as is set-out in the leading guidance in this respect, "Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments", Energy Consents Unit Scottish Government, Second Edition, April 2017. A combination of desktop analysis, walkover surveys, physical ground investigation, laboratory testing and technical assessment has been employed to form constraints that have led to an iterative evolving layout design for the Proposed Development. This final layout for the Proposed Development yields a Low classification in relation to Peat Landslide Hazard, as a result. We are satisfied that the Proposed Development is not at significant risk in this respect.

Item 3: Peat Landslide Risk Assessment, Slope Stability & Spoil Repositories

Accusation: "How do geotechnical stability analyses ensure zero risk of peat slides or bog bursts across the 17 designated spoil deposition areas on elevated slopes?"

How will the developer safely manage the massive volume of excavated soils? Construction requires excavating 157,785 m³ of soil, including 97,369 m³ of peat soil. Submitters express concern over the creation on-site of "borrow pits" (which they argue resemble unpermitted quarrying) and the plan to dump excavated peat across 17 to 19 discrete spoil repositories or within the abandoned Castlelackan quarry. Landowners warn that stacking peat in spoil heaps up to 3m high on sloped ground risks peat overloading, bog bursts, and the blocking of natural downhill drainage onto agricultural land.

Answer: Borrow Pit creation is not proposed as part of the Proposed Development. Only earthworks required to construct the development infrastructure will be required.

The site of the long-term spoil repositories have been assessed for suitability. In all cases the stability risk at each storage site is low because of a) the thin peat cover at the selected location, b) the low slope gradients, c) the careful design of the storage mounds and d) the limited height to which the spoil will be stored.

Item 4: Peat Compaction, Soil Sealing, and Flooding

Accusation: Will the construction of heavy-haul "floating roads" cause downstream flooding? Soil compaction from constructing 10.41 km of roads and hardstands seals the blanket bog, stripping its natural water retention capacity. GSI modelling cited by objectors indicates this compaction shifts the hydrology to a 15% recharge and 85% surface runoff model, accelerating heavy rainwater downslope and threatening downstream communities with flash flooding.

Answer: "Floated Track", is poorly planned, can cause issues for hydrology. This is why the stretches of floated track have been a) designed to minimise pressure on the underlying peat soils, b) limited in length, c) only employed where peat is of such thickness that hydrological connectivity can be maintained. Considering this scenario, the impact to hydrology will be minimal and will not vary significantly from its existing state.

A significant proportion of the site tracks will be upgrades to existing roads and tracks so sealing of new peat bog will be minimal.

Item 5: EIA Directive (2011/92/EU, as amended by 2014/52/EU)

Accusation: Inadequate geotechnical baseline assessment

Why: The developer is accused of failing to conduct localised bedrock characterisation, shear-stability field tests, or an assessment of the BESS compound's groundwater and soil risks.

Answer: The ground investigations carried out to characterise bedrock have confirmed the initial desktop study and walkover appraisal in respect to this. These investigations include in-situ determinations of peat shear strength are for the purpose of preliminary foundation design.

Prior to construction further detailed pre-construction ground investigations will be undertaken to satisfy the turbine manufacturer's warranty requirements and to allow for refinement of the preliminary foundation design. These investigations will supplement the current geotechnical site characterisation model for the Site. Although these findings may result in minor adjustments to the proposed layout, these will be confined within the micro-siting boundary as detailed in the application. These pre-construction investigations will not alter the foundation construction principles or methodologies as currently proposed.

4.6 Hydrology and Hydrogeology

This section groups submissions within specific bat topics and authored by Hydro-Environmental Services (HES).

Michael Gill and Conor McGettigan prepared the Hydrology and Hydrogeology Chapter of the submitted EIAR, and their qualifications, competencies, and experience are already presented in the EIAR (refer to **Section 9.1.2**).

Item 1: Hydrology, drainage and Water Framework Directive compliance

Concerns that altered drainage patterns and increased sediment/nutrient runoff from construction could affect local watercourses and fail to meet the standards required under the EU Water Framework Directive.

Answer:

WFD Compliance

A detailed standalone WFD Compliance Assessment was prepared for the Proposed Development and is provided as Appendix 9.4 of the EIAR. The WFD Compliance Assessment considered the potential for the Proposed Development to affect the status of the relevant WFD waterbodies and their ability to achieve their respective WFD objectives.

Several 3r^{d} party submissions specifically refer to the Cloonalaghan_010, Gortmore Stream_010 and Knockboha_010 SWBs. The Cloonalaghan_010 and Knockboha_010 SWBs were included in the WFD Compliance Assessment. Table L of Appendix 9.4 demonstrated that with the implementation of the prescribed mitigation measures that the status of these SWBs would remain unchanged. The Gortmore Stream_010 SWB was not included in the WFD Compliance Assessment due to the absence of proposed works within this WFD river sub-basin – the Proposed Development has no potential to impact the status of the Gortmore Stream_010 SWB.

The WFD Compliance Assessment concludes that, having regard to the nature and scale of the Proposed Development, and the implementation of the prescribed mitigation measures, the Proposed Development will not result in deterioration in the status of any WFD waterbody and will not prevent the achievement of WFD objectives in the future. The Proposed Development is therefore considered to be compliant with the requirements of the WFD. The volume of material to be excavated (157,785 m³ total soil/peat) has been considered in the WFD Compliance Assessment. This volume is comparable to volumes associated with other permitted wind farm developments. Nevertheless, the WFD Compliance Assessment

considers the location of the proposed excavations, the proposed management of excavated materials and the implementation of the prescribed surface water protection measures.

The conclusions of the WFD Compliance Assessment are dependent upon the implementation of the mitigation measures prescribed in **EIAR Chapter 9** for the protection of the hydrological and hydrogeological environment. These detailed, established (tried and tested) best-practice mitigation measures relate to suspended solids including the excavation, storage and handling of spoil materials (refer to **EIAR Sections 9.5.1.1** and **9.5.1.2**), felling operations (refer to EIAR **Section 9.5.1.6**), hydrocarbons (refer to **EIAR Section 9.5.1.3**), cement-based products (refer to **EIAR Section 9.5.1.4**), wastewater (refer to **EIAR Section 9.5.1.5**) and morphological changes to watercourses (refer to **EIAR Section 9.5.1.7** for the Wind Farm Site, and **9.5.1.11** and **9.5.1.12** for the Grid Connection).

The principal measures for the protection of the hydrological and hydrogeological environment include the following:

- There will be no direct discharge of runoff from infrastructure or construction areas to local watercourses or the existing drainage network at the Wind Farm Site;
- The avoidance of sensitive hydrological features through the application of self-imposed buffer zones and the careful siting of infrastructure;
- The separation of clean and potentially sediment-laden water:
    - Clean water will be kept clean by avoiding unnecessary disturbance to existing drainage features, minimising any works in or around existing drainage features and diverting clean water around the proposed works areas; and,
    - Potentially sediment-laden runoff from construction areas will be collected and routed through appropriate treatment measures, including silt traps (for details on the Terra Stop Premium silt fences to be used please see https://ssienvironmental.ie/silt-fence-terra-stop-premium/) and settlement ponds prior to controlled diffuse release via buffered outfalls.
- The drainage system will operate as a treatment train incorporating source controls (interceptor drains, small working areas etc.), in-line controls (such as check dams, sand bags, silt fences etc.) and treatment systems (settlement ponds and sediment traps):
    - Each individual element of the water treatment train is not intended to be a standalone or a single treatment but rather forms part of a treatment train of water quality improvements/control systems;
    - Source controls are designed to reduce the volume of water requiring treatment and include the use of interceptor drains, small working areas, covering stockpiles and the cessation of works during periods of heavy rainfall;

  - Runoff from the works areas will be collected in collector drains and treated and attenuated via in-line controls and treatment systems such as check dams, silt traps, silt fences and settlement ponds;
  - All water will be treated to a high quality and slowed down (attenuated) prior to release; and,
  - The treated water will be released in a diffuse and controlled manner through the use of level spreaders and vegetation filters and will not be directly discharged into any watercourse.
- Construction activities will be undertaken having regard to weather forecasts, with no works to be undertaken during or within 24 hours of heavy rainfall events. This will minimise the potential for mobilisation and entrainment of suspended solids in surface water runoff;
- Best-practice mitigation measures will also be employed in relation to the protection of surface water quality during felling works including the application of buffer zones, the use of brash mats, suitable machine combinations and the installation of silt traps in advance of all felling works;
- Additional mitigation measures will be implemented where works are proposed within the hydrological buffer zones including the use of double or triple silt fences and the completion of works during dry weather conditions;
- An inspection and maintenance plan for the onsite construction drainage system will be prepared in advance of construction activities and will include regular inspections of the drainage systems and the removal of any excess build-up of silt which may decrease the effectiveness of the drainage system;
- The proposed drainage system has also been designed to account for climate change effects on rainfall with the settlement ponds designed for the 1 in 10-year flows plus a 20% allowance; and,
- Preventative measures relating to fuels and concrete management are also proposed in **Chapter 9: Hydrology and Hydrogeology** of the **EIAR**.

Similar approaches and mitigation measures have also been applied in the assessment and design of other permitted wind farm developments, including Glenard Wind Farm (ABP Case No. 312659) and Seven Hills Wind Farm (ABP Case No. 313750).

Subject to the implementation of the prescribed mitigation measures, the Proposed Development will not result in a deterioration in the status of relevant WFD waterbodies or compromise their achievement of WFD objectives. Accordingly, the Proposed Development is considered to be WFD compliant and will not result in significant effects on the hydrological or hydrogeological environment.

Item 2: EU Water Framework DIRECTIVE (2000/60/EC) - Article 4 Non-Deterioration Rule, European Communities Environmental Objectives (Surface Waters) Regulations 2009

Objectors claim that extensive earthworks (157,785 m³ total soil/peat) risk degrading the 'Good Status' of Cloonalaghan_010, Gortmore Stream_010, and Knockboha_010 river waterbodies through suspended solids, acidic runoff, or cementitious discharge.

Answer: This issue has been addressed in the above item (**Item 1**) of this section (**Section 4.6**)

Item 3: Construction Runoff and Chemical Contamination

- How will concrete and fuel spills be contained? With thousands of heavy vehicle movements and concrete pours required for 16 turbine foundations, submitters ask what safeguards will prevent cementitious washouts, hydraulic fluids, and fuel spills from seeping into the local water table.
- What are the toxicological risks of water treatment chemicals? Questions are raised about the unverified ecological and health impacts of "Siltbuster" water treatment dosing minerals (such as Poly Aluminium Chloride or Aluminium Sulphate) used to manage suspended solids.
- Will turbine blade erosion contaminate the water table? Multiple submissions ask about the unassessed risk of turbine blade leading edge erosion (LEE) releasing microplastics, Bisphenol-A (BPA), and phthalates into the surrounding drinking water catchments.

Answer:

Potential Contamination from Hydrocarbons

Several 3rd party submissions raise concerns regarding heavy vehicle movements and the potential for hydrocarbons spills/leaks to enter the local surface water and groundwater environment.

The potential for accidental spills/leaks is a recognised risk at all construction sites. However, the implementation of the established pollution prevention measures and emergency response measures will minimise the likelihood of such spills/leaks occurring and reduce the potential for any accidental release to result in significant effects on the receiving environment.

Section 9.5.1.3 of the submitted **EIAR** sets out detailed, established best-practice mitigation measures in relation to the potential release of hydrocarbons. These measures include the following:

- Plant will be inspected prior to use onsite to ensure that they are free of leaks;
- Vehicles will be refuelled offsite where possible;
- Onsite refuelling will be completed using a mobile double-skinned fuel bowser, with appropriate drip trays and fuel-absorbent materials;
- Onsite fuel storage will be minimised;
- Any fuels stored onsite will be contained within appropriately bunded areas at the Temporary Construction Compounds;
- Refuelling will be completed by trained and competent personnel;
- Plant will be regularly inspected to check for leaks and to ensure fitness for purpose;
- Spill kits and absorbent materials will be provided onsite to facilitate the prompt containment and clean-up of any accidental spills or leaks;
- The CEMP will provide details of an emergency spill response procedure to deal with accidental spillages; and,
- Appropriate bunding and drainage arrangements for the electrical control building to prevent the release of stored oils or chemicals to ground or surface water.

These mitigation measures are consistent with those routinely implemented at construction sites across the country. Similar mitigation measures have also been implemented during the construction of numerous wind farms across Ireland.

The implementation of these measures will reduce the likelihood of accidental hydrocarbon spills/leaks and the potential for such spills/leaks to result in significant effects on surface water and groundwater receptors. The mitigation measures prescribed in the EIAR and the CEMP will ensure that there is limited potential for significant effects on the receiving environment.

Potential Contamination from Cement-Based Products

Several 3rd party submissions raise concerns regarding the potential for cement-based products to enter the local surface water and groundwater environment.

Section 9.5.1.4 of the submitted **EIAR** sets out detailed, established best-practice mitigation measures in relation to the potential release of cement-based products. These measures include the following:

- There will be no batching of wet cement-based products onsite. Ready-mixed supply of wet concrete products and emplacement of pre-cast elements will take place;
- Where possible, pre-cast elements for culverts and concrete works will be used;
- Where concrete is delivered onsite, only the chute will be cleaned and a dedicated bunded area will be created to cater for concrete washout at the Temporary Construction Compound;
- There will be no discharge of potentially cement contaminated water to the construction phase drainage system or to any existing drain or natural watercourse;
- Weather forecasting will be used to plan concrete pours for dry weather; and,
- The contractor will ensure that the pour site is free of standing water and plastic covers will be used in a sudden rainfall event.

These mitigation measures are consistent with those routinely implemented at construction sites across the country. Similar mitigation measures have also been implemented during the construction of numerous permitted wind farms across Ireland.

During the operational phase there is no potential for the release of cement-based products as the concrete in the turbine bases sets within 3 days of the concrete pour.

The implementation of these measures will reduce the likelihood of the release of cement-based products and the potential for such release to result in significant effects on surface water and groundwater receptors. The mitigation measures prescribed in the **EIAR** and the **CEMP** will ensure that there is very limited potential for significant effects on the receiving environment.

Potential Effects Associated with Siltbuster

A comprehensive assessment of the potential effects associated with the use of Siltbuster is presented in **Sections 9.4.2.10** and **9.5.1.10** of the submitted **EIAR**.

Siltbuster treatment systems are proposed as part of the construction-phase surface water management measures, as an emergency response measure, to treat sediment-laden water prior to controlled discharge. The use of Siltbuster provides an additional level of sediment control and will reduce the potential for suspended solids to enter the receiving water environment. Treated water will be subject to appropriate monitoring and discharge controls.

Several 3rd party submissions raise concerns regarding the potential ecological and health effects associated with the dosing chemicals used within the Siltbuster, referencing poly-aluminium chloride and aluminium sulphate. As detailed in **Section 9.5.1.10** of the **EIAR**,

the Siltbuster system will use an electronic in-line dosing system to accurately control the addition of agents and prevent overdosing. The required dosing rates to initiate settlement are small (2-10 mg/L) and the vast majority of the chemical is removed in the deposited sediment. Any residual concentrations in the treated water will only be present in trace amounts.

Furthermore, biodegradable treatment agents will be used where practicable. Final effluent will be tested prior to discharge and, where the required discharge criteria are not met, the water will be retained for further treatment.

The use of Siltbuster is a controlled mitigation measure forming part of the overall construction drainage treatment train and will assist in protecting downstream surface water quality. With the proposed controls, no significant effects on receiving waters will occur, and there will be no significant ecological or health effects.

Potential Effects from Turbine Blade Erosion

Several 3rd party submissions raise concerns regarding the potential for chemicals associated with turbine blade coatings to be released into the environment from weathering and rainfall, and reference microplastics, Bisphenol-A (BPA) and phthalates.

The potential pathway identified in these submissions has been considered in this response. However, the submissions do not provide evidence (i.e. published or peer-reviewed evidence) which demonstrates that the normal operation of a commercial wind farm, or weathering of commercial turbine blade coatings, results in measurable concentrations of these substances entering surface or groundwater at levels capable of resulting in significant environmental effects.

It is important to distinguish between a theoretical contamination pathway and the identification of likely significant effects. The purpose of an EIAR is to identify and assess the likely significant effects on the receiving environment.

Furthermore, any rainfall contacting the turbine blades would be dispersed over a wide area (i.e. the geographic spread of the turbines). Any substances leached from the blade coatings would be subject to dilution, dispersion and natural attenuation across the Wind Farm Site.

Therefore, having regard to the nature of the potential pollutant source, the absence of a direct hydrological pathway between turbines and local watercourses (all turbines are located outside of the 50 m watercourse buffer zones), the dispersion of rainfall across the Wind Farm Site, and

the proposed surface water management measures, the potential effects are considered to be not significant.

Item 4: Hydrological Pathways & Downstream Natura 2000 Protection (SAC & SPA) Natura 2000 Protection (SAC & SPA)

How will downstream European protected sites be shielded? The site forms part of an elevated catchment that drains directly via local salmonid rivers (such as the Cloonalaghan, Carn, Glebe, and Conaghra) into downstream coastal ecosystems. Objections demand to know how the developer can guarantee that sediment loading, nutrient enrichment, and acidic forestry runoff will not pollute and degrade the Lacken Saltmarsh SAC and the Killala Bay/Moy Estuary SPA/SAC.

Why is there no standalone Water Framework Directive (WFD) assessment? Submitters ask why the developer has not provided a standalone WFD compliance matrix to evaluate the risk of ecological deterioration across all affected water bodies.

Answer:

Potential Effects on Downstream Designated Sites

A robust and comprehensive assessment of the potential effects on downstream designated sites hydrologically connected to the Proposed Development is presented in **Sections 9.4.2.14** and **9.5.1.14** of the submitted EIAR. The assessed receptors include Lackan Saltmarsh and Kilcummin Head SAC/pNHA and Killala Bay/Moy Estuary SAC/SPA/pNHA which are associated with coastal waterbodies downstream of the Proposed Development.

The assessment presented in the EIAR does not in any way rely on the dilution or assimilation capacity of downstream waterbodies. The prescribed mitigation measures, including controls for suspended solids, felling operations, hydrocarbons, cement-based products and wastewater are designed to protect surface water and groundwater at source. By protecting the watercourses in the immediate vicinity of the works, the potential for downstream receptors, including the Lackan Saltmarsh and Kilcummin Head SAC/pNHA and Killala Bay/Moy Estuary SAC/SPA/pNHA, to experience significant effects is substantially reduced.

Therefore, the assessment concludes that the Proposed Development will not result in significant effects on downstream surface water quality and/or the status or ecology of the qualifying interests, species and habitats within these designated sites.

Item 5: Groundwater Protection, Karst Aquifer Vulnerability & Private Wells

"What hydrogeological safeguards are guaranteed to protect unserved private domestic wells and springs from depletion, sediment contamination, or 'red water' iron mobilisation during excavation? Multiple submitters state use of private wells or spring water as only water supply."

- Will deep construction works disrupt well supplies? Many homes and farms in the area rely exclusively on private wells and spring-fed groundwater. Submitters frequently ask how excavations, blasting, pile driving, and cable trenching will impact these vital water sources, warning of potential flow diversion, yield reduction, or complete well dry-out.
- What is the risk of "red water" (iron/arsenic) mobilisation? Ground disturbance in high groundwater vulnerability areas is flagged as a risk for stirring up naturally occurring iron-rich and arsenic-contaminated groundwater, presenting a severe public health hazard.
- Why is there no site-specific baseline testing? Residents ask why the developer has not conducted site-specific hydrogeological testing, tracer tests, or baseline well water testing. They also demand to know why there are no legally binding contingency plans or alternative water supply commitments in the event of well contamination
- How will rapid contaminant transport through karst be prevented? Geological mapping indicates that parts of the site sit on a High to Extreme Groundwater Vulnerability zone with karstified limestone bedrock and faults. Submitters ask how the developer will prevent chemical or sediment spills from traveling rapidly across long distances through these underground bedrock channels.
- Why rely on desk studies instead of physical surveys? Objections raise concerns that the developer's groundwater assessment relies on GSI desk records rather than conducting physical, site-specific spring and groundwater flow path surveys

Answer:

Reliance on Desk-Study Information and Lack of Baseline Groundwater Testing

The site investigations undertaken are considered to be appropriate to the nature and scale of the Proposed Development and to the hydrogeological characteristics of the Wind Farm Site and the surrounding area.

The requirement for additional groundwater investigations, such as groundwater quality sampling, tracer testing or detailed groundwater flowpath characterisation, was not considered to be appropriate for the Proposed Development. Such investigations would generally be undertaken where there is a higher risk of potential significant effects on the local hydrogeological environment such as in areas characterised by karstic groundwater systems, or where the nature of a development involves significant interaction with groundwater (i.e.

significant works below the groundwater table, significant groundwater dewatering or significant groundwater abstraction).

The hydrogeological setting of the Proposed Development has been characterised through a combination of the available GSI information (www.gsi.ie) and site-specific investigations, including comprehensive walkover surveys, drainage mapping, geological mapping, peat probing and gouge coring. The hydrogeological environment at the Wind Farm Site is characterised by high rates of surface water runoff and low rates of groundwater recharge due to the coverage of peat and poorly draining soils, the sloping nature of the local topography and the low to moderate permeability of the underlying Poor and Locally Important bedrock aquifers. This is supported by the high density of surface water drainage features encountered during the walkover surveys and the nature of the soils/subsoils logged across the site. Therefore, surface waters rather than groundwater are the primary sensitive receptors at this site.

Therefore, the potential for significant groundwater contamination or alteration of groundwater flowpaths associated with the Proposed Development is considered to be very low.

Given the nature of the underlying bedrock aquifers, the nature and extent of the Proposed Development and the shallow nature of the proposed works and absence of significant excavations below the groundwater table or significant dewatering, the prescribed mitigation measures for the protection of local groundwater quality were considered sufficient. Additional groundwater sampling and tracer testing were therefore not considered necessary.

The potential presence of individual groundwater receptors, including private wells and springs, has also been considered, and is addressed separately in the response 'Potential Effects on Groundwater and Well Supplies' below. The purpose of baseline water-quality sampling would be to establish existing groundwater quality at individual receptors. Having regard to the identified hydrogeological setting, the distance and relationship of such receptors to the proposed works, and the absence of significant excavation dewatering, the potential for the Proposed Development to cause a measurable deterioration in groundwater quality at such receptors is considered to be low. Accordingly, baseline sampling was not considered necessary as part of the impact assessment.

Furthermore, the absence of baseline groundwater quality sampling does not preclude investigation of an alleged construction-related effect in the unlikely scenario that one should

arise. Such an effect could be investigated through targeted sampling of the impacted water supply, together with upgradient/downgradient groundwater sampling.

Potential Effects on Groundwater and Well Supplies

Several 3rd party submissions raise concerns regarding the potential for effects on local private groundwater supplies, including potential quantitative effects on well yields and qualitative effects, including concerns regarding sediment mobilisation, 'red water' iron mobilisation and arsenic mobilisation.

