Inspector's Report
ABP-322787-25

Development	Construction and decommissioning of 9 wind turbines and all associated site works.
Location	Polnareagha, Ardskeagh, Tullacondra, Croughta, Kilmaclenine, Ballyclogh, Knockaunavaddreen, Copestown, Ballybeg, Baltydaniel East, Twopothouse, Caurraghakerry, Co. Cork.
Planning Authority	Cork County Council.
Planning Authority Reg. Ref.	24/5503.
Applicant(s)	Tullacondra Green Energy Limited.
Type of Application	Planning permission.
Planning Authority Decision	Grant permission with conditions
Type of Appeal	Third Party
Appellant(s)	Aisling Brattle. Arthur O'Grady. Blánaid Sheahan. Daniel & Tara Crowley.

	Donal & Sheila Gayer. Eavan Long. Eoin & Michelle Sheahan. Fergal Sheahan. Morna McDowall. Tullacondra Turbine Awareness Committee. Willie Aherne.
Observer(s)	Listed in Appendix A.
Date of Site Inspection	17th December 2025 & 20th January 2026.
Inspector	Heidi Thorsdalen.

Contents

1.0 Site Location and Description

1.1. The proposed development is located in north County Cork approximately 2km south of Lisgriffin Cross, and approximately 5.2km west of the N20 between Buttevant and New Twopothouse. The stated development site area is 58.6 hectare.

1.2. The proposed wind farm site is located within townlands Tullacondra, Croughta, Polnareagha and Ardskeagh. The proposed grid connection route (GCR) to Mallow 110kV substation, c. 13.5km, is predominately within the public road network.

1.3. The proposed wind farm site comprises a mixture of pasture and arable land with medium to large field sizes. There are also hedgerows and occasional areas of scrub, ponds and lakes and man-made drains and ditches, and a network of tracks. There are agricultural buildings and sheds in the southern part of the site where there are also small areas of woodland.

1.4. Topography is gradually undulating across the site in a series of broad ridges. The area in which the turbines will be located ranges in elevation from 133m above Ordnance Datum (AOD) in the south to 120m AOD in the north.

1.5. The proposed development is accessed from local public road L5302 at Croughta. Residential development is rural and consists predominately of one of houses, located along the public road network or down private laneways.

1.6. The Blackwater River (Cork/Waterford) Special Area of Conservation (SAC) is located downstream c. 5.1km north-east of the proposed wind farm site, and c. 1.1km south of the proposed grid connection route. Kilcolman Bog Special Area of Conservation (SPA) is located c. 9.4km to the northeast of the proposed wind farm site.

2.0 Proposed Development

2.1. Overview

2.1.1. Permission is sought for the construction of 9 wind turbines and all associated works. A 10 year planning permission and 35 year operational life of the wind farm from the date of commissioning is sought.

2.1.2. Project description is provided in EIAR Chapter 5 and in supporting Appendix 5.1 CEMP. A summary of key development phases and components are outlined below.

2.1.3. A list of planning application documentation is provided in Table 2.1 below.

Table 2.1 List of Planning Application Documents

Stage	List of Main Components
Planning application submission	Letters, forms and consents Schedule of Drawings and Planning Drawings Planning Report (RSK, August 2024) Environmental Impact Assessment Report (EIAR) (RSK, June 2024): • Volume I Non-Technical Summary (NTS) • Volume II Main Report • Volume III Appendices • Volume IV Visualisations Screening for Appropriate Assessment & Natura Impact Statement (RSK, June 2024
Response to Request for Further Information (RFI) - Received by Cork CC, 28th March 2025	RFI Response Report (RSK, 2025). Additional and revised planning drawings. Appendices: • Appendix 1.1 Proposed Relocation of Joint Bays Accepted by Cork NRO • Appendix 1.2 Correspondence between the Applicant and Cork NRO • Appendix 2.1 Ground Investigation Factual Report • Appendix 2.2 Karst Risk Assessment Report • Appendix 3.1 Natural Impact Assessment • Appendix 3.2 Confirmatory Otter Survey Results • Appendix 4.1 Preliminary Bat Roost Assessment Results (September 2022) • Appendix 5.1 Corrected Version of Figure 8.1 in EIAR Chapter 8 (showing locations of Transects C and D) • Appendix 6.1 Hedgerow Assessment Report

	• Appendix 9.1 Sensitive Receptor Database and Map • Appendix 13.1 Vodafone Ireland Mitigation Measure Agreement • Appendix 13.2 Letter of Reliance from Ai Bridges • Appendix 16.1 Haul Route Map • Appendix 17.1 Bridge Survey Assessment Report • Appendix 17.2 Response to TII and Irish Rail Comments • Appendix 18.1 Clarification of Methodology for Flood Risk Assessment on Grid Connection Route • Appendix 19.1 Map of Folio CK29333 • Appendix 21.1 Overall Map Illustrating Viewpoints Associated with Photomontages • Appendix 22.1 Equine Welfare Assessment Report • Appendix 23.1 Technical Report in Response to RFI Item 23 • Appendix 24.1 Outline Decommissioning and Restoration Plan

2.2. Turbines and met mast

2.2.1. Turbines specifications are outlined below including turbine location coordinates and elevation references as per EIAR Table 5.1.

Table 2.2 Summary of turbines and met mast specifications

Turbine Numbers & Specifications	
Turbines	9
Turbine model	Vestas V-150 informs the EIAR
Blade Tip Height	175m
Rotor Diameter	150m
Hub Height	100m

Turbine output (approximate)			4.5MW (x9=40.5MW)
Met mast height			100m
Turbine ID	**ITM Coordinates (moD