Several submissions state that many of the local water supplies are sourced from springs and that water supplies cannot be sourced from deeper wells due to issues surrounding red water and arsenic. These water supplies are therefore fed by shallow groundwater flows which discharge locally.

Section 9.4.2.9 and **Section 9.5.1.9** of the submitted EIAR presented a conservative impact assessment of the potential qualitative effects on groundwater wells. This assessment assumed that every dwelling in the local area is served by a private groundwater well and identified a total of 266 dwellings within 2 km of the proposed turbine locations. The assessment concluded that the potential for effects is limited for the following reasons:

- The separation distances between the proposed infrastructure and the potential receptors:
  - The closest dwelling, not associated with the Proposed Development, is located ~554 m from the closest proposed turbine (AT08);
  - The closest dwelling to the spoil deposition area adjacent to AT16 is ~400 m to the northeast; and,
  - The closest dwelling to the proposed substation is ~150 m to the west (note that topography in this area slopes gently to the east, and groundwater flowpaths are expected to follow surface topography. Therefore, this dwelling would be upgradient of the proposed substation).
- The Wind Farm Site is underlain by aquifers of relatively low to moderate permeability (Poor Aquifers and Locally Important Aquifers);
- The hydrogeological regime at the Wind Farm Site is characterised by high rates of surface water runoff and low rates of groundwater recharge;
- Groundwater flowpaths within the Wind Farm Site will predominantly be short, generally <300 m, consistent with the GSI characterisation of the Belmullet GWB. The Belmullet GWB underlies the majority of the Wind Farm Site, including 10 no. proposed turbines, and is characterised by low-transmissivity bedrock, with groundwater flow expected to be concentrated within the upper weathered zone of the aquifer and discharge locally to

streams and rivers. Accordingly, the <300 m flowpath length is considered representative of the predominant groundwater flow regime across the majority of the Wind Farm Site. Smaller areas of the Wind Farm Site are underlain by the Killala North GWB, where longer, fault-controlled flowpaths of up to 2 km may occur. Such longer flowpaths are not considered representative of the predominant groundwater regime beneath the Wind Farm Site. The Wind Farm Site is also characterised by a high density of surface water drainage features. There were no significant groundwater inflows observed in the abandoned quarry in the vicinity of AT16, which is underlain by the Killala North GWB;

- Consequently, the majority of groundwater flows within the Wind Farm Site are expected to discharge locally to springs, drains and streams and not continue along groundwater flowpaths for any significant distance;
- The potential fault-controlled flowpaths of up to 2 km, do not imply that groundwater in the areas of the Wind Farm Site which are underlain by the Killala North GWB would definitely migrate over such distances and into local groundwater wells. This pathway requires a connected fault-controlled pathway between the source and receptor;
- Therefore, the potential for significant effects on local groundwater well quality is considered to be low, having regard to the separation distances, the predominantly small groundwater flowpaths, the hydrogeological characteristics of the underlying aquifers and the nature and extent of the proposed works; and,
- Nevertheless, mitigation is provided in the **EIAR** to deal with typical construction phase groundwater hazards such as oils and fuels and cement-based products.

Furthermore, the Proposed Development has very limited potential to further deteriorate groundwater quality where sediment, iron or arsenic are existing baseline problems for the following reasons:

- The appropriate construction-phase drainage controls will be implemented and there will be no discharge of untreated or unattenuated waters;
- These measures will significantly reduce the potential for sediment-laden water to enter the local surface water or groundwater environment;
- While naturally occurring iron and arsenic may be present in the underlying geology, the Proposed Development will not create any new pathway for the mobilisation of these elements at concentrations capable of affecting private groundwater supplies;
- The Proposed Development does not include any significant interaction with groundwater, groundwater dewatering or abstraction that would have the potential to alter groundwater conditions; and,

- Therefore, there is limited potential for the Proposed Development to result in significant effects on groundwater well supplies through the mobilisation of sediment or naturally occurring iron or arsenic.

The potential for significant quantitative effects on local groundwater well supplies is considered to be very low for the following reasons:

- There are no Regionally Important Aquifers underlying the Wind Farm Site;
- All proposed works areas are underlain by Poor and Locally Important Bedrock Aquifers, which are typically characterised by low productivity bedrock;
- Furthermore, no works are proposed overlying the Locally Important Karst Aquifer, no karst features are mapped by the GSI within the Wind Farm Site and no karst features were recorded during the site walkover surveys;
- A total of 10 no. turbines are underlain by a Poor Bedrock Aquifer and the Belmullet GWB. This GWB is composed of low-transmissivity rocks, with groundwater flow concentrated in the upper weathered zone of the aquifer and groundwater flowpaths generally being short, with discharge occurring to local streams and rivers. No regional groundwater flow regime, i.e. large volumes of groundwater flow, will be encountered in these areas of the Wind Farm Site;
- 2 no. turbines in the northeast of the Wind Farm Site (wind turbines AT15 and AT16) are underlain by a Locally Important Aquifer and the Killala North GWB which is characterised by productive fissured bedrock. No significant groundwater dewatering will occur due to the topographic elevation of this area of the Wind Farm Site which is located in areas with ground levels in excess of 100 mOD. No significant groundwater inflows or faults were recorded in the existing abandoned quarry in the vicinity of wind turbine AT16, which provides additional site-specific information regarding groundwater conditions in this area of the Wind Farm Site;
- 4 no. turbines in the south of the Wind Farm Site (wind turbines AT01, AT02, AT03 and AT04) and the Substation are also underlain by the Killala North GWB and stand at lower ground elevations (40-60 mOD). No significant dewatering will be required due to the shallow nature of the excavations and the low-permeability of the local soils and subsoils;
- Shallow groundwater inflows into turbine base excavations during excavation are expected to be predominantly associated with recent rainfall and shallow groundwater;
- Any shallow groundwater seepage will be small in comparison to the expected surface water flows during heavy rainfall events; and,
- The management of surface water will form the largest portion of water to be managed and treated.

Based on the above, there is limited potential for any significant effects on local groundwater quality in private wells or on the yield of local well supplies.

Lack of Contingency Plans for Local Groundwater Well Supplies

Concerns have been raised regarding the absence of contingency arrangements or alternative water supply commitments in the event of contamination of private groundwater wells.

The submitted EIAR assesses the potential for the Proposed Development to affect private groundwater well supplies and concluded that with the implementation of the prescribed mitigation measures for the protection of groundwater quality that there would be no significant effects on local groundwater wells.

Therefore, alternative water supply arrangements are not considered necessary as a mitigation measure for the Proposed Development. Such arrangements would generally be considered where a development has a credible potential to result in significant or sustained effects on an existing water supply (i.e. associated with dewatering of a large quarry or a mine).

Karst Aquifer Vulnerability

The potential presence of karstified bedrock and the associated groundwater vulnerability were considered as part of the hydrogeological assessment undertaken for the Proposed Development. The project team were cognisant of the mapped karst bedrock aquifer classifications in the local area during the design process, and this information was considered through the various layout iterations in advance of the final design (which avoids the extent of the mapped karst aquifers).

The potential for the Proposed Development to impact the local karst bedrock aquifer is considered to be very limited for the following reasons:

- The Wind Farm Site, and all associated infrastructure, have been designed to avoid the extent of the GSI mapped Locally Important Karst Aquifer;
- No evidence of karst features has been identified within the Wind Farm Site. This conclusion is supported by a combination of desk-based assessments and site-specific investigations;
- The site investigations included detailed walkover surveys, geological mapping, drainage mapping of the Wind Farm Site by HES on several dates between August 2022 and April 2023. HES also completed over 50 no. peat probes at the Wind Farm Site;
- The evidence accrued during these site investigations indicate that the hydrogeological regime is characterised by high rates of surface water runoff and low rates of groundwater

recharge due to the presence of low permeability peat, soils and subsoils, and the high density of surface water drainage features;

- The site investigations did not identify any karst features (dolines, swallow holes, depressions, etc.) or other surface expression that would indicate subsurface karst development;
- A review of available desk study information provides further support;
- The GSI Karst Features database (www.gsi.ie) does not record the presence of any karst features at the Wind Farm Site or in the surrounding lands. The closest GSI mapped karst features are located at Crossmolina, ~15 km to the south;
- Historic 6" or 25" base mapping does not record any karst-related features at the Wind Farm Site;
- Inspection of recent and historic aerial imagery has not identified any features indicative of karst development at the Wind Farm Site;
- The available lidar data does not indicate the presence of depressions, sinkholes or other topographical anomalies that may be associated with karstification;
- The site investigation data also indicates that the Wind Farm Site is overlain by low permeability peat and mineral soils. These soils/subsoils provide a degree of protection to the underlying bedrock aquifer by restricting infiltration and groundwater recharge;
- The Wind Farm Site is underlain by Poor and Locally Important Bedrock Aquifers. These aquifer classifications reflect bedrock with generally low permeability and limited groundwater storage and transmissivity. A significant proportion of rainfall is therefore expected to be rejected as surface water runoff, with relatively short groundwater flow paths and groundwater discharge occurring to nearby surface water features; and,
- This is supported by the site walkover surveys, which identified a high density of surface water features across the Wind Farm Site. The prevalence of surface drainage, together with the absence of identified karst features and the low-permeability nature of the overlying soils and underlying aquifer units, indicates that surface water runoff is a more significant hydrological pathway at the Wind Farm Site than rapid groundwater flow through an interconnected karst network.

Therefore, the available desk study and site investigation data does not indicate the presence of karst features or a karst groundwater flow system beneath the Wind Farm Site. The Proposed Development has been designed to avoid the GSI-mapped Locally Important Karst Aquifer.

On this basis, the potential for the Proposed Development to result in significant effects on a karst groundwater system is considered to be very low. The proposed mitigation measures for the protection of surface water and groundwater, including controls on sediment, hydrocarbons,

cement-based products and other potentially polluting substances, will provide additional protection to the underlying groundwater environment during construction and operation.

Item 6: Battery Energy Storage System (BESS) Runoff Risks

How will toxic BESS firewater be contained? In the event of a thermal runaway fire, lithium-ion battery units can release highly toxic heavy metals (cobalt, nickel, manganese) and PFAS ("forever chemicals"). Submitters ask how the developer plans to contain and dispose of thousands of litres of contaminated firewater, warning that uncontrolled toxic runoff would quickly pollute downslope grazing land, farm wells, and nearby stream.

Answer: This issue has been addressed in the Major Accidents and Natural Disaster section of this document (**Section 4.13, Item 2**).

4.7 Air and Climate

Item 1: Carbon release from peatland disturbance undermining climate rationale

Objectors argue that clear-felling this forest releases an immediate, massive carbon spike (The Wind Farms estimated at ~175,100 tonnes of CO^2/tCO^2e lost). Furthermore, siting 13 of the 16 turbines on agricultural blanket bog (active Sphagnum peatland) acts as a "carbon bomb", as deep soil excavation and drainage cause the peat to dry out and oxidise, releasing massive, uncalculated stores of carbon dioxide, methane, and nitrous oxide.

Answer: The felling of approximately 31.86 hectares of existing forestry which is expected to result in a localised carbon loss of 14,721 tonnes of CO^2 equivalent (tCO^2e) is required to facilitate construction of the Proposed Development. This commercial coniferous forestry, which mainly comprises Sitka spruce and Lodgepole pine, was originally planted as part of silvicultural rotations and would be clear-felled in the future as a commercial crop regardless of whether a wind farm is constructed. Any temporary reduction in carbon sequestration capacity will be fully mitigated and offset by the legal commitment to replant an equivalent area of alternative land on a compensatory basis, with the felled trees being converted to timber products where carbon is stored long-term (**Appendix 13.1 Forestry Report, EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4.2, Table 10.4, EIAR Chapter 13 – Material Assets and Other Issues Section 13.5**)

The objectors' cited figure of ~175,100 tCO_2e falls within the projected Total Expected Losses for the entire project lifecycle over its 35-year lifespan (expected at 155,350 tCO_2e and capped at a maximum of 200,327 tCO_2e), which encompasses turbine manufacturing and decommissioning (56,802 tCO_2e), grid backup (44,719 tCO_2e), and all other ground activities (**EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4.2, Table 10.4**). All potential

greenhouse gas (GHG) emissions from construction, change in land use, soil organic matter loss, and leaching have been rigorously quantified using the online Carbon Calculator (v2.14.1), which is recognised as industry best practice in Ireland. The model calculates that the entire Proposed Development is expected to give rise to a worst-case of 155,350 tonnes of CO_2 equivalent losses over its 35-year life. Specifically, the expected carbon loss from soil organic matter is 30,919 tonnes of CO_2 equivalent. These ground activity calculations are highly conservative as they assume the entire project footprint consists of "Acid Bog"; in reality, the footprint is predominantly modified agricultural pasture and commercial forestry, meaning actual carbon losses will be significantly lower. Furthermore, extensive site investigations confirmed that the median peat depth across the Redline Boundary area is only 0.10 m (mean depth of 0.22 m), and 86.4% of the site has negligible peat depth between 0.00 m and 0.50 m, with deep peat areas systematically avoided by constraints-led design. Additionally, the assertion that 13 turbines are sited on active blanket bog is incorrect, as 9 turbines are located in commercial conifer plantations, 6 are in improved/semi-improved grasslands, and only 1 is located within a pre-existing quarry. Only a single turbine (AT13) is positioned on a localised 7.65 ha plot of modified blanket bog (resulting in a direct permanent loss of just 0.68 ha), which is not within any European protected site and will be fully offset by preserving and enhancing 3.94 ha of relatively intact blanket bog at Castlelackan Demesne quarry under the project's Biodiversity Enhancement and Management Plan (BEMP).

The climate rationale remains robust and overwhelming, as the proposed 68.8 MW wind farm will generate approximately 210,940 MWh of clean electricity per annum, displacing 49,719 tonnes of CO_2 annually (based on the SEAI grid emissions factor of 253.7 gCO_2/kWh). Over the 35-year operational lifespan, the development will offset 1,740,156 tonnes of CO_2. Since total expected lifecycle carbon losses (155,350 tCO_2e) represent only 8.93% of the total offset emissions, the entire carbon cost of the development—including manufacture, felling, and peat excavation—will be fully paid back and cleared in just 37.5 months (3.1 years) of operation, after which the project operates as a net carbon-saving asset **(EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4.3).**

The claim that the development acts as a "carbon bomb" due to deep peat excavation is refuted by extensive geotechnical site investigations, which confirm that at least 86.1% to 86.4% of the Wind Farm Site recorded a negligible peat depth of 0.50 m or less (site-wide median peat depth of 0.10 m and mean of 0.22 m), with deeper peat areas systematically bypassed through constraints-led design (**EIAR Chapter 8 - Soil and Geology Section 8.3.6.1**). Siting decisions have been heavily optimised: only 1 of the 16 proposed turbines (AT13) is positioned on a localised plot of blanket bog, resulting in a direct permanent habitat loss of just **0.68 ha** (**EIAR**

Chapter 6 - Biodiversity, Section 6.4.4.1). Of the remaining turbines, 9 are sited in commercial conifer plantations, 6 in grasslands, and 1 in an existing quarry [EIAR Chapter 6 - Biodiversity, Section 6.1.1, Page 8]. This minor local habitat loss is fully offset by the Biodiversity Enhancement and Management Plan (BEMP), which will preserve and enhance **3.94 ha of relatively intact blanket bog** at the Castlelackan Demesne quarry for the lifetime of the project (**EIAR Chapter 6 - Biodiversity, Section 6.8**)

Item 2: Defective Carbon Offsetting Calculations & Irish Peat Depths: Why did the developer rely on the Scottish Carbon Calculator to estimate the wind farm's carbon payback period and why did they use artificially reduced site bog area calculations?? Submissions from groups like Friends of the Irish Environment point out that the Scottish tool is completely uncalibrated for Irish peatland hydrology and severely underestimates the depth of Irish organic soils. There is also a direct mathematical discrepancy in the developer's own carbon savings calculations: the formula yields 53,516 tonnes/year while the Non-Technical Summary reports 49,719 tonnes/year.

Answer:

Built-in Conservatism of the Carbon Calculator Tool

The assertion that the use of the Scottish Government Carbon Calculator (v2.14.1) underestimates the carbon impact or is unsuited to the site is technically incorrect and contradicts established environmental impact methodology. SNH (Scottish Natural Heritage) and EPA-aligned guidance confirms that this tool is the accepted industry-standard method in Ireland for quantifying the lifecycle carbon balance of wind energy projects on organic soils. The use of this tool is scientifically valid because Scotland and Ireland are situated at identical latitudes, share highly comparable temperate maritime climates, and possess analogous blanket bog and wet heath soil-atmosphere carbon exchange dynamics (**EIAR Chapter 10 - Air Quality and Climate, Section 10.1.6 and Section 10.3.2**).

Crucially, the Carbon Calculator operates under highly rigid, binary soil-atmosphere exchange parameters that force the user to select either "Acid Bog" or "Fen" as the baseline habitat for the entire calculations. To ensure an absolute worst-case assessment, the environmental team designated the entire Proposed Development footprint (~9.21 ha) as pristine "Acid Bog". In reality, the affected footprint consists predominantly of highly modified, drained, and actively grazed agricultural pasture and commercial coniferous forestry. Because these land uses have already significantly depleted baseline soil organic carbon (SOC) levels through historical agricultural drainage and tilling, the actual carbon dioxide, methane, and nitrous oxide emissions released during soil disturbance will be vastly lower than the modelled soil organic matter loss

of 30,919 tonnes of CO_2 equivalent (**EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4**).

Furthermore, the model's calculation of 155,350 tonnes of CO_2 equivalent in total expected losses is based on the extremely conservative assumption that the hydrology and peatland habitats within the site boundary will *never* be restored following decommissioning at the end of the project's 35-year operational lifespan (**EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4**). In practice, the civil engineering design dictates that above-ground infrastructure will be decommissioned and covered with soil to allow natural revegetation (**EIAR Chapter 9 - Hydrology and Hydrogeology, Section 9.4.4**). If the site is repowered or replaced with newer turbine models in the future, any residual hydrological effects are fully offset by the continued generation of clean, carbon-neutral. Consequently, the modelled carbon payback period of 3.1 years represents an artificial, worst-case ceiling; the true environmental payback period of the Tirawley Wind Farm will be significantly shorter (**EIAR Chapter 10 - Air Quality and Climate, Section 10.3.4.3**).

Mathematical Reconciliation of Carbon Savings

The applicant acknowledges the mathematical discrepancy between the calculation formula output and the summary text in the EIAR. Under **Section 10.3.4.3**, the carbon displacement formula is written as:

$$CO_2 \text{ (in tonnes)} = (A \times B \times C \times D) / 1000$$

Using the site-specific parameters—Maximum Capacity (*A*) = 68.8 MW; Load Factor (*B*) = 35% (0.35); Annual Hours (*C*) = 8,760; and the 2023 SEAI Grid Intensity (*D*) = 253.7 gCO_2/kWh—the correct product is indeed 53,516.32 tonnes of CO_2 displaced per annum (CO_2 (in tonnes) = (A x B x C x D) / 1000).

The figure of 49,719 tonnes of CO_2 per annum reported in the Non-Technical Summary and Chapter 10 text represents a highly conservative, under-reported value. Relying on the true, mathematically precise figure of 53,516 tonnes/year demonstrates that the project's carbon payback period is actually shorter (accelerating from 3.1 years down to 2.9 years), which further strengthens the project's environmental and climate rationale.

Quantifying Actual Habitat Loss

The permanent physical loss of blanket bog habitat is restricted to just 0.68 ha out of a 7.65 ha localised plot at the turbine AT13 location. This plot is of Local Importance (higher value) and represents a shallow, historically modified peat area (maximum 1.1 m depth at the turbine

location) that already shows clear signs of past agricultural drainage and cutting. The remaining area of the plot will not be lost, and the overall integrity of the peat structure will be preserved.

Systematic Minimisation Through Iterative Design

The exceptionally small footprint of peatland impact is the direct result of a constraints-led iterative design process that deliberately "designed out" peatland conflicts (**EIAR Chapter 3 Alternatives, Section 3.6.1**):

- **Acoustic and Environmental Iteration**: Under the initial scoping of the project, 17 turbines were originally proposed within peatland habitats.
- **Removal of Site B**: A massive portion of the original project area ("Site B") was entirely excluded from the final application due to specific environmental concerns regarding peat depths, the presence of intact blanket bog, and the subsequent potential for high spoil generation.
- **Final Siting Footprint**: In the final 16-turbine layout, only 1 turbine (AT13) is positioned on blanket bog. Of the remaining 15 turbines, 9 are sited in commercial conifer plantations, 6 are in agricultural or semi-improved grasslands, and 1 is situated in an existing quarry—all habitats of low botanical interest and negligible carbon storage value.

Net Ecological Benefit: The BEMP Offset

To offset the minor, localised loss of 0.68 ha of modified bog at AT13, the developer has established a legally binding **Biodiversity Enhancement and Management Plan (BEMP)**. Under the BEMP, an area of 3.94 ha of relatively intact blanket bog within the abandoned Castlelackan Demesne quarry will be preserved and ecologically enhanced for the entire 35-year operational lifetime of the project. This represents an offset ratio of nearly 6 to 1, delivering a substantial net positive outcome for regional peatland conservation and biodiversity.

Mitigation of Adjoining Bog and Hydrological Protection

To ensure that construction works at AT13 do not cause secondary degradation or drying out of the adjoining bog, the Construction Environmental Management Plan (CEMP) (**Appendix 2.1: CEMP, Section 3.2.2.2**) mandates strict on-site physical controls monitored by an Ecological Clerk of Works (ECoW):

- **Restricted Access**: The exact construction footprint will be physically cordoned off using a wooden post and rope fence, with all contractor movement and vehicle tracking strictly prohibited outside this boundary.
- **No On-Bog Storage**: Excavated peat and subsoil will be immediately transferred to designated spoil areas, with absolutely no storage of peat or construction materials permitted on the adjoining bog surface.

- **"Turf-Saving" Re-vegetation**: To promote rapid recovery of any disturbed surfaces, the top vegetative layer of the bog will be excavated as intact sods or "turves" to a depth of 20–30 cm. These turves will be stored in a damp, protected area and subsequently re-laid side by side over disturbed margins to provide almost immediate, continuous vegetative cover, preventing bare peat exposure and soil erosion

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Item 3: Flawed Air Quality Baselines & Distant Monitoring:

Why did the developer draw baseline air quality data from distant, non-representative air monitoring stations located 16 km to 44 km away (Ballina, Castlebar, and Belmullet)? Objectors point out that the EIAR fails to account for local prevailing south-to-west wind patterns and completely ignores how dust and exhaust emissions from 11,000+ construction HGV movements over 21 months will impact vulnerable local receptors, such as students at Lacken Cross Secondary School and residents under specialist care for severe lung/respiratory conditions.

Answer: The assertion that the EIAR utilises flawed or non-representative baseline data is factually and legally incorrect. Sourcing baseline air quality data from established EPA Zone D national monitoring networks—including Ballina (16 km SE), Castlebar (42 km S), and Belmullet (44 km W)—is the standard, legally compliant methodology under the Clean Air for Europe (CAFÉ) Directive and EPA guidelines for Rural Ireland (**EIAR Chapter 10 – Air and Climate, Section. 10.1.6, 10.2.1).** Siting temporary on-site monitors is neither necessary nor scientifically superior. Under World Meteorological Organisation (WMO) standards and EPA guidelines, a representative baseline must capture 30-year Climatological Standard Normals (CSNs) (e.g., 1991–2020 / 1992–2023) to account for long-term trends and calculate return periods for extreme weather (**EIAR Chapter 10 – Air and Climate, Section 10.3.3**). Short-term on-site monitoring (1 to 12 months) cannot establish these long-term normals, is highly vulnerable to seasonal anomalies, and suffers from frequent technical downtime—such as sensor outages losing up to 240 days of PM2.5 or 91 days of PM10 data—which severely skews annual averages (**EIAR Chapter 10 – Air and Climate, Section 10.2.2.2**).

The claim that local prevailing south-to-west wind patterns were ignored is equally baseless. The modelling assessments—including shadow flicker and acoustic dispersion modelling—fully integrated long-term wind rose and wind frequency data from the Belmullet synoptic station to calculate expected wind-direction-specific impacts (**EIAR Chapter 10 – Air and Climate, Section 10.3.3, Graph 10.1**, **EIAR Chapter. 15, Sec. 15.2.3**).

Far from ignoring vulnerable receptors, the EIAR, Construction Environmental Management Plan (CEMP), and Traffic Management Plan (TMP) establish exhaustive, legally binding mitigations to protect sensitive groups, including students at local schools along or fronting the R314 haul route (such as St. Patrick's College and Culleens National School) and residents with pre-existing respiratory conditions (**EIAR Chapter 17 – Traffic and Transport, Section. 17.6**). Active dust-suppression and vehicle emission controls enforced under the CEMP strictly maintain ambient PM10 and PM2.5 levels within legal safety thresholds, directly protecting health receptors (**EIAR Chapter 10 – Air and Climate, Section. 10.2.6**).

To eliminate conflict with school traffic, construction HGV movements are strictly prohibited during school drop-off and pick-up hours, with standard delivery traffic restricted to 07:00–19:00 Monday to Friday and 08:00–13:00 on Saturdays ((**CEMP Appendix 2.1, Section 3.8, the Traffic Management Plan** (7)). Oversized turbine component deliveries travel almost exclusively at night under Garda escort with advance public notice (**CEMP Appendix 2.1, Section 3.8, EIAR Chapter 17, Traffic and Transport, Section 17.6.1**). All drivers undergo mandatory inductions regarding sensitive receptors and strict public road speed limits (60–80 km/h). Continuous access is guaranteed for all properties and schools under a dedicated Project Traffic Coordinator, while a financial bond lodged with Mayo County Council ensures road defects are inspected weekly and repaired within two weeks ((**CEMP Appendix 2.1, Section 3.8, the Traffic Management Plan** (7)).

Item 4: BESS Fire Toxin Plume Omissions:

Why does the EIAR completely omit toxic plume dispersion modelling for a Battery Energy Storage System (BESS) thermal runaway event? Objectors highlight that a BESS fire would release highly toxic gases, principally Hydrogen Fluoride (HF) and Hydrogen Cyanide (HCN), along with heavy metal PM2.5 nanoparticles (cobalt, nickel, manganese). The developer's failure to model the air quality and health risks of these toxic plumes under prevailing coastal winds is flagged as a major safety gap.

Answer:

Absence of Statutory or Regulatory Requirement under COMAH/SEVESO Regulations

The proposed 150 MW Battery Energy Storage System (BESS) facility is located on a geologically stable, rural greenfield site and is not connected to or positioned in the vicinity of any establishment regulated under the Control of Major Accident Hazards Involving Dangerous Substances (COMAH/SEVESO) Regulations. During the statutory scoping phase, the Health and Safety Authority (HSA)—acting as the Central Competent Authority under the Chemicals Act Regulations 2015 (S.I. No. 209 of 2015)—reviewed the proposal and formally responded on

16 December 2025, stating that the project fell outside the scope of major accident hazard regulations and issued "no comments to forward". Because the BESS facility is not classified as a SEVESO site, there is no legislative or planning policy basis requiring the developer to conduct formal atmospheric toxic plume dispersion modelling.

Low-Risk Profile via Layered Safety and Prevention-by-Design

The hazard analysis within **EIAR Chapter 16 (Major Accidents and Natural Disasters)** evaluates the risk of an industrial fire or explosion at the BESS facility as a **"low-risk scenario"**. This classification assumes the potential failure of mitigation measures and is mathematically modelled as "very unlikely" to occur with only "limited" potential consequences. Under **Appendix 16.1 (Fire Safety Assessment)** and **Appendix 2.1 (CEMP Management Plan 1)**, the likelihood of a cascading thermal runaway event releasing unmitigated toxic gases is systematically prevented through a rigorous, layered engineering design:

- **Chemistry Selection:** All 20 container units will utilise battery chemistries widely recognised for having a significantly lower propensity for thermal runaway, such as Lithium Iron Phosphate (LFP).
- **System Certification:** Each chosen BESS container is required to hold full test certification under UL 9540A (Test Method for Evaluating Thermal Runaway Fire Propagation), demonstrating that the risk of cell-to-cell fire spread has been rigorously tested and mitigated.
- **Enclosure Protection:** Containers are designed as outdoor, non-occupiable units with a minimum of 1-hour fire resistance and an IP55 ingress rating.
- **Active Monitoring & Early Detection:** The facility incorporates a 24/7 continuous Battery Management System (BMS) at cell, module, and rack levels, photoelectric smoke detection, and a specialised dual-gas detection system configured to detect Hydrogen (H_2) and Carbon Monoxide (*CO*) as early indicators of off-gassing.
- **Automatic Suppression & Deflagration Venting:** Containers are fitted with automatic gas-based fire suppression systems to extinguish localised ignition and explosion/deflagration venting panels to safely direct overpressure and gases externally, preventing catastrophic containment failure.

Operational FRS Strategy of "Controlled Burn" and Substantial Spatial Setbacks

The primary strategy for a battery fire is a "controlled burn," where an affected unit is allowed to consume its fuel naturally while being monitored, rather than applying high volumes of water directly to the cells. Perimeter cooling may be employed by the Fire and Rescue Services to prevent fire spread to adjacent units or vegetation This strategy is formally integrated into **CEMP Management Plan 1** (**Emergency Response Plan**), which dictates that in the event of a fire,

the affected unit is allowed to consume its fuel naturally while being monitored, rather than applying high volumes of water directly to the cells, which could cause structural fracturing, rapid gas generation, or toxic liquid runoff.

Furthermore, the BESS compound is situated with a substantial setback distance of approximately 200 metres to the nearest habitable dwelling. This physical separation distance limits the risk of immediate residential exposure to localised combustion byproducts before they are diluted by coastal winds (**Appendix 16.1 - Fire Safety Assessment**).

Empirical Support from Real-World Incidents

Appendix 16.1 reviews historical BESS failure case studies to justify its risk mitigations, illustrating that actual BESS fires do not present unmanageable toxic plume risks:

- During the 1,200 MWh Moss Landing Phase I BESS fire (January 2025), real-time air quality monitoring conducted across the county by the US EPA and the Monterey Bay Air Resources District confirmed that levels of Hydrogen Fluoride (HF) remained strictly below acute Reference Exposure Level thresholds.
- Following the 120 MWh Escondido BESS fire (September 2024**)**, public air quality reports confirmed all toxic gas readings were well below acceptable exposure limits and were consistent with expected readings during a routine structure fire.

Pre-Construction Regulatory Safeguards

Finally, as BESS technology is rapidly advancing, the developer has committed to a mandatory pre-construction Fire Service review and Building Control review (**EIAR Chapter 16 – Major Accidents and Natural Disasters, Section 16.3.5**). The final layout and specifications must secure a Fire Safety Certificate, and the conditions set out by the local fire authority will dynamically account for the exact model specifications, the intervening distance, and the number of residences in the vicinity. Therefore, conducting speculative plume dispersion modelling at the planning stage for unspecified hardware would be technically premature and is unnecessary given these embedded statutory safeguards.

- **HSA Scoping Compliance & Seveso Exemption:** *EIAR Chapter 5 (Population & Human Health), Section 5.2.3, Table 5.4*
- **BESS Fire/Explosion Low Risk Classification:** *EIAR Chapter 16, Section 16.4.1.5, Table 16.8 & Table 16.9*
- **BESS Embedded Engineering Controls:** *Appendix 16.1 (Fire Safety Assessment & Advice Report), Section 6.2.2*
- **Controlled Burn Strategy & Consultation:** *Appendix 2.1 CEMP - Management Plan 1 (Emergency Response Plan), Section 3.2*

- **Atmospheric Monitoring Empirical Data:** *Appendix 16.1, Section 4.5, Table 2 (Notable Incidents)*
- **Nearest Receptor Setback Buffer:** *Appendix 16.1, Section 6.1.18, Page 36*.

Item 5:

Ambient Air Quality Directive (2008/50/EC) & S.I. No. 180/2011

The Accusation: Failure to monitor or model PM10, PM2.5, and exhaust/dust limits.

Why: The developer failed to perform localised air quality modelling or provide dust mitigation protocols for the extensive excavation and haulage phases. This is a direct breach of European ambient air quality standards, particularly given the close proximity of the haul routes to sensitive receptors like Lacken Cross Secondary School and local homes

Answer: This formal rebuttal addresses the third-party planning objection alleging a failure to model or monitor particulate matter (PM10 and PM2.5) and exhaust/dust limits, as well as a lack of dust mitigation protocols for the construction and haulage phases.

Baseline Air Quality Evaluation and PM10/PM2.5 Monitoring

The assertion that there has been a failure to monitor or evaluate baseline concentrations of PM_{10} and $PM_{2.5}$ is technically incorrect and contrary to the evidence presented in **EIAR Chapter 10: Air Quality and Climate, Section 10.1.2**. In accordance with the Environmental Protection Agency (EPA) *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022)*, baseline air quality was established using high-quality indicative and national monitoring datasets from the same regulatory air quality zone (Zone D – Rural Ireland).

As detailed in **EIAR Chapter 10, Section 10.2.2.2**, the baseline assessment data from the closest representative monitoring stations:

- Ballina indicative monitoring site (~16 km southeast of the Wind Farm Site), which records hourly measurements for $PM_{2.5}$ and PM_{10}. The 2025 annual mean $PM_{2.5}$ level was 8.45 $\mu g/m^3$, which is well below the annual limit value of 20 $\mu g/m^3$ under the Ambient Air Quality Directive (2008/50/EC). The 2025 annual mean PM_{10} level was 15.00 $\mu g/m^3$, well below the annual Directive limit of 40 $\mu g/m^3$.
- Castlebar national monitoring site (~42 km south of the Wind Farm Site), which records hourly measurements for PM_{10}, ozone, and NO_2.

This monitoring demonstrates that the existing background air quality is of an exceptionally high standard and has significant assimilative capacity to absorb minor, temporary localized emissions. S.I. No. 180/2011, cited in the objection, has been transposed and updated under the Ambient Air Quality Standards Regulations 2022 (S.I. No. 739/2022), with which the Proposed Development remains in full compliance (**EIAR Chapter 10, Section 10.1.3, Section 10.1.4**).

Localised Impact Assessment and Proximity to Sensitive Receptors

In accordance with international best practice adopted by the EPA, a risk-based qualitative construction air quality assessment was undertaken utilising the UK Institute of Air Quality Management (IAQM) 2024 guidance (**EIAR Chapter 10, Section 10.1.3, Section 10.2.4.1.1**). Quantitative localised dispersion modelling is technically inappropriate and unnecessary for temporary construction-phase dust, as dust nuisance is a localised phenomenon.

According to scientific criteria, friable dust particles typically deposit within 100 m to 250 m of the generation source. To safeguard local residents, the layout incorporates a mandatory minimum setback distance of 540 m from all turbines to the nearest inhabited dwellings. There are 79 sensitive receptors (dwellings) within 1 km of the proposed turbines. Of these 79 sensitive receptors, none are within 100 m of the proposed turbines. Five no. inhabitant dwellings are located within 100 m of proposed site infrastructure works. If unmitigated, there would be dust deposition temporarily arising from the construction of the Site Access Tracks. Effects from dust deposition would be short-term, temporary and slight negative effect on sensitive receptors (Figure 2.3) based on UK IAQM 2024 guidance which is considered best practice in Ireland. All other inhabited dwellings are situated greater than 100 m from all proposed Site infrastructure and therefore are unlikely to be affected by potential dust disturbance as dust typically only causes a disturbance within 100 m of the site of friable dust generation. (**EIAR Chapter 10, Section 10.2.4.1.1**).

The nearest occupied residential dwelling (H3) is located 554 m from the nearest turbine (AT08), exceeding both limits (**Appendix 2.1 CEMP - Traffic Management Plan**). Because the main dust sources (turbine foundations and hardstands) are located more than double the standard 250 m impact zone, dust nuisance at residential properties is avoided.

For secondary infrastructure works (e.g., access track construction), five uninhabited or associated structures lie within 100 m. Unmitigated impacts are classified as slight, temporary, short-term negative effects, which will be fully mitigated (**EIAR Chapter 10, Section 10.2.4.1.1**). Furthermore, construction exhaust emissions (PM_{10}, $PM_{2.5}$, CO_2, NO_x, CO) were assessed as short-term, slight negative, and not significant (**EIAR Chapter 10, Section 10.2.4.1.2**), while the

localised impact of transport vehicles on the haul route was determined to be imperceptible due to its short duration (**EIAR Chapter 17: Traffic and Transport, Section 17.5.7**).

Embedded Dust Mitigation Protocols

The third-party allegation that dust mitigation protocols have not been provided is directly refuted by **EIAR Chapter 10, Section 10.2.5.1 (Pages 19–20)**, **Appendix 2.1 Construction Environmental Management Plan (CEMP), Section 3.5.1 (Pages 63–64)**, and **Appendix 2.1 CEMP - Traffic Management Plan, Section 4.5 (Pages 96–98)**. The appointed civil contractor is contractually bound to implement the following robust on-site mitigation measures:

- **Wetting and Damping Down**: Water bowsers will be permanently available to spray active work areas (including turbine hardstands and the Grid Connection Route) and Construction Haul Route roads during dry and windy conditions to suppress dust migration (**Appendix 2.1 CEMP, Section 3.5.1**).
- **Wheel Wash Facilities**: Wheel cleaning equipment will be established at six key egress locations (including Entrance 2 at the Temporary Construction Compound and Entrance 14 at the spoil deposition area) to prevent the transfer of mud/dirt onto the public road network (**Appendix 2.1 CEMP, Section 3.5.1**).
- **Road Sweeping and Cleaning**: Public roads along the Construction Haul Route will undergo daily inspections and regular cleaning using road sweepers to prevent dirt build-up (**Appendix 2.1 CEMP, Section 3.5.1**).
- **Compacted Road Materials**: Site Access Tracks will be constructed using graded aggregate that compacts, naturally preventing the generation of friable dust (**Appendix 2.1 CEMP, Section 3.5.1**).
- **Vehicle Sheet Covering**: All HGVs transporting crushed stone, sand, or other dust-generating materials will be sheeted/covered during both entrance and egress (**Appendix 2.1 CEMP, Section 4.5**).
- **On-Site Speed Limits**: Speed restrictions of 15 km/h on Site Access Tracks (**Appendix 2.1 CEMP, Section 3.5.1**) and 25 km/h on-site generally (**Appendix 2.1 CEMP, Section 4.5**) will be strictly enforced to prevent dust from becoming airborne.
- **Stockpile Stabilisation**: Exposed material stockpiles will be capped with geotextile layering, damped down, and re-vegetated as soon as practicable to stabilise surfaces (**Appendix 2.1 CEMP, Section 3.5.1**).
- **Exhaust Emission Controls**: Regular servicing of all plant, vehicles, and generators will be conducted, with a mandatory instruction to turn off all machinery when not in use (**Appendix 2.1 CEMP, Section 3.5.1**).

With these robust mitigation measures secured, the residual effects of dust emissions and vehicle exhausts are assessed as not significant (**EIAR Chapter 10, Section 10.2.6.1, Section 10.2.8**)

4.8 Noise

This section groups submissions within Noise topics, authored by Irwin Carr Consulting.

Marke Burke, Shane Carr and Brendan O'Reilly prepared the Noise Chapter of the submitted EIAR, and their qualifications, competencies, and experience are already presented in the EIAR (refer to **Section 11.1.1**).

Item 1: Cumulative impact with other wind farms / energy cluster in North Mayo

Widely raised concern that Tirawley cannot be fairly assessed on its own — it must be considered together with existing and proposed wind farms (such as Glenora) forming a growing 'energy cluster' across North Mayo, with combined noise effects.

Setback Adequacy and Encirclement: How can a 540m buffer zone protect residents from turbine noise when multiple large turbines are situated in close proximity? Objectors point out that having several 135m turbines within 1–2 km of their homes (such as Receptor H11, which has 8 turbines within 1 km, and H15, which has 3 within 1 km) will destroy the quiet rural soundscape

Answer: All of the turbines within the proposed wind farm were considered in the noise modelling. The predicted noise levels comply with the appropriate standards applicable in the planning process

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Item 2: Operational turbine noise exceeding guideline limits

The core acoustic objection: submitters argue predicted operational noise levels at nearby dwellings will exceed applicable guideline limits, particularly during quiet night-time hours and under specific wind conditions.

Receptors with Specific Predicted Noise Levels and Exceedances

Several homeowners point out that the developer's own modelling predicts noise levels that will directly breach the night-time limit of 43 dBA or exceed World Health Organisation (WHO) recommended guidelines to protect human health

Answer: Mitigation measures have been detailed at all receptors at which there shall be exceedances of the night-time noise limit of 43dB(A) – H3, H4, H6, H10, H11 and H13. At all other receptors detailed above the predicted noise level will not exceed 43dB(A).

Item 3: Reliance on outdated noise standards instead of 2019 draft guidelines/setback distances.

Many submissions argue the assessment should have applied the stricter setback distances and noise limits proposed in the 2019 Draft Revised Wind Energy Development Guidelines, rather than the older 2006 guidelines still formally in force.

Answer: The Draft Revised Wind Energy Development Guidelines 2019 were never adopted and remain in draft form. The 2006 WEDG are the only guidelines in place in Ireland, but the site is also assessed using the 2026 Assessment and Rating of Noise from Wind Turbines (ARNWT) Guidance.

Item 4: Low-frequency noise / infrasound impacts inadequately assessed

Separate from general turbine noise, submitters raise concern about low-frequency noise and infrasound — which travels further and is harder to mitigate — arguing the EIAR's assessment methodology does not adequately capture this effect.

Answer: The operational noise assessment has been undertaken in accordance with the applicable wind turbine noise assessment methodology. The recently published Assessment and Rating of Wind Turbine Noise guidance provides technical guidance for assessing and controlling operational noise from wind turbines, while the Institute of Acoustics has advised that the existing IOA Good Practice Guide and supplementary guidance notes remain endorsed pending any future updates.

In addition, the IOA Policy Note on Wind Turbine Low Frequency Noise and Infrasound advises that a separate assessment of low-frequency noise or infrasound is not normally required for wind turbine developments. Wind turbine noise is assessed using the established A-weighted methodology, with compliance determined by comparison of predicted or measured rated turbine noise levels against the applicable noise limits. On that basis, where the operational turbine noise assessment demonstrates compliance with the applicable limits, a separate low-frequency noise or infrasound assessment is not required.

Item 5: Amplitude Modulation and "Blade Swish"

How will the developer mitigate erratic "blade swish" (amplitude modulation) and rhythmic thumping? Objectors state that the A-weighted decibel (dBA) metric used by the developer filters out low-frequency noise (LFN) and infrasound, failing to capture these highly intrusive, pulsing sound characters.

"What enforceable mechanisms are established to control intrusive Amplitude Modulation (AM / blade swish/thumping) in light of recent Irish High Court nuisance precedents?"

Answer: The potential for amplitude modulation, commonly described as "blade swish" or "thumping", has been considered within the operational noise assessment. Section 11.4.3 identifies those receptors where predicted turbine noise levels are within 5 dB of the applicable night-time noise limit and where the potential for perceptible amplitude modulation may therefore require further consideration should it arise during operation. It should be noted that amplitude modulation is not likely to occur at all receptors, nor is its occurrence assumed solely on the basis of predicted overall noise levels. Rather, it is an operational characteristic that may arise under specific meteorological and turbine operating conditions. Where such a characteristic is identified following commissioning, it can be addressed through enforceable operational controls, including changes to turbine operating modes, sectoral management, or curtailment/shut-down of relevant turbines where necessary to achieve compliance with applicable planning conditions and noise limits. The recently published Assessment and Rating of Wind Turbine Noise guidance provides an updated rating methodology for operational wind farm noise, including the derivation of site-specific noise limits, comparison of rated turbine noise # Issue EIAR Chapter Count Relative Frequency levels against those limits, and the assessment of specific audible characteristics such as amplitude modulation within compliance monitoring. Under that methodology, where amplitude modulation is identified and rated as a feature of the turbine noise, an appropriate rating penalty may be applied to the measured noise level, up to a maximum penalty of 5 dB. On this basis, any substantiated occurrence of AM would be capable of being investigated, quantified and, where required, addressed through rating and operational management of the wind farm.

Item 6: "How do predicted operational noise levels comply with statutory limits across 266 nearby homes given naturally low night-time background noise in rural Mayo?"

Key Local Context & Site Evidence 266 dwellings within 2 km:
ETSU-R-97 43 dBA night-time limit vs WHO 2018 45 dB Lden / 40 dB Lnight guidelines; predicted exceedances at Receptors H1, H3, H4, H6, H10, H11, H13; 9 m/s modelled vs 23 m/s candidate turbine cut-off.

Answer: The predicted noise levels comply with the noise limits applied on the ABP limits in **EIAR Chapter 11: Noise, Section 11.2.3.2**.

Item 7: Cumulative Logarithmic Noise with the BESS

Why did the noise assessment fail to calculate the combined concurrent noise of the turbines and the Battery Energy Storage System (BESS)? Residents note that the continuous 24/7 low-frequency noise from BESS cooling systems, inverters, and the 110kV substation transformer hum (100Hz at 486 m) will compound the turbine noise, creating a continuous wall of sound.

Answer: The wind turbine and BESS noise sources have been assessed using the appropriate methodologies for each source. Wind turbine noise is assessed against wind-speed-dependent WEDG/ETSU-derived limits, whereas BESS plant noise is assessed as fixed plant noise and is not directly assessed using the same methodology. Turbines only operate above their cut-in wind speed, typically around 4–5 m/s, when background noise levels are also higher due to wind in vegetation and the surrounding environment. In these conditions, BESS plant noise is less likely to be audible at receptors because it would be masked by the higher prevailing background noise. Therefore, a simple logarithmic addition of turbine and BESS noise would not necessarily reflect the appropriate assessment methodology or likely perceptibility of the two sources in practice.

Item 8: Construction Blasting & Rock-Breaker Noise Management

"How will ground-borne vibration and blasting noise during quarry excavation and foundation rock-breaking be controlled at nearby dwellings?"

Answer: The potential noise and vibration effects associated with construction activities, including rock-breaking, excavation, foundation works and activity at the disused Castlelackan quarry, have been assessed as part of the construction phase noise and vibration assessment. Predicted construction noise levels are presented in **EIAR Chapter 11: Noise, Table 11.13** and

have been assessed by reference to the relevant construction noise assessment methodology and threshold values set out in BS 5228.

Construction noise impacts would be temporary and intermittent in nature and would be controlled through the implementation of standard construction phase mitigation measures. These would include restricting noisy works to agreed daytime construction hours, using modern well-maintained plant, selecting quieter working methods where practicable, locating static plant away from sensitive receptors where possible, and using temporary screening or localised barriers where necessary. Good site practice, including the avoidance of unnecessary engine idling and the use of appropriate silencers and acoustic covers, would also be applied.

Where rock-breaking or blasting is required, these activities would be subject to specific management controls. Blasting, if required, would be designed and undertaken by a competent specialist contractor, with charge weights, timing and sequencing selected to control both air overpressure and ground-borne vibration at nearby dwellings. Vibration would be assessed against appropriate peak particle velocity criteria, with the stated limit of 12 mm/s providing a conservative control threshold for residential receptors. Where necessary, advance notification, vibration monitoring and a complaints response procedure would be implemented to demonstrate compliance and allow any required adjustments to working methods.

On this basis, construction-related noise and vibration would not be unmanaged or uncontrolled. The assessment identifies the predicted levels, while the construction environmental management measures would provide the mechanism for controlling rock-breaking, blasting and other high-noise activities so that impacts at nearby dwellings remain within acceptable temporary construction limits.

Item 9: Unrepresentative Noise Modelling and Wind Speeds

Why did the developer only calculate noise levels up to wind speeds of 8 or 9 m/s, when the proposed Vestas V117 turbines are capable of operating up to 23 or 25 m/s? Objectors argue this severe data gap underrepresents the actual operational noise levels during high winds.

Answer: The maximum sound power level of the proposed turbines is achieved at 8 m/s. Wind turbine noise assessments typically report the range over which sound power increases, and that above the rated/maximum sound power wind speed, the sound power level does not continue increasing with wind speed.

Item 10: Flawed Baseline Surveys

Why did the developer fail to install a baseline noise monitor at the closest occupied non-participating house (H3)? Submitters highlight that the baseline monitoring locations were highly biased toward the noisy R314 road or placed on the lands of financially involved owners.

Answer: Baseline noise monitoring was undertaken at eight representative locations to establish background noise levels for groups of nearby noise-sensitive receptors, rather than at every individual dwelling. The assessment uses these representative data, including the lowest measured background levels where appropriate, to provide a conservative basis for deriving site-specific noise limits.

Legislation and Guidelines Accused of Being Broken

Item 11: World Health Organisation (WHO) Noise Guidelines

The Accusation: Failure to protect public health and prevent sleep disturbance.

Why:

- The proposed noise levels violate the WHO Environmental Noise Guidelines (2018), which conditionally recommend keeping wind turbine noise below 45 Lden to protect human health.
- The project is also accused of breaching the WHO Night Noise Guidelines (2009), which establish a bedroom exterior limit of 40 dB Lnight to prevent sleep fragmentation, cardiovascular stress, and cortisol elevation—limits that are predicted to be exceeded at multiple local homes.

Answer: The noise assessment has been undertaken by reference to the applicable Irish wind energy assessment framework, including the Wind Energy Development Guidelines 2006. The WHO Environmental Noise Guidelines identify a conditional recommendation of 45 dB Lden for wind turbine noise; however, this is expressed using the Lden environmental noise indicator and is not directly equivalent to the LA90 assessment parameter used for wind turbine noise compliance under the Irish/ETSU methodology.

This is supported by the RPS report Review of Wind Energy Development Guidelines 2006: Noise Limits – Final Report, prepared by RPS for the Department of Housing, Planning and Local Government, which reviewed the noise limits contained in the 2006 Wind Energy

Development Guidelines and considered their relationship with the WHO guideline values. That review concluded that the 2006 WEDG noise limit framework is consistent with, and provides compliance with, the WHO guideline levels when the different noise indicators and assessment bases are properly accounted for. The predicted operational turbine noise levels for the Proposed Development have therefore been assessed against the relevant WEDG/ETSU-derived limits, and compliance with those limits demonstrates that the development would not give rise to noise levels inconsistent with the WHO guidance relied upon by objectors.

Item 12: Environmental Noise Directive 2002/49/EC & S.I. No. 549/2018

The Accusation: Failure to assess and manage environmental noise pollution.

Why: The developer did not perform real-world, localised modelling across the full 2 km Zone of Influence, failing to protect quiet rural soundscapes as required under European environmental noise statutes

Answer: The Environmental Noise Directive 2002/49/EC, as transposed in Ireland through the Environmental Noise Regulations, is primarily concerned with the strategic assessment and management of environmental noise from major roads, railways, airports and agglomerations, including the preparation of strategic noise maps and action plans by competent authorities. It is not the applicable project-level methodology for assessing operational wind turbine noise from an individual proposed wind farm.

The Proposed Development has instead been assessed using the applicable wind farm noise assessment framework, including the Wind Energy Development Guidelines 2006 and the ETSU-derived methodology, with predicted operational turbine noise levels assessed at noise-sensitive receptors and compared against site-specific noise limits. This approach is the appropriate method for determining whether operational wind turbine noise would comply with relevant planning noise criteria.

Accordingly, the absence of a separate Environmental Noise Directive / S.I. No. 549/2018 strategic noise mapping exercise does not represent a deficiency in the EIAR. The relevant question for this project is whether operational and construction noise impacts have been assessed against the applicable project-level criteria, and the EIAR provides that assessment.

Item 13: Planning and Development Act 2000 (as amended) & Section 172

The Accusation: Legally inadequate assessment of human health and population impacts.

Why: The Board must be satisfied that human health impacts are thoroughly evaluated under Section 172. Objectors argue that by ignoring the subaudible infrasound (0.1–20 Hz) and low-frequency noise (20–200 Hz) impacts on the human vestibular system, the developer has failed this statutory requirement.

Answer: Wind turbine noise is assessed using established A-weighted methodologies and site-specific operational noise limits. The IOA Policy Note on Wind Turbine Low Frequency Noise and Infrasound advises that a separate assessment of low-frequency noise or infrasound is not normally required for wind turbine developments, and the recently published Assessment and Rating of Wind Turbine Noise guidance does not introduce a separate requirement for such assessment.

Item 14: European Convention on Human Rights (ECHR) & Safety, Health and Welfare at Work Act 2005

The Accusation: Infringement on ECHR Article 8 and personal criminal liability for decision-makers.

Why: Subjecting residents to 35 years of sleep deprivation and unmitigated noise nuisance violates Article 8 of the ECHR (respect for private and family life). Objectors warn that under Section 80 of the Safety, Health and Welfare at Work Act 2005, planning authority decision-makers could face personal criminal liability if they knowingly authorise a project that inflicts documented adverse physiological and cardiovascular health effects on local citizens.

Answer: The noise assessment has considered operational turbine noise, construction noise, vibration and cumulative noise effects at nearby noise-sensitive receptors using the applicable project-level assessment methodologies. Predicted noise levels have been compared with the relevant WEDG/ETSU-derived limits and mitigation has been identified where required to ensure compliance.

On that basis, the noise evidence does not support the assertion that the Proposed Development would give rise to significant, unmanaged or unacceptable noise effects at residential receptors. The legal references to ECHR Article 8 and the Safety, Health and Welfare

at Work Act do not change the applicable technical noise assessment criteria; the relevant noise question is whether the predicted and controlled noise levels comply with the appropriate planning noise limits.

Item 15: High Court Judicial Precedents

The Accusation: Violation of common law private nuisance standards.

Why: Citing landmark Irish High Court precedents—including Webster & Anor v Meenacloughspar (Wind) Limited IEHC 136 and Byrne & Moorhead v ABO Energy IEHC 330—objectors emphasize that operating within permitted decibel limits is no defence against an actionable private noise nuisance if the character, persistence, or amplitude modulation of the sound severely impairs residential amenity or sleep

Answer: This is a planning application and the noise assessment has therefore been undertaken against the applicable planning noise assessment framework, including the WEDG/ETSU-derived limits and the proposed mitigation and compliance controls. It is acknowledged that private nuisance is a separate legal concept from planning compliance, and that the existence of planning permission or compliance with a planning condition does not, of itself, determine whether a nuisance could arise in different circumstances.

However, the cases cited by objectors do not mean that the Proposed Development is unacceptable in planning noise terms. Those cases turned on their own facts, including the nature of the noise complained of and, in some instances, the extent to which the relevant planning conditions addressed the particular noise characteristics that were subsequently raised in the court proceedings. The appropriate planning response is therefore to ensure that operational wind turbine noise, including any specific audible characteristics such as amplitude modulation, is subject to a clear assessment and compliance framework.

In that regard, the recently published Assessment and Rating of Wind Turbine Noise guidance provides an additional methodology for assessing and rating amplitude modulation where it is identified in operational wind farm noise. This allows AM to be investigated, quantified and, where appropriate, reflected through a rating penalty and addressed through operational management or curtailment. On that basis, the noise assessment and proposed compliance framework provide an appropriate planning mechanism for controlling operational noise, including AM, should it arise.

4.9 Landscape and Visuals Amenity

This section groups submissions within Landscape and Visual topics, authored by Macro Works.

Cian Doughan and Richard Barker prepared the Landscape and Visual Amenity Chapter of the submitted EIAR, and their qualifications, competencies, and experience are already presented in the EIAR (refer to **Section 12.1.1**).

Item 1: Visual dominance and industrialisation of scenic landscape by 135m turbines

Submitters argue that turbines of up to 135m will visually dominate and industrialise an otherwise scenic rural/coastal landscape, fundamentally changing its character for residents and visitors alike.

Answer: Refer to **Section 3.8 Landscape and Visual Amenity**

Item 2: Cumulative impact with other wind farms / energy cluster in North Mayo

Widely raised concern that Tirawley cannot be fairly assessed on its own — it must be considered together with existing and proposed wind farms (such as Glenora) forming a growing 'energy cluster' across North Mayo, with combined visual, noise and ecological effects.

Answer: Refer to **Section 3.8 Landscape and Visual Amenity**

Item 3: Conflict with Mayo County Development Plan and planning policy

Objectors argue the development conflicts with specific policies and objectives in the Mayo County Development Plan and national planning frameworks, potentially amounting to a material contravention of local planning policy.

Answer: Refer to Section 3.8 Landscape and Visual Amenity.

Item 4: Photomontage Methodology, Viewpoint Omissions, Visual Impacts & Seasonal Representation

A technical critique on accuracy of the photomontages and representative nature of the viewpoint locations.

Answer: Refer to **Section 3.8 Landscape and Visual Amenity**

Item 5: Impact on Céide Fields (UNESCO tentative World Heritage Site) setting

One of the most frequently raised heritage concerns: the development is said to threaten the setting and visual context of the Céide Fields, a Neolithic landscape on Ireland's UNESCO World Heritage tentative list, undermining its heritage value.

Answer: Refer to **Section 3.8 Landscape and Visual Amenity.**

Item 6: The second most common objection overall: turbines will be visible from the Wild Atlantic Way and Western Way, both designated scenic/tourism routes, directly conflicting with their protected status in the County Development Plan.

Answer: Refer to **Section 3.8 Landscape and Visual Amenity.**

4.10 Material Assets and Other Issues

Item 1: Impacts on agriculture, farming, livestock and land use (incl. turbary rights, land sterilisation)

Farmers and landowners raise concerns about loss of productive or turbary (peat-cutting) land, disruption to livestock from noise and construction traffic, and permanent 'sterilisation' of land around turbine bases and access roads.

Submitters argue that the permanent land take of ~9.21 ha (and ~15.68 ha total alteration and the Turbine Delivery Route fragments farm holdings and prevents access/movement of livestock.

Answer:

Land Take, Agricultural Productivity, and Avoidance of Fragmentation

The argument that the Proposed Development permanently sterilises or severely fragments farm holdings is unsupported by the Environmental Impact Assessment Report (EIAR) findings. The total permanent land take for all wind farm infrastructure is approximately 9.21 hectares, which represents only 8.52% of the 108.06-hectare Wind Farm Site. The immediate surrounding agricultural grasslands will continue to be actively managed and used for pastoral farming and livestock grazing. Under a "Do-Nothing" alternative, soil fertility and agricultural productivity would likely continue to degrade over time due to natural chemical and physical declines

(specifically in pH, Phosphate, and Phosphorus) based on Teagasc research, whereas the proposed Site Access Tracks and public road upgrades will actively improve vehicle and machinery access for local agricultural use (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.4.2 and Section 13.4.3**).

To avoid splitting or fragmenting farm holdings, a strict design protocol of "Mitigation by Avoidance" was integrated during the design stage to prioritise existing private access tracks and agricultural roads, keeping the permanent development footprint to the minimum necessary (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.4.4**). Furthermore, rather than "sterilising" farm property, the proposed Site Access Tracks and upgrades to local roads will actively improve overall vehicle access and accessibility for landowners managing surrounding agricultural lands (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.4.2**).

Livestock Disruption and Construction Traffic Management

Disruption to livestock movements, health, and farm operations from noise and construction traffic is thoroughly mitigated through structured Construction Environmental Management Plan (CEMP) controls. Noise from construction and decommissioning is predicted to be temporary, daytime-restricted, and classified as "Not Significant" under the significance criteria (**EIAR Chapter 11 - Noise, Section 11.7**). To ensure physical safety, temporary stock-proof fencing with concrete-set posts will be erected around all active and reinstated infrastructure margins (**EIAR Chapter 2 - Development Description, Section 2.6.17.2**), preventing livestock from entering active work zones, while a combination of hedgerows, embankments, and **2.65-metre-**high palisade fencing will secure the BESS and GIS compound from adjoining holdings (**EIAR Chapter 2 - Development Description, Section 2.3 and Section 2.6.9**).

Under the Traffic Management Plan (TMP), construction-related traffic disruptions will be tightly controlled; HGV movements are restricted to 07:00–19:00 on weekdays and 08:00–13:00 on Saturdays (**Appendix 2.1 CEMP - Traffic Management Plan** (**Management Plan 7**). The contractor is contractually mandated to schedule any necessary road closures in consultation with local residents, actively endeavouring to avoid peak agricultural periods such as silage cutting (**Appendix 2.1 Construction Environmental Management Plan, Section 3.8**). Additionally, construction workers are prohibited from parking on the public road network, and site security gates are set back from the public carriageway to ensure HGVs pull completely off-road, preventing queuing and blockage on local agricultural lanes (**Appendix 2.1 CEMP - Traffic Management Plan** (**Management Plan 7**). All existing farmyards, pastures, and private

entrances will remain fully accessible during temporary works and diversions (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.4.5**).

Turbary and Peatland Rights Protection

The assertion of a widespread loss of turbary (peat-cutting) rights is not supported by the design layout. Siting of the turbines was a deliberate outcome of a constraints-led process that prioritised the avoidance of deeper peat and active Annex 1 bogs (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.4**). The construction of turbine AT13 is the only infrastructure element located on peatland, resulting in a localised permanent loss of 0.68 hectares of blanket bog which has already been degraded by historical agricultural drainage and turf-cutting (**EIAR Chapter 6 - Biodiversity, Section 6.5.2**).

To safeguard adjacent peatland structures and preserve ongoing turbary rights, a strict "Restricted access to bog" protocol will be implemented at AT13. The active work footprint on the bog will be physically cordoned off with rope fences and clear signage, prohibiting any construction activity, vehicle tracking, or spoil stockpiling on the adjoining high bog surface (**EIAR Chapter 6 - Biodiversity, Section 6.5.2**). To support the local turf-cutting community, the TMP mandates proactive consultation and advance public notices regarding any temporary closures or diversions, guaranteeing that turf-cutters maintain uninterrupted, safe access to harvest turf on adjacent lands (**Appendix 2.1 CEMP - Traffic Management Plan (Management Plan 7**).

Long-Term Reversibility and Decommissioning Phase Restoration

The development does not cause permanent "sterilisation" of the land due to its temporary and fully reversible nature. Following the permitted 35-year operational lifespan, the decommissioning phase will adopt a minimal-intervention approach. All above-ground turbine components, the meteorological mast, BESS containers, concrete plinth foundations, and turbine plinths will be disassembled, removed from the site, and recycled or disposed of at a licensed facility (**Appendix 2.1 CEMP - Decommissioning Plan**).

Redundant hardstanding and turbine base areas will be reinstated with topsoil and allowed to revegetate naturally (**Appendix 2.1 CEMP - Decommissioning Plan**). Crucially, the Site Access Tracks and their integrated drainage networks will remain in-situ permanently to serve as a long-term benefit for ongoing forestry and agricultural activities (**Appendix 2.1 CEMP - Decommissioning Plan, Section 2.2, EIAR Chapter 13 - Material Assets and Other Issues, Section 13.4.2**).

Item 2: Grid connection / substation infrastructure impacts

Concerns about the additional infrastructure needed to connect the wind farm to the grid, including new substation works and associated land-take and construction impact, separate from the turbines themselves.

Answer: Grid Connection Route and Permanent Land-Take

The proposed grid connection is designed as a 13.55 km underground cable (UGC) linking the proposed Onsite Substation to the existing Tawnaghmore 110 kV Substation. To minimise permanent land-take and physical disturbance, 12.43 km of the route is aligned within existing public road corridors and 1.12 km is located within the Killala Business Park grounds. Consequently, there is no permanent land-take associated with the grid connection route. The temporary land-take required for installation is limited to approximately 8,130 m² (of which 7,458 m² is within public roads), all of which will be reinstated to its original condition following the laying of the ducts. By placing the grid connection entirely underground, long-term landscape and visual effects on scenic vistas are successfully avoided compared to overhead alternative options (**EIAR Chapter 2 - Development Description, Section 2.6.12** and **Section 2.6.15**)

Onsite Substation and Battery Energy Storage System (BESS)

The proposed Onsite Substation (utilising a compact 110 kV Gas Insulated Switchgear design) and the adjacent Battery Energy Storage System (BESS) are situated south of turbine AT01 in the townland of Barroe. The substation building features a footprint of approximately 741.24 m² (15 m height), and the BESS compound comprises an area of approximately 6,360 m² housing 20 container units. This localised infrastructure represents a minor fraction of the overall 9.21 ha permanent development footprint. The substation and BESS are strategically located in a contained pastoral field enclosed by low scrubby vegetation, which restricts visual exposure to the immediate surroundings. Furthermore, visual integration is achieved by finishing the built structures in a muted green or anthracite grey tone and planting a locally sourced native hedgerow around the substation compound to screen it from local receptors (**EIAR Chapter 2 - Development Description, Section 2.6.9** and **Section 2.6.15, Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.2,** and **Section 12.4.2.10***)*

Construction-Phase Impacts and Mitigation Controls

Construction-stage impacts associated with the grid connection and substation are localised, transient, and short-term. The GCR installation will take place over a 12-month period concurrent with the 21-month overall construction phase. Cable trenching is managed in short sections (c. 100 m) to prevent drainage runoff and silt entrainment. Down-gradient silt fences and roadside blocking will be utilised during excavations to safeguard receiving watercourses. To prevent morphological changes and avoid instream works, Horizontal Directional Drilling

(HDD) will be deployed at critical crossings, including the Carn River and the Cloonaghmore River at Palmerstown Bridge. No instream works are proposed at these locations, ensuring no displacement of flood waters or surface water quality degradation (**EIAR Chapter 9 - Hydrology and Hydrogeology, Section 9.3.6.2, Chapter 17 - Traffic and Transport, Section 17.3.2.3***)*

Item 3: Telecommunications interference

A small number of submissions raise the risk that turbines could interfere with television, radio, or mobile telecommunications signals for nearby residents.

Answer:

Television, Radio, and FM Network Protection

The potential for the Proposed Development to interfere with domestic television and radio signals is determined to be negligible. Following the national transition to Digital Terrestrial Television (Saorview) in October 2010, the digital signals deployed are highly robust at coping with signal reflections and do not experience "ghosting" effects. Furthermore, modern turbine blades are manufactured from advanced synthetic materials that exert a minimal effect on the transmission of electromagnetic radiation. Consequently, as detailed in **EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6**, there are very few documented cases of wind turbine interference with modern reception, and television and radio impacts have been scoped out of detailed assessment. Regarding FM radio transmission, Coimisiún na Meán (formerly the Broadcasting Authority of Ireland) confirmed during scoping that they are not aware of any interference issues from operational wind farms into existing FM networks, and that the proposed substation and turbines are not situated in proximity to any existing or planned FM transmission sites (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6.2**)

Telecommunications and Microwave Links (Mitigation by Avoidance)

To protect regional mobile and telecommunication networks, a rigorous "Mitigation by Avoidance" strategy was implemented during the design phase. The known spatial routes of all telecommunication and microwave links traversing the site were mapped, and strict operator-specific buffer zones were applied to ensure turbine placements do not obstruct, diffract, or cause radio frequency interference to these line-of-sight beams (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6, Section 13.6.5**)**.** Direct consultation with providers has successfully resolved all potential local issues:

- **Three Ireland (Hutchison):** Initially, the transmission path of Three's main backhaul link into Ballina directly intersected the rotor diameter of turbine AT01. Through iterative technical coordination, Three Ireland rerouted the link from its MY0156 (Knockboha) site to

route toward Tawnaghmore instead. This modification positions the link outside the blade sweep area, ensuring acceptable setback distances and zero operational interference (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.6.2, Section 13.6.4.3**).

- **Vodafone (Netshare Ireland):** Turbine locations AT12 and AT13 were adjusted during design to guarantee a minimum 30-metre buffer space between the outer edge of the spinning rotor blades and the first Fresnel zone of Vodafone's active microwave link (MO093-MOBLA-UG2) (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6.2**). Vodafone has formally confirmed satisfaction with these separation distances and agreed that no signal degradation will occur.
- **ENET:** Siting analysis confirmed that the ENET link from Shanettra to Beannchair passes the base of turbine AT04 at a distance of 73.60 metres. Given a blade length of 52.5 metres, this maintains a physical setback distance of 21.1 metres from the links path, which ENET confirmed is sufficient to avoid any interference (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6.2, Page 23; Section 13.6.4.3**).
- **Tetra Ireland:** Confirmed during scoping that they anticipate no impact on their emergency and public service communications network from the proposed layout (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6.2**).

Construction Phase and Electromagnetic Compatibility

During the construction and decommissioning phases, potential sources of temporary electromagnetic emissions, such as electrical power tools and generators, are strictly managed. Under national and European law, all such devices are required to comply with the Electromagnetic Compatibility (EMC) Directive 2014/30/EU, ensuring that temporary emissions remain at a low strength and do not cause interference to nearby receptors. Any temporary line-of-sight obstruction from the cranes utilised to erect turbines AT04, AT13, and AT14 will be highly restricted to the active erection period (approximately 2–3 days per turbine) and is classified as short-term and not significant (**EIAR Chapter 13 - Material Assets and Other Issues, Chapter 13, Section 13.6.4.2, Section 13.6.5**).

Item 4: Industrialisation

Highlights that 16 turbines, aviation lighting, major substation, and BESS will industrialise the coastal landscape and directly impact users of the protected Western Way and Shralogga Loop walks.

Answer: Siting, Design Evolution, and Visual Protection of the Coastal Landscape

The proposed wind farm layout represents a highly refined, constraints-led design that has systematically avoided sensitive coastal receptors through multiple spatial iterations. Siting and design evolution involved a rigorous process that reduced the project footprint from an initial 42-

turbine concept to the proposed 16-turbine scheme. A key stage in this design evolution was the complete removal of "Site B" (Knockboha Hill), which had initially been slated for larger, 180-metre tip-height turbines. Landscape and visual modelling determined that turbines on the elevated terrain of Knockboha Hill would cause significant visual impacts on protected coastal vistas, specifically when viewed from key tourist and heritage receptors along the Wild Atlantic Way and the Céide Fields. Because height reductions at Site B were determined to be insufficient to mitigate these visual intrusions, the entire northern visual unit was decommissioned from the project boundaries. Excessive peat depths, the presence of intact blanket bog, and the high risk of generating unsustainable volumes of spoil material further justified this avoidance strategy (**EIAR Chapter 3 - Alternatives Considered, Section 3.6.2**).

The proposed 16 turbines are well offset from the most sensitive coastal features, ensuring that the development will not significantly alter the scenic character of the coastline. In terms of scale and function, the proposed wind farm is well assimilated within the setting of the Central Study Area due to the broad scale of the landform, landscape elements, and land use patterns, which prevent the height and extent of the wind farm from causing scale conflicts. Furthermore, the physical and character effects of the wind farm on the landscape are long-term (under a 35-year operational lifespan) but fully reversible, as all above-ground turbine components will be dismantled and removed, with the site substantially reinstated upon decommissioning (**Appendix 2.1 CEMP - Management Plan 6 - Decommissioning Plan and EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.2, Section 12.4.2.10**).

Substation Design and Footprint Minimisation (GIS vs. AIS)

The selection of a 110 kV Gas Insulated Switchgear (GIS) substation over a traditional Air Insulated Switchgear (AIS) substation was a critical, proactive planning decision specifically aimed at mitigating the "industrialisation" of the landscape. Traditional AIS technology relies on atmospheric air as the insulating medium, which possesses a low dielectric strength. Consequently, AIS substations require extensive open-air clearance and safety distances, driving the need for a significantly larger compound footprint. Additionally, AIS switchgear components (such as bare metallic conductors and high-voltage gantries) must be installed outdoors, creating a sprawling, visually disruptive industrial appearance in a rural context (**EIAR Chapter 3 - Alternatives Considered, Section 3.6.5.1**).

In contrast, the proposed GIS substation utilises pressurised Sulphur Hexafluoride (*SF*6) gas, which has a much higher dielectric strength than air. This allows the high-voltage switchgear to be safely and compactly housed entirely indoors within a single two-storey building and

subsequently requiring a significant smaller footprint (**EIAR Chapter 2 - Development Description, Section 2.6.9, EIAR Chapter 3 - Alternatives Considered, Section 3.6.5.2**).

By selecting GIS technology, the developer has avoided the introduction of a prominent, open-air industrial compound and replaced it with a compact, physically contained building measuring approximately 15 m high with a footprint of 741.24 m^2. Located south of turbine AT01 in a small, enclosed pastoral field, the substation building and adjacent Battery Energy Storage System (BESS) will be finished in a muted green or grey tone to visually assimilate them with the surrounding vegetation (**EIAR Chapter 2 - Development Description, Section 2.6.9 & Section 2.6.10, EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.2 & Section 12.4.2.10**). Visual exposure will be further mitigated by planting a locally sourced native hedgerow around the compound perimeter (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.2** and **Section 12.4.2.7**).

Regarding the aviation lighting, this is a mandatory safety requirement of the Irish Aviation Authority (IAA). The aeronautical obstacle warning light scheme will be agreed upon with the IAA and installed in direct consultation with the IAA, Air Navigation Ireland, and the Department of Defence to ensure compliance while minimising visual discordance (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.8.3** and **Section 13.8.5**).

Recreational Receptors and the Western Way National Waymarked Trail

The Proposed Development has been designed to coexist with and enhance local recreational trails. The proposed wind farm intersects only a small, localised segment of the 32 km Ballycastle to Ballina portion of the Western Way national waymarked trail (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.12, EIAR Chapter 5 - Population & Human Health, Section 5.3.5.1**). To protect hiker safety during the construction and decommissioning phases, clearly marked temporary trail diversions will be established. During the operational phase, the trail will remain fully accessible, utilising safe turbine setbacks to preserve recreational amenity (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6**).

Additionally, the upgrading of existing public roads and private tracks within the site will provide improved, more durable surfaces and better drainage, representing a localiaed long-term benefit for Western Way users (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6**). Visual analysis confirms that while the turbines will be visible at a near distance, they do not block or obstruct panoramic views of the wider landscape. This is consistent with established planning precedents for national waymarked walking trails adjacent to wind energy developments, such as the Blackwater Way in County Cork, where inspectors ruled that nearby turbines (sited under

500 m away) do not significantly affect the recreational value of the walking route (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.7**).

Sralagagh (Shralogga) Loop Walk

The **Sralagagh Loop Walk** is identified in the EIAR as one of the recreational walking trails and cycle routes available across the area (**EIAR Chapter 13 - Material Assets and Other Issues, Section 13.12**). To protect hiker safety during the construction and decommissioning phases, clearly marked temporary trail diversions will be established. During the operational phase, the trail will remain fully accessible, utilising safe turbine setbacks to preserve recreational amenity (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6**).

4.11 Cultural Heritage

This section groups submissions within specific cultural heritage topics and authored by Kate Robb Consultant Archaeologist.

Item 1: Impact on Céide Fields Archaeological Complex & UNESCO World Heritage Status

One of the most frequently raised heritage concerns: the development is said to threaten the setting and visual context of the Céide Fields, a Neolithic landscape on Ireland's UNESCO World Heritage tentative list, undermining its heritage value.

"How will the project protect sub-peat Neolithic field wall systems and avoid undermining UNESCO World Heritage Tentative List nomination for the Mayo Boglands?"

Answer: See responses to submissions from National Monument Service, OPW, Mayo Co. Co. and Gretta Byrne; there are no recorded field walls within the Proposed Development. due cognisance has been taken of the potential to impact unrecorded sub-surface archaeological features and the need to mitigate for same in such an event(s).

Item 2: Impact on archaeology and protected structures

Accusation: Submitters identify specific archaeological monuments and protected structures including Rathlacken Court Tomb, Breastagh Ogham Stone and Palmerstown Bridge that could be directly or visually affected by construction and turbine presence.

Answer: All likely indirect impacts on the setting of cultural heritage receptors is presented in **Chapter 14** of the **EIAR**.

Item 3: Impact on local heritage/community amenity sites (Lacken Gazebo, Sensory Garden, schools, arts foundation)

Accusation: "Beyond formally protected heritage, submissions raise valued local community assets the Lacken Gazebo, a sensory garden, nearby schools and the Ballinglen Arts Foundation whose amenity or safety could be affected by proximity to the works." *"What safeguards protect the structural integrity and visual setting of Lacken Gazebo (RPS 0016) and historic country estates located within 1km of turbines?"*

Answer: This is not a cultural heritage concern. suggest re-direct to material assets. the (**EIAR Chapter 14**) states that there no mitigation measures to ameliorate indirect impact during the construction and operational phase of the development. however, all indirect impacts on heritage setting are reversible at decommissioning stage.

Item 4: will the development permanently destroy the unexcavated céide fields network?

Accusation: Objectors highlight that mapping proves the 5,000-year-old neolithic stone-walled field systems extend directly beneath the proposed wind farm footprint. they ask how the developer can justify deep concrete excavations and access roads that will permanently destroy unrecorded subterranean archaeology.

Answer: Mapping does not prove that field systems extend within the Proposed Development site. due cognisance has been taken of the potential to impact unrecorded sub-surface archaeological features and the need to mitigate for same in such an event(s).

Item 5: Will the setting of the Rathlacken Court Tomb be degraded?

Accusation: The excavated 5,300-year-old Neolithic court tomb, house site, and D-shaped enclosure sit less than 935m from Turbine AT15. Objectors ask how the visual and spatial relationship between this ancient tomb, the open ridgelines, and the blanket bogs can be preserved when surrounded by 135m turbines.

Answer: an indirect impact on the setting of Rathlacken court tomb has been identified in **Chapter 14** of the **EIAR**. this cannot be mitigated but is reversible at decommission stage.

Item 6: Why did the developer ignore academic literature and carry out inadequate surveys?

Accusation: Multiple submissions from professional archaeologists accuse the developer of using superficial walkover and desktop methods rather than conducting geophysics or test trenching. They ask why the EIAR completely failed to reference peer-reviewed academic literature mapping the sub-peat Neolithic landscape across Rathlacken, Blanemore, and Lacken Hill.

Answer: Academic literature depicting pre-bog field boundary mapping was not ignored, it is not readily accessible for consultation. surveys undertaken for the Proposed Development are considered adequate and proportionate the planning stage of the application. mitigation measures set out in the **EIAR** fully acknowledge the need for advance archaeological investigations prior to construction stage, to be undertaken per agreement with statutory bodies.

Item 7: Legislation Accused of Being Broken

Accusation: Submitters accuse the Proposed Development of violating several key statutory instruments and international conventions designed to safeguard cultural assets.

Mayo County Development Plan 2022–2028 (MCDP)

Accusation: Material contravention of archaeological and built environment protection policies.

Why: Objective BEO 2 (UNESCO World Heritage Protection)
The development directly contravenes BEO 2, which mandates protecting the Céide Fields (currently on Ireland's tentative list for UNESCO World Heritage status) from inappropriate development. Excavation and soil-stripping over the Neolithic field systems will permanently destroy this unrecorded archaeology.

Answer: Impact assessment per EPA guidelines has been conducted on the céide fields in Chapter 14 of the EIAR. there is no direct impact on recorded field systems or monuments of the neolithic landscape. indirect impact on setting is reversible at decommissioning stage.

Objectives BEO 1 to BEO 6, BEP 4, BEP 7, BEP 13, and BEP 14: Permitting turbines within 300m of the protected Lacken Gazebo folly and other historic estates (such

as Castlelacken Demesne and Carrowmore House) directly damages their classical vistas, attendant grounds, curtilages, and architectural settings.

Answer: Impact assessment per EPA guidelines has been conducted for all relevant cultural heritage receptors in Chapter 14 of the EIAR. there are no direct impacts on recorded sites, and the indirect impacts are reversible at decommissioning stage

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Item 8: Planning and Development Act 2000 (as amended)

The Accusation: Violation of Section 10 statutory obligations.

Why: Section 10 explicitly requires planning authorities to promote the preservation of landscape character, scenic views, public amenities, and archaeological heritage—an obligation that submitters argue is completely incompatible with this development

Answer: All due cognisance has been taken of the planning and development act 2000 was amended in the preparation of **Chapter 14** of the **EIAR**.

4.11.1 Lacken and Ballycastle Community Landscape Protection Group Responses

Item 9: Deficiencies in applicant's assessment

The Accusation: *'the application completely fails to recognise the exceptional archaeological sensitivity and national and international importance of the landscape' …'is fundamentally deficient, comprising the most basic and cursory review of recorded monuments'…'visual survey only...no proper investigative analysis has been carried out'…'casts doubt on the ability of the applicant to appreciate the significance…of the cultural heritage of the Lacken area'.*

Answer: The values assigned to relevant identified cultural heritage receptors within the Study Area (Very High-Negligible) are per best practice EPA (2022) guidance methodology for EIAR preparation (**EIAR Chapter 14: Cultural Heritage, Table 14.2**). The baseline assessment sets out all recorded receptors and the potential for unrecorded receptors **(EIAR Chapter 14: Cultural Heritage, Section 14.3**) and the high volume of recorded monuments as well an overview of the Céide Fields is presented in (**EIAR Chapter 14: Cultural Heritage, 14.3.14 and 14.3.2.6**) respectively. Mitigation measures have been set out to account for the possibility of encountering sub-surface buried and unrecorded archaeological features within the design footprint (**EIAR Chapter 14: Cultural Heritage, 14.5.1**).

Item 10: Céide Fields

'Some of the proposed turbines are earmarked to be erected on top of the Céide Fields complex…others are in very close proximity to it and risk disturbing unmapped prehistoric field systems'.

Answer: There are no recorded prehistoric field systems within the footprint of the Proposed Development and therefore no direct impact on same (see **Section 2.2, Section 2.6** and **Section 3.2.1** above). Any potential direct impacts have been avoided by design throughout the EIAR process, in line with best practice EPA (2022) guidance methodologies. Due cognisance has been made throughout Chapter 14 of the EIAR regarding the potential for (and mitigation of) possible sub-surface unrecorded archaeological remains (see **Section 2.6** above).

Item 11: Ballinglen Arts Foundation

'the applicant makes no mention…of the Ballinglen Arts Foundation'…'an internationally recognised centre for artistic creation while remaining deeply rooted in the local community'…'underscores the applicant's complete lack of knowledge and appreciation for the cultural heritage of the area'…'[the applicant's] manifold omissions, exclusions and negligence in the compilation of this section [Chapter 14].'

Answer: Ballinglen Arts Foundation

The Ballinglen Arts Foundation is located in Ballycastle, c. 3.5 km from the nearest element of the Proposed Development (AT12). It is not a recorded or designated Cultural Heritage receptor. The assessment for the Study Area is 1 km whilst a wider 10 km Study Area is assigned to nationally significant (and designated) cultural heritage assets (**EIAR Chapter 14: Cultural Heritage, Section 14.2.1**).

4.12 Shadow Flicker

Item 1: Exceedance of Daily and Annual Guideline Limits

Submitters point out that the predicted shadow flicker from the proposed turbines significantly exceeds the daily threshold permitted under national guidelines, turning peaceful living areas and kitchens into highly disruptive spaces. Specific receptors and their predicted exceedances: Predicted shadow flicker from the proposed turbines significantly exceeds national guideline thresholds of 30 minutes per day and 30 hours per year (worst-case) across multiple residential properties. Of the 21 evaluated receptors, 17 breach the daily limit by between 1 and 15 minutes. Peak daily exceedances occur at receptor H7 (45 minutes/day), followed by H14 (43

minutes/day), H15 and H16 (42 minutes/day), and H11 (41 minutes/day), with H11 causing disruptive evening flicker in west-facing primary living spaces. Further daily exceedances are recorded across H24 (39 minutes/day), H29 (38 minutes/day), H32, H46 and H52 (37 minutes/day), H33 and H38 (36minutes/day), H42 and H48 (35minutes/day), H30 and H39 (34 minutes/day) and H21 (31 minutes/day via Turbine AT16).

Regarding annual thresholds, receptor H45 directly breaches the 30-hour worst-case annual limit by 12.7% (33 hours 48 minutes), while H11 (101 hours 23 minutes) and H46 (99 hours 27 minutes) exhibit the highest total worst-case annual exposure levels. Receptors H75, H81, and H64 remain within daily duration limits, though H75 approaches the threshold at 29 minutes per day with 63 hours 15 minutes of annual worst-case exposure.

Answer: The Proposed Development has been designed to priorities residential amenity through a constraints-led layout, establishing complete compliance with both national guidelines and draft revisions. Specifically, a minimum housing setback distance of 540 m is maintained from all inhabited residential dwellings to any proposed turbine base. This setback distance complies with the 2006 Wind Energy Development Guidelines (WEDG), which recommend a minimum separation distance of 500 m between turbines and neighbouring dwellings and the 2019 Draft Revised Wind Energy Development Guidelines, which require a visual amenity setback equal to four times the maximum turbine blade tip height (4 x 135 m = 540 m) (**EIAR Chapter 4 - Planning and Policy, Section 4.2, Table 4.1**).

The daily and annual exceedances highlighted in the objection are based on highly conservative worst-case mathematical modelling utilising WindPRO 4.2 software (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.1, Section 15.2.3).** This theoretical scenario assumes clear, cloudless skies all year round, constant turbine rotation without downtime, no screening from intervening buildings or vegetation, and that the turbine blades are perpetually aligned face-on to every window (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.3** and **Section 15.2.7**).

Regarding the assertion that shadow flicker will affect specific internal rooms, such as kitchens or the west-facing primary living spaces of H11. The modelling conservatively applies generic windows of 2 m width and 2 m height to each of the four facades of every modelled property, assuming that each receptor faces all directions, without analysing individual internal room configurations (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.3**).

When realistic meteorological factors are modelled—incorporating long-term average daily sunshine hours and wind rose data from the Met Éireann synoptic station at Belmullet (**EIAR**

Chapter 15 - Shadow Flicker, Section 15.2.3 and **Section 15.2.6**)—the expected shadow flicker hours are significantly reduced, and no sensitive receptor is projected to experience shadow flicker exceeding the 30-hour annual threshold recommended under the 2006 Guidelines (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.7**). Specifically, the realistic expected annual exposure levels for the receptors highlighted in the objection are:

- H11: worst-case is 101 hours 23 minutes/year, but realistic expected exposure is reduced to 17 hours 6 minutes/year,
- H46: worst-case is 99 hours 27 minutes/year, but realistic expected exposure is reduced to 14 hours 20 minutes/year,
- H7: worst-case is 70 hours 29 minutes, but expected exposure is reduced to 10 hours 3 minutes/year,
- H45: worst-case is 33 hours 48 minutes, but expected exposure is reduced to 4 hours 37 minutes
- H75: worst-case is 63 hours 15 minutes, but expected exposure is reduced to 10 hours 0 minutes

The realistic expected annual exposure levels for the remaining receptors are similarly minimal and well within the 30-hour guideline: H14 (8 hours 42 minutes), H15 (9 hours 5 minutes), H16 (9 hours 47 minutes), and H21 (11 hours 26 minutes; cast via Turbine AT16) H24 (7 hours 0 minutes), H29 (6 hours 24 minutes), H30 (2 hours 31 minutes), H32 (6 hours 23 minutes), H33 (3 hours 2 minutes), H38 (10 hours 45 minutes), H39 (8 hours 14 minutes), H42 (10 hours 41 minutes), H48 (8 hours 57 minutes), and H52 (4 hours 36 minutes), H64 (1 hour 30 minutes) and H81 (3 hours 29 minutes) (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.7**).

To eliminate any occurrence of shadow flicker exceeding the national guidelines, a state-of-the-art automated shadow control system will be installed on every proposed turbine. This control module monitors sunlight intensity, wind speed, wind direction, and pre-programmed coordinates of sensitive receptors in real-time (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.3**). When the system detects that direct sunlight is strong enough to cause a shadow, and the shadow falls upon a window of any sensitive receptor—such as H7, H11, H14, H15, H16, H21, H24, H29, H30, H32, H33, H38, H39, H42, H45, H46, H48, H52, H64, H75, or H81—the relevant turbine (including Turbine AT16 for receptor H21) will automatically shut down until the shadow flicker period passes (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.3** and **Section 15.2.7**). The implementation of this real-time mitigation system guarantees that zero shadow flicker exceedances (above 30 minutes per day or 30 hours per year) will be experienced by any sensitive receptor within the Study Area. Following the application of this automated system, the residual shadow flicker impact is classified as a neutral, imperceptible,

and long-term effect, ensuring no significant impacts to local residential amenity (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.5** and **Section 15.3**).

Item 2: Zero Shadow Flicker Policy vs Reactive Control & Automated Shut-Down

"Why is an automated SCADA shut-down system considered legally sufficient rather than physically relocating turbines to achieve zero theoretical flicker?"

Answer: The proposed site layout for the Tirawley Wind Farm complies fully with the visual amenity setbacks of both the 2006 Wind Energy Development Guidelines and the 2019 Draft Revised Wind Energy Development Guidelines. The project utilises the Vestas V117 turbine model, which has an overall blade tip height of 135 m. Under the 2006 Guidelines, a setback distance of 500 m was recommended from individual properties. In contrast, Specific Policy Directive 2 (SPPR 2) of the 2019 Draft Guidelines mandates a visual amenity setback of 4 times the blade tip height, which equates exactly to 540 m (4 x 135 m). The developer has strictly implemented this 540 m housing buffer from all residential dwellings across the site layout. The closest inhabited residential dwelling not associated with the development (H3) is located at 554 m from the nearest turbine (AT08), comfortably exceeding the 540 m requirement. The only properties within 500 m of any proposed turbine are H1, a disused vacant dwelling located 265 m from AT12 which is under the developer's control and will be converted into a permanent operations building, and H2, an unoccupied property located 321 m from AT01 which is also under the control of the developer and will remain unoccupied for the operational lifespan of the project. Consequently, the physical spacing of the turbines is fully aligned with both current and emerging planning policies (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4 and EIAR Chapter 2 – Development Description, Section 2.4.1**).

The 2019 Draft Revised Wind Energy Development Guidelines establish a clear, structured two-step protocol for addressing shadow flicker (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.2**). First, developers must utilise computational models to predict potential shadow flicker and review the site design to explore the possible relocation of turbines to eliminate the occurrence. However, the guidelines explicitly state that if shadow flicker cannot be completely eliminated through relocation alone, *"clearly specified measures which provide for automated turbine shut down to eliminate shadow flicker should be required as a condition of a grant of permission"*. The planning framework therefore formally recognises that absolute physical relocation is not required if it is unfeasible due to site-specific constraints; rather, automated shutdown is considered a legally sufficient and procedurally approved mechanism to achieve the zero shadow flicker target.

Further physical relocation of turbines to achieve "zero theoretical (pre-mitigation) shadow flicker" is technically and environmentally unfeasible due to multiple overlapping site constraints identified during the iterative design process (**EIAR Chapter 3 - Alternatives Considered, Section 3.6.1, Section 3.10**). Siting of the final 16 turbines was determined through a rigorous constraints-led approach that successfully balanced power generation with environmental and physical boundaries.

Post-Compliance Grievance and Calibration Protocol: If shadow flicker is reported post-commissioning, the EIAR establishes a strict corrective protocol (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.3, Page 18**). Logged complaints (frequency, duration, and time) will be analysed using specialist modelling software to verify occurrences. If the issue persists, a field-based shadow flicker survey involving direct light-data collection will be conducted at the affected property. Based on the gathered field data, the developer will execute a further refinement of the blade shadow control software, which can include the pre-programmed, automated shutting off of specific turbines at exact times of the day to ensure zero shadow flicker is maintained.

This active mitigation guarantees full compliance with the strict zero shadow flicker requirements of the 2019 Draft Guidelines and exceeds the 30-hour/30-minute standard under the 2006 Guidelines, ensuring the operational residual impact is reduced to a neutral, imperceptible, long-term effect (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.5**).

Item 3: Arbitrary and Unscientific Exclusion of Receptors

Submitters criticise the developer's shadow flicker study boundaries as arbitrary and unscientific, pointing out that numerous close-proximity homes and key community assets were excluded from detailed modelling without clear justification. Despite falling within the 1.17 km (10 times rotor diameter) study boundary or occupying elevated terrain, critical community locations—including St. Patrick's College Lacken Cross, nearby sensitive properties, and the Lacken Sensory Garden for children with additional needs—were omitted from assessment. Furthermore, detailed modelling was bypassed for over a dozen individual residential receptors (including H125, H137, H160, H170, H174, H183, H197, H201, H203, H211, and H220), while specific daily and annual exposure hours were entirely undisclosed for the Tithe Cois Trá residential cluster (properties H115–H132), depriving residents of essential transparency.

Answer:

The study boundary of 1.17 km utilised for the detailed shadow flicker modelling is strictly defined as 10 times the maximum proposed rotor diameter (10 × 117 m = 1,170 m) (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.1**). This study area is established in direct accordance with the Wind Energy Development Guidelines (DoEHLG, 2006), the Best Practice Guidelines for the Irish Wind Energy Industry (IWEA, 2012), and the Draft Revised Wind Energy Development Guidelines (Department of Housing, Local Government and Heritage, 2019). The 2006 Guidelines state that at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low, and detailed calculations are recommended only within this threshold (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.2**).

The assertion that detailed modelling was bypassed for over a dozen residential receptors—specifically H125, H137, H160, H170, H174, H183, H197, H201, H203, H211, and H220—or that data was withheld for the Tithe Cois Trá residential cluster (H115–H132) is factually incorrect. The shadow flicker study identifies a total of 100 residential receptors (H1 to H100) located within the 1.17 km study boundary (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.4**). The receptors cited by the submitters (H115 to H132, as well as the other individual properties listed) have IDs greater than H100 because they lie within a wider 2 km study area utilised for other environmental assessments, such as the operational noise assessment (**EIAR Chapter 11 - Noise, Section 11.4.2, Table 11.16).** Because these properties are located beyond the 1.17 km study boundary, they have a very low potential for shadow flicker and were excluded from detailed modelling in strict compliance with the 2006 Guidelines. Consequently, daily and annual exposure hours are not disclosed for these receptors as they fall outside the zone of theoretical shadow flicker impact (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.1 and 15.2.2**).

Item 4: Rejection of Post-Construction Mitigation vs. Avoidance by Design

Submitters reject the developer's reliance on reactive, post-construction automated control and shutdown systems (shadow control software). They demand a strict "prevention" or "zero-shadow-flicker" standard from the outset, arguing that turbine setbacks and layouts should have been designed to avoid shadow flicker entirely rather than relying on software that may fail. Submitters from receptors H48, H24, H38, H16, H211, H170, H201, H14, H11, H33, H21, H75, H30, H3, H17, H42, H81, H52, H64, H160, H39, H79, H46, H183, H220, and H29 all explicitly reject these unverified reactive systems.

Answer: The proposed wind farm has been designed using a rigorous, constraints-led iterative process that prioritises the protection of local residential amenity (**EIAR Chapter 3 -**

Alternatives Considered, Section 3.6.1). A mandatory minimum setback of 540 m has been maintained from all inhabited dwellings to the proposed turbines (**EIAR Chapter 2 - Development Description, Section 2.6.1**). This distance represents four times the 135 m blade tip height of the proposed Vestas V117 turbines, ensuring strict compliance with the visual amenity setback requirements of the Draft Revised Wind Energy Development Guidelines 2019 (SPPR2). This layout also exceeds the 500 m setback recommended under the 2006 Wind Energy Development Guidelines, demonstrating comprehensive adherence to both national policy frameworks (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4.1** and **EIAR Chapter 3 - Alternatives Considered, Section 3.5.3**).

Designing a layout that completely avoids shadow flicker at all times solely through turbine positioning is technically and environmentally unfeasible due to competing site-specific constraints (**EIAR Chapter 3 - Alternatives Considered, Section 3.10**). The final 16-turbine layout, reduced from an initial 42-turbine concept, represents an optimised design achieved by micrositing turbines to avoid ecologically sensitive areas (such as active Annex 1 bogs and deep peat), complex archaeological buffers, and telecommunication link corridors (**EIAR Chapter 3 - Alternatives Considered, Section 3.6.2, Section 3.10**). Further shifting or relocating turbines to achieve a "zero shadow flicker" layout without mitigation software would directly force encroachment into these other highly sensitive and protected environmental receptors.

The Draft Revised Wind Energy Development Guidelines 2019 explicitly endorse and mandate automated turbine shutdown as the primary and acceptable method to resolve shadow flicker when layout relocation is not feasible. The 2019 draft guidelines state that if shadow flicker is not eliminated through site design, *"clearly specified measures which provide for automated turbine shut down to eliminate shadow flicker should be required as a condition of a grant of permission"* (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.2**). The proposed real-time shadow control system is therefore fully aligned with current draft national policy (**EIAR Chapter 4 - Planning Policy, Section 4.6.2**).

The proposed blade shadow control software is a well-established, highly reliable, and industry-standard technology with a proven track record of successfully mitigating shadow flicker in operational wind energy developments. The control system calculates in real-time whether sunlight is of sufficient intensity to cast a shadow on a receptor, based on pre-programmed property coordinates, wind speed, wind direction, and astronomical sun-turbine-receptor geometry. If potential flicker conditions are detected, the turbine automatically shuts down and restarts once the window of potential impact has ceased (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.3**). This active control ensures that the residual impact of shadow flicker is

reduced to a neutral, imperceptible, long-term effect, guaranteeing full compliance with both the 2006 Guideline thresholds and the 2019 Draft Guidelines' zero-shadow-flicker standard (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.5**)

Item 5: Omissions and Modelling Errors in the Developer's EIAR Documentation

Submitters identify critical mathematical and structural errors within the developer's environmental reports:

- Lacken Ballycastle Community Landscape Protection Group: Identifies inconsistent total receptor counts within Chapter 15 of the EIAR (100 vs. 108 vs. 119 surveyed receptors).
- Lacken Ballycastle Community Landscape Protection Group criticises the shadow flicker methodology for using an improper "85-90% weather reduction" for daily limits to artificially lower predicted impacts.
- A submitter Identified a cartographic coordinate error where Turbine AT02 is misplaced by 257 metres between drawings and tables, invalidating the shadow flicker, noise, and visual models.
- A submitter has identified an error with the EIAR as it predicts 0 minutes of shadow flicker for H9, stating it is wholly inaccurate and mathematically impossible given its 579m proximity to AT02.

Answer: Clarification of Receptor Counts (Chapter 15)

The assertion that Chapter 15 of the Environmental Impact Assessment Report (EIAR) contains mathematical inconsistencies regarding total receptor counts is incorrect; the variations in numbers correspond to distinct, clearly defined categories of properties within the assessment:

- **100 properties**: This represents the number of identified properties situated within the strict shadow flicker Study Area radius, which is defined as 10 times the rotor diameter (10×117 m=1,170 m) from any proposed turbine location (**EIAR Chapter 15, Section 15.2.4**).
- **108 properties**: This represents the maximum number of properties surrounding the site predicted to experience some degree of shadow flicker *prior* to the implementation of automated mitigation (**EIAR Chapter 15, Section 15.2.9.5**). This list includes financially involved or unoccupied structures, such as H1 (the proposed operations building) and H2 (unoccupied dwelling) (**EIAR Chapter 15, Section 15.2.4**).
- **119 properties**: This represents the total baseline population of receptors evaluated within the wider geographical survey envelope (**EIAR Chapter 15, Section 15.3**). Of this total, 108 receptors have the potential to experience some shadow flicker (unmitigated), and 11 will experience zero flicker (**EIAR Chapter 15, Section 15.3, Page 19**)

Meteorological Reductions and Daily Limit Calculations

The criticism regarding the improper use of an "85–90% weather reduction" to lower daily shadow flicker limits is factually incorrect as daily limits are not reduced by weather probabilities:

- Met Éireann long-term monthly sunshine and wind frequency data from the Belmullet synoptic station are utilised exclusively to calculate expected annual values (hours per year), representing a realistic, "real-world" scenario (**EIAR Chapter 15, Section 15.2.3, Page 8 and Section 15.2.6**).
- Conversely, no weather reduction factors are applied to the daily limit model (EIAR **Chapter 15, Section 15.2.3**). **Section 15.2.6** confirms that expected daily shadow flicker cannot be predicted using average meteorological statistics because it could be sunny with the wind in the relevant direction on any individual day (**EIAR Chapter 15, Section 15.2.6**). The daily limits represent a conservative "worst-case" maximum scenario based on 100% sunshine and face-on turbine alignment (**EIAR Chapter 15, Section 15.2.3**).

Verification of Turbine AT02 Coordinates

The alleged cartographic mismatch of 257 metres for Turbine AT02 is a localised clerical error in a CEMP reference table and **Planning DRAWING 6289-PL-100** did not invalidate any modelling:

- Turbine AT02's correct ITM coordinate is E514978, N832589, consistently applied across EIAR Chapter 2 (Table 2.3), Chapter 15, and CEMP Figure 2.1. EIAR Table 2.3 excludes financially involved residential receptors, identifying H5 at 559.39 m as the nearest receptor to AT01, whereas Table 15.1 includes them, placing the closest at H1 (265 m).
- The coordinate N832846 listed in Planning DRAWING 6289-PL-100 is a clerical typographical transposition error, where the Northing coordinate for Turbine AT03 (N832846) was duplicated.
- Importantly, the correct coordinate (E514978, N832589) was the active input for the WindPRO 4.2 model for shadow flicker, the SoundPlan model for noise and the visual photomontages (**EIAR Chapter 12, Section 12.1.1, Page 1**). Setbacks of 601.59 m to H8 (**EIAR Chapter 2, Table 2.3, Page 11**) and 602 m to H9 (**EIAR Chapter 15, Table 15.1, Page 8**) are mathematically verified from the correct coordinate, rendering all environmental impact models fully valid.

Mathematical and Physical Accuracy of H9 Shadow Flicker Modelling

The submitter's claim that a prediction of 0 minutes of shadow flicker at H9 is mathematically impossible is physically and astronomically incorrect:

- Under the correct coordinates, the actual closest distance from H9 (E515080, N831996) to Turbine AT02 (E514978, N832589) is 602 m (**EIAR Chapter 15, Table 15.1**).

- This geographical relationship places H9 directly south-southeast of Turbine AT02.
- At these latitudes in Ireland, turbines do not cast shadows on their southern side (**EIAR Chapter 15, Section 15.2.1**). Properties located within the southern quadrant relative to the turbines are outside the pathway of the sun required to generate shadows). Therefore, the prediction of 0 minutes of shadow flicker for H9 is mathematically and physically accurate.

Legislation and Guidelines Accused of Being Breached

Submitters accuse the Proposed Development of breaching several statutory instruments, national planning guidelines, and international conventions in relation to shadow flicker:

Item 6: EIA Directive (2011/92/EU as amended by 2014/52/EU)

The Breach: The Environmental Impact Assessment (EIA) Directive requires a thorough assessment of the direct, indirect, and cumulative impacts of the project in relation to shadow flicker:

- It fails to model cumulative, sequential shadow flicker from multiple turbines simultaneously (such as sequential exposure at Receptor H3 from turbines AT08, AT09, and AT10).
- It misclassifies major community assets (like schools and churches) as private dwellings, invalidating the baseline data

Answer: Rebuttal to Objection regarding Cumulative and Sequential Shadow Flicker Modelling

The assertion that the Environmental Impact Assessment Report (EIAR) fails to model cumulative and sequential shadow flicker is technically incorrect. The baseline shadow flicker modelling was performed using industry-standard WindPRO 4.2 software, which mathematically simulates the precise path of the sun throughout the year in relation to all proposed turbines and receptors simultaneously. This computational model automatically calculates and aggregates the total cumulative duration of shadow flicker events—both simultaneous and sequential—cast by all turbines in the proposed array (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.3**).

Specifically, Receptor H3 (located at ITM coordinates 516227, 836339 at a distance of 555 m from turbine AT08) was fully integrated into the cumulative modelling. The model calculates a pre-mitigation cumulative exposure of 15 hours 30 minutes of expected shadow flicker per year and a maximum of 54 minutes of shadow flicker on the worst-affected day (**EIAR Chapter 15 - Shadow Flicker, Table 15.1, Page 8; Table 15.3).** This demonstrates that multi-turbine

sequential exposure for Receptor H3 from turbines AT08, AT09, and AT10 is fully quantified in the baseline data.

To ensure strict compliance with planning guidelines, the Proposed Development implements mitigation measures that satisfy both the 2006 and 2019 standards:

- The 2006 Wind Energy Development Guidelines recommend that shadow flicker at dwellings within 500 m should not exceed 30 hours per year or 30 minutes per day). Receptor H3 is located at 555 m—exceeding this 500 m threshold. However, to ensure a conservative assessment, the 10-rotor-diameter study area (1,170 m) was applied, and H3 was fully modelled (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.1** and **Section 15.2.2**)
- The 2019 Draft Revised Wind Energy Development Guidelines require a visual amenity setback of 4 times the tip height (which equates to 540 m for the proposed 135 m tip height turbines) and the virtual elimination of shadow flicker through automated systems (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.2, EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3**). The separation distance of 555 m at H3 complies with this 540 m requirement.
- Mitigation Compliance: To eliminate daily exceedances under the 2006 Guidelines and to achieve the "zero shadow flicker" requirement of the 2019 Draft Guidelines, an automated real-time shadow control system will be installed on all turbines (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.3**). This system utilises pre-programmed coordinates, real-time wind speed, wind direction, and photoelectric sensors to calculate sunlight intensity; when conditions exist to cast a shadow on H3, the relevant turbine automatically shuts down. This reduces the residual shadow flicker impact at H3 to a neutral, imperceptible, and long-term effect, ensuring absolute compliance with both regulatory frameworks (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.9.5**).

The claim that community assets were misclassified, invalidating the baseline data, is incorrect. The identification of sensitive receptors within the study area was conducted using a robust multi-layered desktop and physical field-verification methodology (**EIAR Chapter 15 - Shadow Flicker, Section 15.2.1**)

For any community assets located inside the 1,170 m study area (10 times the 117 m rotor diameter)—such as the school facility at ITM coordinates 515945, 831977 (located 1,144 m south-southeast of turbine AT02)—their coordinates were fully captured under receptor label H102 (**EIAR Chapter 11 - Noise, Table 11.16, EIAR Chapter 15 - Shadow Flicker, Section**

15.2.1). To ensure maximum conservatism, any such community assets within the 1,170 m study boundary were treated as dwellings and fully simulated in the baseline modelling.

Crucially, under the 2019 Draft Revised Wind Energy Development Guidelines, a "zero shadow flicker" requirement applies to any dwelling or *other potentially affected property*. To achieve this, Receptor H102 any such community assets within the 1,170 m is fully integrated into the project's automated real-time shadow control system, which will automatically shut down turbine the associated turbine during any predicted shadow flicker windows. Post-mitigation, the residual operational impact at this receptor is reduced to a neutral, imperceptible, and long-term effect (absolute zero shadow flicker), ensuring total regulatory compliance and asset protection

Furthermore, because Receptor H102 is located south-southeast of turbine AT02, and all other proposed turbines are situated well outside the 10-rotor-diameter (1,170 m) threshold, cumulative or sequential shadow flicker from multiple turbines is highly unlikely to occur at this location.

Item 7: European Convention on Human Rights (ECHR) - Article 8 & Article 1, Protocol 1

The Breach: Article 8 guarantees the right to respect for private and family life and the home, while Protocol 1 protects the peaceful enjoyment of possessions.

The Accusation: Submitters state that subjecting their homes to years of visual intrusion, rotational movement, and shadow flicker over a 35-year operational lifespan destroys their residential amenity and property values, constituting a direct breach of their human rights.

Answer: With respect to the legal assertions alleging breaches under the European Convention on Human Rights (ECHR), specifically Article 8 and Article 1 of Protocol 1, these fall outside the technical and environmental scope of the environmental impact assessment process.

Regarding the accusation that the proposed wind farm destroys residential amenity through visual intrusion and rotational movement, the layout has been developed using a strict constraints-led design approach that prioritises separation distances from residential dwellings (**EIAR Chapter 3: Alternatives Considered, Section 3.5.2**). The Proposed Development maintains a mandatory minimum visual setback of 540 m from all inhabited dwellings (**EIAR Chapter 2: Development Description, Section 2.6.1**). The closest inhabited residential dwelling (not financially involved with the Proposed Development) to any proposed turbine

(identified as H3) is situated 554 m from turbine AT08 (**EIAR Chapter 2: Development Description, Section 2.6.1**). Under the *Wind Energy Development Guidelines 2006*, a separation distance of 500 m from dwellings is recommended to protect visual amenity (**EIAR Chapter 12: Landscape and Visual Amenity, Section 12.3.4.1**)**.** The *Draft Revised Wind Energy Development Guidelines 2019 (SPPR 2)* mandate a visual amenity setback of 4 times the blade tip height of the relevant turbine, subject to a mandatory minimum of 500 m. For the candidate Vestas V117 turbine model, which features a blade tip height of 135 m, the 4-times tip height setback is exactly 540 m. The maintained minimum setback of 554 m is therefore fully compliant under both the 2006 Guidelines and SPPR 2 of the 2019 Draft Guidelines (**EIAR Chapter 12: Landscape and Visual Amenity, Section 12.3.4.1**).

The potential impacts have been comprehensively modelled using industry-standard WindPRO 4.2 software across a defined study area of **1,170 m** (representing 10 times the maximum 117 m turbine rotor diameter) (**EIAR Chapter 15: Shadow Flicker, Section 15.2.1**). Under a worst-case unmitigated scenario, 56 sensitive properties have the potential to exceed the 2006 Guideline daily threshold of 30 minutes (**EIAR Chapter 15: Shadow Flicker, Section 15.2.7**). To completely eliminate any adverse impact on residential amenity, an automated **blade** shadow control system will be installed on all turbines. This system calculates solar alignment, wind direction, wind speed, and sunlight intensity in real-time, and will automatically shut down individual turbines whenever conditions exist that would cause shadow flicker at any sensitive receptor, restarting only when the potential for shadow flicker ceases (**EIAR Chapter 15: Shadow Flicker, Section 15.2.9.3**). The implementation of this automated system guarantees compliance with the 2006 Guidelines (limiting exposure to no more than 30 hours per year or 30 minutes per day) and will be programmed to achieve zero shadow flicker at any dwelling in accordance with the 2019 Draft Wind Energy Guidelines (**EIAR Chapter 15: Shadow Flicker, Section 15.2.2**). Post-mitigation, the residual shadow flicker impact is assessed as a neutral, imperceptible, long-term effect (i.e., not significant), ensuring no significant direct or indirect effects will occur (**EIAR Chapter 15: Shadow Flicker, Section 15.2.9.5**)

Regarding the impact of wind farm development on local property values, extensive domestic and international empirical literature was reviewed, concluding that wind farms do not consistently, significantly, or measurably affect surrounding home prices. Landmark research by the Lawrence Berkeley National Laboratory (LBNL) in 2009 and 2013, which examined over 50,000 home sales near commercial wind projects in the United States, found no statistical evidence of home prices being affected near wind turbines in either pre-construction or post-construction periods. Similarly, a comprehensive UK study by the Centre for Economics and Business Research (Cebr) in 2014, and Scottish research by ClimateXChange in 2016

analysing over 500,000 property transactions, established no consistent negative effect on property values, demonstrating that broader macroeconomic forces drive house prices rather than visible energy infrastructure. While a recent 2023 Irish study by the Centre for Economic Research on Inclusivity and Sustainability (CERIS) at the University of Galway observed a localised -14.7% impact strictly within 1 km of a turbine, the research conclusively demonstrated that this price effect decays over time and becomes statistically insignificant after 10 years of operation (**EIAR Chapter 5: Population & Human Health, Section 5.3.7 and Section 5.9**). Since all proposed turbines (with the exception of unoccupied or developer-controlled properties H1 and H2) are located at a safe separation distance exceeding 554 m (or well beyond 500 m) from any inhabited dwellings, the operational wind farm is projected to have an imperceptible, long-term, and non-significant effect on local property values, fully in line with international precedents.

In summary, the Proposed Development safeguards local residential amenity through strict adherence to layout setbacks, real-time automated shadow flicker mitigation, and evidence-based planning practices. With residual impacts established as neutral and imperceptible, the claim of unmitigated detriment to surrounding homes or property values is without merit, and the project fully complies with all relevant national wind energy guidelines.

Item 8: United Nations Convention on the Rights of the Child (UNCRC)

The Breach: General Comment No. 26 and Articles 3, 24, and 31 protect children from environmental harm and secure their rights to rest, play, and education.

The Accusation: By failing to assess shadow flicker impacts on school children at St. Patrick's College Lacken Cross or in the Lacken Sensory Garden, the developer has failed to make the best interests of the child a primary consideration, putting children with sensory processing disorders or neurological conditions at risk.

Answer: Please refer to the responses provided in Section 4.3 (Items 4 and 9) and Section 4.12 (Item 7), which fully cover child health, sensory amenities, and shadow flicker assessments.

4.13 Major Accidents & Natural Disaster

Item 1 - How will local fire services manage a multi-day BESS thermal runaway fire?

Submitters highlight that lithium-ion battery fires can burn uncontrollably for days, and local guidelines from Mayo County Council mandate letting such thermal runaway events "burn themselves out". Because local fire stations (such as Ballina and Crossmolina) rely

on retained crews with mobilisation delays and a 35-to-45-minute rural response time, residents ask how a catastrophic fire can be safely controlled.

Answer: The proposed Battery Energy Storage System (BESS) facility incorporates a comprehensive, automated safety design and an emergency response strategy developed in direct consultation with Mayo County Council Fire Services to safely manage and mitigate the risks associated with a potential thermal runaway event

Firefighting Strategy and Mayo County Council Consultation (**EIAR Chapter 1 – Introduction, Appendix 1.3**) The primary strategy for managing a potential BESS fire is a "controlled burn" (allowing the affected unit to consume its fuel naturally while being monitored) rather than applying high volumes of water directly to the battery cells, which is the established industry standard. This strategy aligns directly with Mayo County Council Fire Services' pre-planning consultation, during which the Assistant Chief Fire Officer confirmed that "current thinking is to let them burn out in the event of thermal runaway". Perimeter cooling may be employed by the Fire and Rescue Service (FRS) using the dedicated on-site firefighting water storage tanks to prevent fire propagation to adjacent units or vegetation.

Automated Containment and Safety Mitigation Measures To mitigate any potential risks and account for the unmanned nature of the site, the BESS is designed with a layered, automated protection approach to intercept and isolate faults before they escalate, ensuring safety independent of external fire service response times:

- **Chemistry Selection:** All battery units will utilise chemistries with a reduced propensity for thermal runaway, specifically Lithium Iron Phosphate (LFP) (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.0 Hazard Mitigation Analysis**).
- **Fire-Rated Enclosures:** The BESS containers will be constructed with a minimum 1-hour fire resistance rating and tested in accordance with UL 9540A to contain any thermal event within the affected container (**Appendix 16.1 Fire Safety Assessment and Advice Report, 2.1.2 UL 9540A Test Method**).
- **Continuous 24/7 Monitoring:** A Battery Management System (BMS) provides continuous monitoring at the cell, module, and rack level. Enclosure temperatures and environmental parameters are monitored 24/7 with alarms automatically routed to a continuously attended location **(Appendix 16.1 Fire Safety Assessment and Advice Report, 6.2.14 Management).**
- **Early Detection & Suppression:** Each unit is equipped with automatic photoelectric smoke/heat detection, gas detection (specifically hydrogen and carbon monoxide), and an integrated gas-based fire suppression system to suppress events at the earliest

opportunity. (**Appendix 16.1 Fire Safety Assessment and Advice Report**, **7.0 Summary of Hazard Mitigation Analysis and Recommendations).**

- **Deflagration Venting:** Container enclosures are fitted with explosion venting (deflagration vent panels) to safely direct energy and gases externally in the event of pressure build-up. (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.2.2.10 Explosion Ventilation**).

- **Physical Separation:** Minimum spacing between container units (confirmed as 6 metres in consultation with MCC Fire Services) will be strictly maintained to prevent fire propagation to adjacent plant (**EIAR Chapter 1 – Introduction, Appendix 1.3**).

Structured Retained Fire Service Operations: Retained firefighters in County Mayo (including stations like Ballina and Crossmolina) operate under the national "Keeping Communities Safe" (KCS) framework, which contractually binds them to stay within 2.5 km of their station to ensure an immediate turnout (within 5 minutes of pager alert), with rural transit times strategically accounted for in regional emergency risk plans.

Item 2 - What are the toxicological exposure risks from lethal gas plumes? Thermal runaway fires release heavy metal nanoparticles (nickel, cobalt, manganese, copper) and acutely toxic gases, principally Hydrogen Fluoride (HF) and Hydrogen Cyanide (HCN). Submitters demand to know why there is no plume dispersion modelling, warning that HF concentrations (which reach 50–200 ppm, far exceeding the NIOSH immediately dangerous to life/health threshold of 30 ppm) will react with morning dew or wet grass to form hydrofluoric acid, posing severe tissue burn and systemic poisoning risks to local families and livestock.

Answer:

Siting, Setbacks, and Compliance The Proposed Development features a 150MW Battery Energy Storage System (BESS) composed of 20 containerised battery units. Siting design has placed the BESS compound at a distance of approximately 200 metres from the nearest habitable residential dwelling, while all wind turbines maintain a minimum setback of 540 metres from any occupied residential properties. This layout fully complies with the visual amenity and separation requirements of both the 2006 Wind Energy Development Guidelines and the 2019 Draft Revised Guidelines.

Note: The following points incorporate empirical data from external post-incident studies and atmospheric modelling of battery failures, which can be independently verified:

Atmospheric Dilution & Air monitoring: Real-world data from the *Moss Landing, California BESS fire (2025)* demonstrate that concentrations of toxic gases decay extremely rapidly

downwind. Hazardous concentrations (such as Hydrogen Fluoride) drop below acute exposure Level thresholds (**Appendix 16.1 Fire Safety Assessment and Advice Report 4.5 Summary of Other Notable Incidents**).

Ambient Air Monitoring: Real-world data from the *Moss Landing, California BESS fire (2025)* confirmed that community air monitoring conducted by the US EPA and local air boards showed Hydrogen Fluoride (HF) levels remained consistently below acute Reference Exposure Levels and safe regulatory exposure thresholds.

Physical Containment, Chemistry, and Spacing.

To minimise the risk of cascading thermal runaway and associated toxic off-gassing, the BESS incorporates Lithium Iron Phosphate (LFP) chemistry, which has a significantly lower propensity for thermal runaway and cascading failure compared to legacy cobalt-based chemistries. Each battery unit is integrated with a Battery Management System (BMS) that provides continuous 24/7 monitoring at the cell, module, and rack level, alongside early gas detection, automatic fire suppression, and deflagration venting to safely exhaust pressure. Furthermore, a minimum spacing of 6 metres is maintained between individual battery containers to physically prevent thermal propagation. (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.0 Hazard Mitigation Analysis & EIAR Chapter 1 – Introduction, Appendix 1.3**).

Runoff Containment and Fire Management, The Emergency Response Plan mandates a "controlled burn" strategy for BESS fire events—allowing a compromised unit to burn out naturally under continuous monitoring to avoid generating high volumes of contaminated firewater runoff. If perimeter cooling is deployed by the Fire and Rescue Service, all runoff will be directed to and contained within on-site drainage infrastructure designed specifically to collect and hold potentially contaminated water. Any contaminated soils or fire-suppression materials will then be excavated and disposed of offsite by a licensed waste contractor, preventing any migration of pollutants into the surrounding peat or watercourses. (**Appendix 2.1 CEMP - Management Plan 1 - Emergency Response Plan, Section 3.2 Emergency Response Strategy**).

Accordingly, plume dispersion modelling is not required under Irish planning guidelines for BESS developments. The combination of LFP chemistry, strict 6-meter separation, on-site runoff containment, and a 540-metre dwelling setback ensures that any potential incident is safely contained and poses no credible toxicological threat to local families or livestock.

Item 3 - Does the construction of heavy turbines on steep slopes risk triggering a catastrophic bogslide?

Geologists point out that the upland plateau features high-vulnerability peat soils over glacial till. Citing past Irish disasters—such as the Dooncarton/Barnachuille bogslides, the Derrybrien slide, and the Derrysallagh slide—objectors ask how excavations, blasting, and piling can safely occur when the developer's summary simplified safety-critical "Low Risk" peat landslide ratings to "Negligible".

Answer:

The Proposed Development is situated on terrain that does not feature steep slopes at the proposed infrastructure locations. Detailed geotechnical investigations indicate that the ground slope gradients across the development area are low to moderate, generally ranging between 0 and 10 degrees to the horizontal (**Appendix 8.1**: **Soils & Geology Assessment PSLHA Table 6**). The site selection and design layout strictly prioritised the avoidance of ground slopes greater than approximately 10–14% to mitigate the risk of peat instability (**EIAR Chapter 2: Project Description**, **Section 2.6.1**). Furthermore, site-specific investigations confirmed that 86.1% of the Redline Boundary area has negligible peat depth between 0.00 m and 0.50 m, was 0.10 m, with a mean depth over the main site of 0.22 m (**EIAR Chapter 8: Soils & Geology**, **Section 8.3.6.1 Peat Depths Table 8.6**) Under established geotechnical engineering standards, lands mantled by less than 0.50 m of peat behave similarly to topsoil of a similar thickness and do not influence ground or soil stability.

The construction methodologies are designed to strictly control potential landslide triggers such as excavations, blasting, and piling. To ensure the stability of excavation walls, the angle of repose of all cut faces within peat will be battered back to approximately 45 degrees, and excavations will not be left unsupported or open for periods exceeding 24 hours (**EIAR Appendix 2.1 CEMP, Section 4.4.1**)

The geotechnical risk profile of the Tirawley site is fundamentally different from the historical slides referenced. Authoritative analyses of the Dooncarton, Derrybrien, and Derrysallagh events indicate they were triggered by a combination of high-vulnerability factors, notably deep blanket peat (exceeding 2.50 m), steep slopes, and inappropriate construction practices such as side-casting and overloading heavy spoil heaps on sloping ground during or following extreme rainfall events. In contrast, the Tirawley site features exceptionally thin peat (only 13.9% of the site exceeds 0.50 m, and only 0.1% exceeds 2.0 m) (**EIAR Chapter 8: Soils and Geology, Section 16.3.3**,). The project mandates that excavated spoil will not be deposited or stockpiled on slopes or peat and will instead be transported

immediately to designated storage areas or side-cast only on gentle gradients. Finally, a Geotechnical Clerk of Works (GCoW) will continuously monitor peat areas, regularly check for tension cracks, and ensure catch fences or concrete barriers are on-site and ready to divert any potential localised soil movement (**EIAR Chapter 8: Soils and Geology, Section 8.5.2.4.1**).

Item 4 - Why is a safety-critical Emergency Response Plan (ERP) submitted as an empty template?

The developer's draft ERP contains blank contact fields, lacks staff names, and contains a severe clerical error listing Northern Ireland's Department for Infrastructure emergency phone number instead of Mayo County Council's. Residents ask how they can trust the project's safety when key safety documents are uncompleted drafts.

Answer: The submitted **Emergency Response Plan (ERP) forms Management Plan 1** of the preliminary **Construction Environmental Management Plan (CEMP)** and is intentionally presented as an outline framework at the planning stage. In accordance with **CEMP Section 1.1** this document is an outline designed to establish baseline safety and environmental parameters. It cannot be fully completed at this juncture because certain elements such as specific site protocols and construction methodologies can only be finalised with direct input from the main civil and electrical contractors once they are formally appointed post-planning consent. This standard planning procedure is detailed in **EIAR Chapter 2 Development Description, Section 2.7.2** and **CEMP Section 1.2**. which stipulate that in the event planning consent is granted, the CEMP and ERP must be formally updated to address all relevant planning conditions and submitted to Mayo County Council for written approval prior to the commencement of any development works.

Similarly, the blank fields and "To Be Confirmed" (TBC) placeholders in **CEMP Section 5 (Table 5.1**) and **ERP Section 7.5** are due to the pre-construction timing of the application. Staff names and exact contact coordinates for critical roles such as the Site Manager, Environmental Manager, and Health & Safety Manager represent contractor appointments that can only be made post-consent once the main construction contracts are officially awarded. Under EIAR Chapter 5 (**Population & Human Health, Section 5.5.7**) and **CEMP Section 3.1** the appointed Project Supervisor for the Construction Stage (PSCS) is contractually and legally obligated to update, complete, and implement these contact sheets and safety protocols in consultation with Mayo County Council prior to the start of the construction phase.

Regarding the external contact listings in **ERP Section 7.4**, the entry for "Roads Service (Blocked/Flooded Roads)" listing "0300 2000 100" is acknowledged as a clerical typographical

error referring to Northern Ireland's Department for Infrastructure. However, Mayo County Council's principal departmental response pathway—the Environment, Climate Action & Agriculture Department—is correctly listed on the same page with its active local functional landline, 094 9064000. This clerical road service contact entry will be fully corrected to list the appropriate local Mayo roads division in the final, comprehensive Construction Stage CEMP and ERP prior to site commencement, following detailed pre-construction coordination with Mayo County Council, Inland Fisheries Ireland (IFI), and the local Fire and Rescue Service (FRS).

Item 5 - Will BESS or turbine fires trigger a wider forestry wildfire?

Siting a 150MW BESS and turbines on elevated, wind-swept Atlantic peatlands directly adjacent to commercial conifer forestry slated for clear-felling creates a highly credible risk of rapidly spreading wildfires, threatening nearby homes in cul-de-sacs with high trapping risks.

Answer - The proposed 150MW Battery Energy Storage System (BESS) facility consists of 20 container units and is co-located immediately east of the 110 kV substation. To mitigate fire and explosion hazards, the BESS has been designed to meet a safety performance baseline that reduces risks to a level. All battery units will utilise Lithium Iron Phosphate (LFP) chemistry, which has a significantly lower propensity for thermal runaway than other lithium-ion technologies. The container enclosures will have a certified fire-resistance rating of not less than 1 hour, a minimum IP55 rating, and will incorporate temperature monitoring, hydrogen (H_2) and carbon monoxide (CO) gas detection, photoelectric smoke detection, and automatic gas-based fire suppression systems designed in accordance with NFPA 855 and UL 9540A. A Battery Management System (BMS) will provide continuous 24/7 monitoring at the cell, module, and rack levels to intercept faults before they transition to fire hazards (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.1.17**).

While BESS sites located rurally and bordering forestry present a potential risk of fire spread, this risk is robustly managed through boundary design, technology parameters, and emergency protocols. Existing perimeter hedgerows will be removed and replaced with non-combustible palisade security fencing to establish a clear boundary buffer (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.1.18**). The primary response strategy for a thermal runaway event at the proposed Battery Energy Storage System (BESS) is a "controlled burn" protocol, whereby an affected containerised unit is permitted to consume its fuel naturally under close monitoring, rather than applying high-volume water suppression directly onto active lithium-ion cells (**Appendix 2.1 CEMP - Management Plan 1 - Emergency Response Plan**, **Section 3.2, EIAR Chapter 5 - Population & Human Health, Section 5.2.3, Table 5.4, Page**

25; EIAR Chapter 13 - Material Assets and Other Issues, Section 13.9, Page 26). In the event of an emergency, the Fire and Rescue Service (FRS) will restrict water application to perimeter cooling of adjacent containers and surrounding vegetation to halt fire propagation (**Appendix 2.1 CEMP - Management Plan 1 - Emergency Response Plan, Section 3.2, Page 4**). This strategy is supported by dedicated on-site firefighting water storage tanks, secondary public water supplies, and on-site drainage infrastructure engineered to collect and hold potentially contaminated water run-off (**Appendix 2.1 CEMP - Management Plan 1 - Emergency Response Plan, Section 3.2**). To further prevent wildfire propagation, any lands under the ownership of the BESS facility directly bordering the site will not be used for planting forestry Furthermore, any future afforestation on adjacent private lands is governed by the Forestry Act 2014, requiring Technical Approval and a site-specific Fire Plan from the Department of Agriculture, Food and the Marine (DAFM) to ensure adequate boundary fire risk assessments are completed (**Appendix 16.1 Fire Safety Assessment and Advice Report, Section 6.2.15**).

Item 6 - Fire Services Acts 1981 & 2003 & Technical Guidance Document B (TGD-B)

The Accusation: Non-compliance with Irish fire safety codes and lack of statutory design.

Why: The BESS Fire Safety Report (prepared for a different entity, Regnum Renewables) is a preliminary desktop study that lacks designs for fire suppression, detection, or water supply infrastructure. Furthermore, Chief Fire Officer Tony Shevlin confirmed via email that McC Fire Service was engaged only at a high level, without any site-specific risk assessment or operational scrutiny.

Answer: Corporate and Developer Alignment The objection's claim that the report is an irrelevant desktop study prepared for a different unrelated entity. While the BESS-specific cover sheet lists Regnum Renewables Developments Limited as the client, (**Appendix 16.1, Section 1.1**), Explicitly states that Regent Fire Consultants was instructed on behalf of the wind farm developer, Constant Energy Limited, to perform the desktop assessment for a BESS facility at the Tirawley Wind Farm. The BESS is designed as an integrated component of Constant Energy's overall hybrid energy development.

Statutory Design and Building Regulations (TGD-B) The assertion of non-compliance with Technical Guidance Document B (TGD-B) misinterprets the statutory framework. The BESS consists of externally positioned, containerised units in an outdoor setting. As detailed in (**Appendix 16.1, Section 2.1.3**) outdoor utility-scale BESS installations do not conform to

typical indoor building examples and currently fall outside the standard Fire Safety Certificate (FSC) regime under Irish Building Control regulations. In the absence of domestic regulations for outdoor BESS, the developer established a robust safety basis by designing the facility to international best practices, specifically NFPA 855 and UL 9540A standards.

Active Mitigation, Suppression, and Water Infrastructure The claim that the assessment lacks fire protection designs is directly refuted by the planning documents. While appropriately designated as a design-phase study to allow for final hardware selection before construction, the design explicitly mandates automatic gas-based suppression, automatic smoke/heat detection, and continuous hydrogen and carbon monoxide gas detection within each container. Firefighting access and water supply are secured under (**CEMP Management Plan 1 - Emergency Response Plan**).

Mayo County Council Fire Authority Scrutiny The project has undergone direct consultation with the local fire authority. During pre-planning meetings, Mayo County Council's Fire Services reviewed the proposals and established key layout parameters including a 6m minimum unit spacing and dual access points which have been fully integrated into the design (**EIAR Appendix 1.3 Scoping Opinion**).

4.14 Traffic and Transport

Item 1: Construction & abnormal-load traffic disruption and road safety risk

How will the developer mitigate the disruption of over 11,000 HGV loads?

The construction phase is projected to generate 11,022 HGV loads over 21 months—equating to up to 23,130 total two-way truck movements. In addition, clear-felling 31.86 hectares of forestry requires transporting 14,500 tonnes of felled timber. Submitters ask how narrow local roads, which were historically built for horse and carts and are prone to collapse, can absorb this intensity of heavy vehicle traffic.

- "What specific safety measures will be implemented along the R314 to protect students and school buses attending St. Patrick's College Lacken Cross during construction?"
- "How will daily farming operations, and agricultural machinery movements be maintained?
- "What protocols are established to ensure emergency service vehicles (ambulances, fire tenders) face zero delays across rural routes during heavy construction?"
- "How will the safety of cyclists, pedestrians, and equestrian users along the EuroVelo 1 Atlantic Coast route be safeguarded during heavy HGV transport?"

"What controls govern worker parking and site operative transport to prevent fly-parking along narrow rural roads?"

Answer:

Disruption and Structural Integrity of the Road Network

The projected 11,022 HGV loads over the 21-month construction phase will be managed under a comprehensive Traffic Management Plan (TMP) developed in consultation with Mayo County Council, Transport Infrastructure Ireland and An Garda Síochána. To ensure the structural integrity of the road network and prevent damage to rural routes, the following controls will be implemented:

- Structural Assessments and Upgrades: Structural assessments have been conducted for critical bridges and junctions along the Delivery Routes, including Palmerstown Bridge on the R314 regional road. Calculations using the Modified MEXE Method confirm that this bridge possesses an axle load capacity of 22.5 tonnes in its current state, making it fully capable of supporting the heavy vehicle traffic associated with construction. To preserve its architectural fabric, no road widening or land-take will occur at this structure (**Appendix 17.2 - Palmerstown Bridge Report, Section 4**).
- With regards to the Turbine Delivery Route and Abnormal Loads associated with the BESS and Substation, Palmerstown Bridge will be avoided and an alternate route taken via the R315, refer to **Appendix 17.1 - Tirawley Turbine Delivery Report Figure 8 – The Second Leg: Ballina Town to the Wind farm Site**.
- Axle Load Distributions: Delivery vehicles will utilise specialised trailers and axle configurations to distribute weight, ensuring that the maximum axle weight transmitted to the road surface does not exceed the limits set out in the Road Traffic Regulations, 2003 *(***Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 4.6***)*.
- Pre- and Post-Construction Surveys and Financial Bond: A pre-construction road condition survey will establish a baseline of the road network prior to the commencement of works. The developer will lodge a financial bond with Mayo County Council for road repair and upkeep. Weekly inspections will be carried out by the Resident Engineer, and the contractor is contractually required to repair any defects within two weeks, with final post-construction reinstatement completed to the satisfaction of the local authority and TII *(***Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 5.5**).
- Forestry Transport Coordination: To mitigate traffic impacts from felling 31.86 ha of commercial conifer forest, timber extraction and transport will—as far as possible and where economically viable—be conducted concurrently with currently licensed felling activities in the area (**Appendix 13.1 - Forestry Report, Potential Impacts**).

Specific Safety Measures for St. Patrick's College Lacken Cross

St. Patrick's College, which has direct access onto the R314, is classified as a medium-sensitivity receptor. To safeguard students and school transport, the following targeted measures are established:

- HGV Scheduling Constraints: HGV deliveries will be strictly scheduled to avoid peak school drop-off and pick-up times in the morning and afternoon.
- Driver Induction and Briefings: All delivery drivers must undergo a mandatory site induction before operating on-site, where they will be briefed on the location of the school, the presence of students, and the strict speed limits along the route.
- Road Safety Signage: Clear, highly visible construction warning signs will be erected along the R314 and adjacent junctions to alert school buses and other road users of the presence of the construction site and of the likelihood of vehicles entering and exiting (**EIAR Chapter 17 - Traffic and Transport, Section 17.6.1**).

Maintenance of Daily Farming Operations and Agricultural Movements

Agricultural access and daily farming operations will be maintained through active coordination and mitigation:

- Silages and High Activity Avoidance: Road closures and diversions will be scheduled in consultation with local residents, and the contractor will actively avoid times of high agricultural activity, such as silage cutting.
- Access Maintenance: Local access to all domestic, business, and agricultural landholdings will be maintained at all times during construction. The contractor must notify landowners of any temporary road closures in advance and provide alternative access routes to farms (**Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 5.2** and **5.6**).

Emergency Service Vehicle Access Protocols

To ensure emergency service vehicles (ambulances, fire tenders) face zero delays across rural routes during construction, the following protocols are established:

- Unobstructed Emergency Access: Dedicated emergency access routes will be provided and maintained at all times, enabling emergency vehicles to either access the site or completely bypass the construction works (**Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 5.7**).
- Advance Communication: Emergency services will be notified of all proposed works and temporary road closures in advance.

- Traffic Liaison: The contractor will appoint a competent traffic management coordinator who will be the main point of contact for all traffic management matters during the course of the works (**EIAR Appendix 2.1 CEMP – Traffic Management Plan, Section 5.3**).

Safety of Vulnerable Road Users and the EuroVelo 1 Route

General pedestrian safety will be maintained by providing temporary footpaths adjacent to upgraded sections of the public road work to allow safe pedestrian access *(***EIAR Chapter 17 - Traffic and Transport, Section 17.6.1).** To protect hiker safety during the construction and decommissioning phases, clearly marked temporary trail diversions will be established. (**EIAR Chapter 5 - Population & Human Health, Section 5.5.6**).

Controls Governing Site Operative Transport and Parking

To prevent fly-parking on narrow rural roads and minimise vehicle trips, the following controls will be enforced:

- On-Site Parking Restrictions: All staff and operative parking will be accommodated solely within the designated Temporary Construction Compounds (TCCs). Operative parking or fly-parking on the public road network in the vicinity of the site is strictly prohibited.
- Operative Transport Management: The majority of site workers will be transported to and from the site in mini-buses and crew vehicles. Operational car-pooling and labour vehicle-sharing will be actively encouraged and policed through regular toolbox talks to reduce peak daily traffic volumes (**Appendix 2.1 CEMP - Management Plan 7 - Traffic Management Plan, Section 7.3**).

Item 2: Unsuitability of local road network for delivery route (Downpatrick Head, Keerglen, Clydagh, R314)

Specific concern that the roads identified for turbine component delivery — including the R314 and routes through Keerglen, Clydagh and past Downpatrick Head — are physically unsuited to abnormal loads and will require damaging widening works.

Answer: Downpatrick Head Routing Clarification

Downpatrick Head is situated approximately 6 km northwest of the nearest proposed wind turbines within the array. The proposed Turbine Delivery Route (TDR) does not pass Downpatrick Head. The Second Leg of the TDR travels north from Ballina Town along the R315 and specific local public roads (including the L1108, L51722, and L51732), approaching the Wind Farm Site from the west. Consequently, no turbine component transport or related physical works are proposed along the scenic routes or roads past Downpatrick Head (**EIAR Chapter 17: Traffic and Transport, Section 17.3.1** and **Section 7.3.2.1**).

Physical Suitability and Swept Path Analysis of the R314

The R314 regional road is a 6.0 m wide single carriageway with grass verges, operating under an 80 km/h speed limit. To confirm its physical suitability, a detailed desktop review and visual site surveys were conducted, culminating in an AutoTrack Swept Path Analysis. This analysis was based on a candidate Vestas V117 (4.3 MW) turbine model with a 57.2 m blade length to track the path from Ballina Town to the Wind Farm Site. The assessment verified that the route is physically capable of accommodating the required abnormal delivery loads. Furthermore, the initial segment of the TDR (Port to Ballina) is a proven delivery route previously utilised for Oweninny Phase I & II, Sheskin, and Killala Community Group wind farms **(EIAR Chapter 17: Traffic & Transport, Section 17.2.5** and **Section 17.3.3, Appendix 2.1 CEMP: Management Plan 7 (Traffic Management Plan)** and **Appendix 17.1 (Turbine Delivery Route Report**).

Scope of Enabling Works and Reinstatement

Rather than "damaging widening works," the required enabling works along the TDR from Ballina to the Wind Farm Site are required, temporary, and localised in nature. These works comprise the temporary removal of street furniture, vegetation pruning, and localised road verge widening at 19 identified pinch points to allow a safe load-bearing surface. Street furniture adjustments will utilise socketed installations, allowing daily removal during nighttime deliveries (when transport occurs to avoid daytime disruption) and immediate daytime reinstatement to ensure normal traffic flow. (**Chapter 17: Traffic & Transport, Section 17.2.5** and **Section 17.5.4**).

Following the construction phase, all temporarily modified public roads and verges will be fully reinstated in accordance with the requirements of the relevant County Councils and Transport Infrastructure Ireland (TII) specifications. Additionally, the developer will implement the following mitigation measures (**EIAR Chapter 17: Traffic & Transport, Section 17.4.3, Section 17.6.1, Appendix 2.1 Construction Environmental Management Plan (CEMP), Section 3.8, Appendix 2.1 CEMP: Management Plan 7 (Traffic Management Plan), Section 4.8, Section 5.5, Section 6** and **Section 8**)**:**

- Conduct pre-construction and post-construction road condition surveys to establish an agreed baseline and ensure any construction-related wear is repaired to local authority specifications.
- Lodge a financial bond with Mayo County Council prior to construction to cover the possible repair and upkeep of the local roads.
- Employ specialist multi-axle configurations based on weight and dimensions to ensure the maximum axle load does not exceed statutory limits of 12 tonnes per axle. Prior to

deliveries, a trial run using a retractable load gauge will be completed in consultation with local authorities and An Garda Síochána

4.15 Other

Item 1: Planning and Development Act 2000 (as amended)

The Accusation: Violation of Section 10 statutory obligations.

Why: Section 10 explicitly requires planning authorities to promote the preservation of landscape character, scenic views, public amenities, and archaeological heritage—an obligation that submitters argue is completely incompatible with this development.

Answer: While the statutory obligations of the planning authority under Section 10 are not explicitly discussed within the EIAR, the substantive environmental, visual, amenity, and heritage issues raised by the objectors have been comprehensively evaluated and resolved as part of the Environmental Impact Assessment (EIA) process. The technical evidence demonstrating the compatibility of the proposed wind farm with the preservation of these resources is detailed below.

Preservation of Landscape Character

The Proposed Development is situated across two Landscape Character Units (LCUs) identified in the Mayo County Development Plan (CDP) 2022-2028: "Area D North Coastal Plateaux" and "Area G North Mayo Drumlins" (**EIAR Chapter 4 - Planning Policy, Section 4.5.3.6**). Under the Mayo Landscape Sensitivity Matrix, the turbine array is located within Landscape Policy Area 1 "Montaine Coastal Zone" (which has a "High" sensitivity rating in relation to wind farm development) and Policy Area 4 "Drumlins and Inland Lowland" (which has a "High/Medium" sensitivity rating). A "Medium" sensitivity rating denotes a landscape where development is discernible but can be successfully minimised to an acceptable level through careful siting and high-quality design (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4**).

To address these sensitivities, the design and layout of the wind farm have been fully integrated with the surrounding "Transitional Marginal Landscapes" type, utilising an irregular spacing and random layout that conforms to the undulating topography of the setting. The immediate context of the Wind Farm Site is a robust, utilitarian working rural landscape dominated by commercial conifer forestry and agricultural pastures, which successfully absorbs the development without creating a scale conflict (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4** and **Section 12.4.2**).

The magnitude of the landscape impact is deemed High-Medium within the Wind Farm Site and its immediate 1 km environs, reducing to Medium for the remainder of the central study area, and becoming Low to Negligible beyond 5 km. The magnitude of cumulative effect of the potential future cumulative scenario in relation existing, consented and proposed (in-planning and pre-planning) wind farms within the 20 km Study Area is deemed High-medium. However, the Proposed Development remains structurally and contextually separated from these proposals, which are located outside of the central study area, ensuring that a sense of wind farm containment is avoided. Crucially, the landscape effects of the Proposed Development are temporary and fully reversible. Following the 35-year operational lifespan of the project, all above-ground components will be disassembled and the land will be fully reinstated to its prevailing agricultural and forestry uses. Within 2 to 3 years of decommissioning, there will be no notable visual or physical evidence that a wind farm ever existed on the site. Consequently, there will be no significant residual landscape effects (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2** and **Section 12.7**).

Preservation of Scenic Views

The Landscape and Visual Impact Assessment (LVIA) evaluated specific scenic designations, views, and prospects within a 20 km Study Area. Viewpoints VP4 and VP6 represent the R314 regional road, which is designated as a scenic route with scenic views. The assessment indicates that the proposed turbines will be only partially and intermittently visible along the distant skyline at a range of approximately 6 km. At this distance, the turbines act as modest-scale features and do not detract from the scenic coastal vistas, resulting in a visual significance of effect rated as "Slight" (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.2.3 and Section 12.4.2.6**). Similarly, along other Mayo coastal roads (VP2, VP3, VP5, VP13) and Sligo scenic routes (VP20, VP32), visual effects range from Slight-imperceptible to Moderate-slight, as the turbines generally appear heavily screened, sub-dominant, or as distant background features.

While the coastal areas to the north, east, and west of the site possess a high degree of scenic amenity, the principal panoramic views from these locations are oriented across the rugged coastline and out to sea, which is in the opposite direction of the proposed inland turbine array. Therefore, the visual impact on scenic designations within the wider Study Area is assessed as Not Significant (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.6**). Additionally, the irregular spacing and dispersed layout of the turbines provide a high degree of visual permeability, ensuring they do not obstruct distant views or create a sense of visual enclosure (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.4.2.1**). The overall

residual visual effects generated by the project are deemed Not Significant (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.7**).

Preservation of Public Amenities & Archaeological Heritage

The layout of the Proposed Development was comprehensively designed through a constraints-led process to avoid all known archaeological sites, monuments, and designated architectural structures (**EIAR Chapter 14 - Cultural Heritage, Section 14.3.14 and Section 14.5.1**). No turbine or associated infrastructure footprint directly overlaps with any recorded cultural heritage asset, ensuring zero direct physical impacts on the known archaeological resource. Potential direct impacts are restricted to one undesignated, derelict vernacular structure in Leacarrowntemple townland, which will be fully mitigated by record (written, drawn, and built heritage photographic survey) prior to removal (**EIAR Chapter 14 - Cultural Heritage, Section 14.4.1** and **Section 14.5.2**).

To protect unrecorded, sub-surface archaeological remains, a comprehensive mitigation program under licence by the National Monuments Service will be implemented. This includes pre-construction archaeological test excavations in areas of heightened sensitivity (e.g., Carrickanass castle and bawn site, ringforts MA014-058 and MA014-056, enclosure MA014-030, and the Carn archaeological complex), as well as professional archaeological monitoring of all ground excavation works. In the event of any sub-surface discovery, works will immediately suspend, and the National Monuments Service will be consulted to determine appropriate preservation in situ (by avoidance) or preservation by record (archaeological excavation) (**EIAR Chapter 14 - Cultural Heritage, Section 14.5.1**).

While long-term, negative indirect visual effects on the wider landscape settings of certain key assets—such as Carn House (RPS 187), the Carn archaeological complex (MA014-061001 to MA014-061005), Lackan Gazebo (RPS 016), and Rathfran Abbey (National Monument 269)—are predicted to range from Moderate to Significant, these effects are entirely reversible upon decommissioning (**EIAR Chapter 14 - Cultural Heritage, Section 14.4.4** and **Section 14.5.6**). Visual impacts on other highly sensitive regional sites, such as the Céide Fields complex (located 9.5 km northwest), are assessed as "Slight" as views are largely restricted by the intervening natural terrain. No significant direct or cumulative archaeological effects are predicted (**EIAR Chapter 14 - Cultural Heritage, Section 14.9**).

Technical Guidance Compliance (Visual Amenity Setbacks)

The visual amenity of individual residential properties has been strictly safeguarded in accordance with both the current and emerging national planning guidelines:

- **Wind Energy Development Guidelines 2006:** These guidelines recommend a minimum setback distance of 500 m between turbines and nearby offices and dwellings for visual amenity and noise purposes (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4**).
- **Draft Revised Wind Energy Development Guidelines (December 2019):** Section 6.18, SPPR 2, mandates a visual amenity setback distance of "4 times the turbine tip height" between each wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum of 500 m. With a candidate turbine blade tip height of 135 m, the calculated mandatory setback under the 2019 Draft Guidelines is 540 m (4 x 135 m). The nearest occupied residential dwelling to any proposed turbine (H3) is located 554 m from the nearest turbine (AT08). Consequently, all proposed turbines maintain a separation distance exceeding 540 m from any non-associated inhabited residential properties, achieving full compliance with both the 2006 Guidelines and the 2019 Draft Revised Guidelines (**EIAR Chapter 12 - Landscape & Visual Amenity, Section 12.3.4**).

5 CONCLUSION

This response has been prepared to address the observations made by Third-Party observers and Prescribed Bodies including Local Authority in respect of the Proposed Development. The response read together with the Application, including EIAR and NIS, constitutes a full and robust response to the matters raised and the information provided here will directly assist the Commission in their ongoing consideration of the Application.

The conclusion of the Planning Statement for the Application provides a concise summary of the planning rationale, with the key considerations restated below.

Renewable energy is identified as being required to play a vital role in mitigating climate change by transitioning to a carbon-neutral economy and society. By investing in renewable energy, Ireland can promote sustainable economic development using its own secure and clean energy.

All planning applications must be determined on their individual merits, with due consideration given to the overall planning balance of a scheme. The pressing need to address climate change and the overriding public interest in renewable energy projects further supports additional renewable energy schemes, such as the Proposed Development.

Ireland is currently facing significant challenges in meeting renewable energy and emissions targets and is falling behind in the transition away from fossil fuels. According to the Environmental Protection Agency, current measures are projected to reduce greenhouse gas emissions by only 23% by 2030, well short of the national 51% target. This challenge is compounded by global energy market instability which has disrupted oil and gas supply routes, driven up energy prices across Europe, and highlighted the vulnerability of countries dependent on fossil fuel imports. These developments underscore the urgency of accelerating domestic renewable energy deployment to improve energy security, protect consumers from volatile global markets, and support climate objectives.

If permitted and constructed, the Proposed Development in County Mayo will provide an estimated 68.8 MW of renewable, domestically produced wind energy. This additional renewable power is expected to generate approximately 210.9 GWh per year, contributing significantly to Ireland's renewable electricity targets and supporting the Government's objective of achieving 80% renewable electricity by 2030.

In terms of emissions reductions, the Proposed Development is estimated to displace approximately 53,516 tonnes of CO_2 annually, amounting to around 1,873,060 tonnes over its

35-year operational lifetime, compared with equivalent generation from conventional fossil fuel power stations.

Based on average domestic electricity consumption of 4,200 kWh per household per year, the Proposed Developments output could supply approximately 47,306 homes. By comparison, the total housing stock in County Mayo is 69,800 dwellings, meaning the Proposed Development could generate enough renewable electricity to meet roughly 68% of the county's household electricity demand.

The Proposed Development tributes to supplying the national demand for renewable energy, which, in the context of the ongoing climate emergency, rising energy demand, and global supply pressures, is an urgent Irish national priority.

While renewable energy in Ireland has come a long way, there is still a shortfall in where the nation needs to be to achieve increasing targets. Ireland missed its 2020 RES target as part of RED I, achieving 13.5% instead of the target 16%. Ireland's overall RES target has now increased to 43.0% in 2030 as part of RED III. There is a clear national mandate to accommodate significant onshore wind within the next decade with the CAP2025 setting a 9 GW target for installed wind energy capacity by 2030. In Dec 2024 this was 4.8 GW, leaving a shortfall of 4.2 GW to be achieved in the next 5 years.

Further, the National Planning Framework - First Revision emphasises a move to a low-carbon economy, reducing Ireland's carbon footprint and integrating climate action into the planning system. The RSES for the Northern and Western Region supports opportunities for onshore wind as a major source of renewable energy with an important role in delivering value and clean electricity for Ireland. The RCDP reinforces the national and regional energy policies.

The development process adopted by the Applicant has represented a best practice approach to a renewable energy scheme design, minimising the potential effects on the receiving environment through multiple design iterations and modifications, and ensuring compliance with the suite of planning policies and objectives of the Mayo County Council Development Plan (MCCDP). The layout of the Proposed Development presented in the planning application and EIAR represents the optimum fit, considering the technical and environmental parameters of this Proposed Development as discussed within this EIAR.

Likely significant effects have been considered within the EIAR and through the process of assessment, embedded mitigation, and additional proposed mitigation outlined in the EIAR, NIS,

Construction Environment Management Plan and Biodiversity Enhancement and Management Plan and it has been shown that the Proposed Development can be constructed, operated and decommissioned without likely significant effects on the environment arising. The absence of significant effects is not based on a single assessment but is consistently supported by the Biodiversity, Ornithology, Hydrology & Hydrogeology, Landscape and Visual Amenity, Soils & Geology, Cultural Heritage and Aquatic Ecology assessments (in the EIAR) and the NIS.

The Application including the Planning Statement and EIAR outlines how the Proposed Development is compliant with International, European and National policy on energy security, emissions reductions and renewable energy production. It has reviewed policy for the Northern and Western region and local County Mayo policies and finds the Proposed Development complies with key renewable energy and environmental policy objectives. The Proposed Development is aligned to all the relevant planning policies identified throughout this Planning Statement, and it will contribute to achieving renewable energy and reduction in emissions targets locally, regionally and nationally.

The Proposed Development will contribute to the diversity of sources of energy supply and the security of supply in the local area. It contributes to supplying the demand for renewable energy, which in the context of the ongoing climate emergency is an urgent Irish national priority that must be given significant weight given the wealth of supporting national and international policy, in light of the REDIII, RePowerEU Plan and the National Energy Security Framework, additional renewable energy is of overriding public interest and vital for the security of Irelands energy supply and reducing the climate impacts of fossil fuels. Due to the ongoing climate and biodiversity emergency, it is vital to generate more renewable energy in the Irish energy system in order to displace fossil fuels.

Having regard to the key points set out in this response to observations, together with the full Application documents, including but not limited to the Planning Statement, the EIAR and the NIS, it is respectfully requested that the Commission consider the relevant international, national and regional planning context that applies to the Project, and grants permission for the Proposed Development which is the subject of this Application.

Finally, if a decision to Grant the Proposed Development is decided. The Applicant is committed to adhering to any conditions and reaccommodation's noted in their submission. The Applicant is committed to work with the Local Authority, Prescribed Bodies, Third Parties and Local Community to ensure cohesion, integration and success overall for everyone.

APPENDIX 1:
LANDSCAPE AND VISUAL FIGURES

Tirawley Wind Farm - Landscape and Visual Impact Assessment

Céide Fields

Viewpoint Ref: VP4

Baseline Photograph

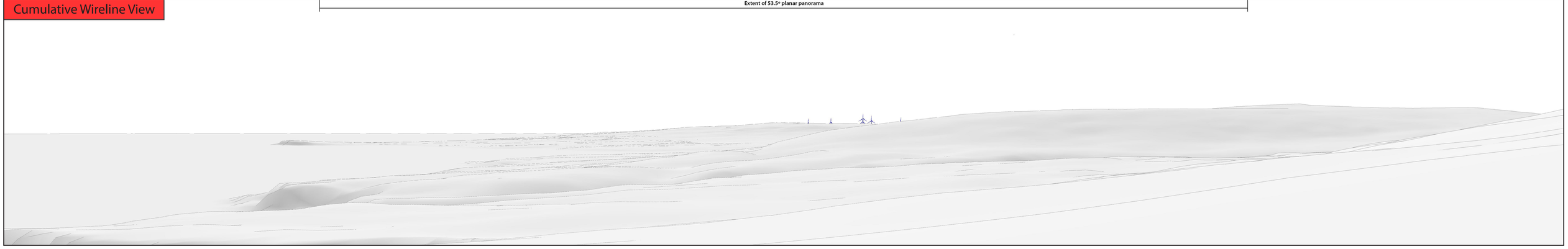
This image provides landscape and visual context only

Part 1 of 1



Extent of 53.5° planar panorama

Cumulative Wireline View



This cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'.

Proposed Turbines | Existing Turbines | Permitted Turbines | In-Planning Turbines | Pre-Planning Turbines



National Grid Cordinate (ITM)	
Easting:	505118
Northing:	840751
Elevation:	132.1 m

Turbine Tip Height:	135m
Turbine Hub Height:	76.5m
Turbine Rotor Diameter:	117m

Date and Time:	2023/04/06 12:16
Camera:	Canon 5D Mark II
Lens:	Fixed 50mm
Camera Height:	1.7m (AGL)

Direction (clockwise from Grid N):	102 °
Distance to Nearest Visible Turbine:	10.6 km
Nearest Turbine:	AT2
Horizontal Field of View: 90 ° (cylindrical projection)	
Principal Distance:	522 mm

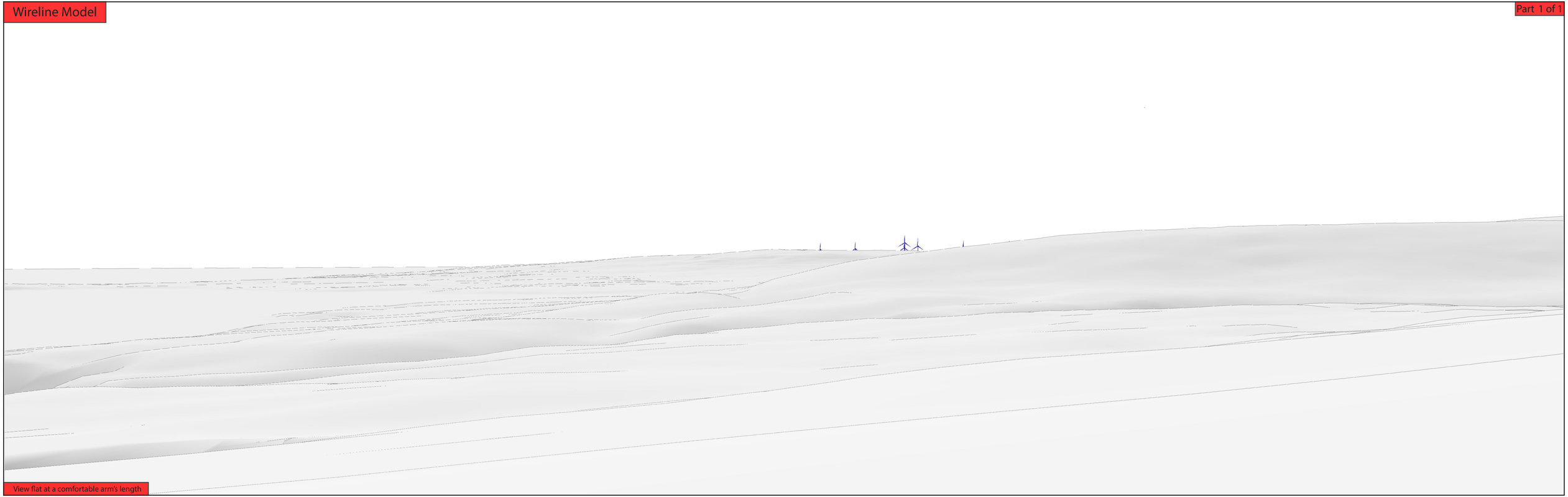
macroworks APEM

Céide Fields

Viewpoint Ref: VP4

Wireline Model

Part 1 of 1



View flat at a comfortable arm's length

This planar projection panoramic model has been prepared and presented in accordance with the guidance set out in the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'.

Proposed Turbines | Existing Turbines | Permitted Turbines | In-Planning Turbines | Pre-Planning Turbines



National Grid Cordinate (ITM)	
Easting:	505118
Northing:	840751
Elevation:	132.1 m

Horizontal Field of View:	53.5 ° (planar projection)
Principal Distance:	812.5 mm
Paper size:	(half A1) 841 x 297 mm
Correct printed image size:	820 x 260 mm

Date and Time:	2023/04/06 12:16
Camera:	Canon 5D Mark II
Lens:	Fixed 50mm
Camera Height:	1.7m (AGL)

Direction (clockwise from Grid N):	102 °
Distance to Nearest Visible Turbine:	10.6 km
Nearest Turbine:	AT12

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Céide Fields

Viewpoint Ref: VP4

Photomontage

Part 1 of 1



View flat at a comfortable arm's length

This planar projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'.



National Grid Cordinate (ITM)	
Easting:	505118
Northing:	840751
Elevation:	132.1 m

Horizontal Field of View:	53.5 ° (planar projection)
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Date and Time:	2023/04/06 12:16
Camera:	Canon 5D Mark II
Lens:	Fixed 50mm
Camera Height:	1.7m (AGL)

Direction (clockwise from Grid N):	102 °
Distance to Nearest Visible Turbine:	10.6 km
Nearest Turbine:	AT12

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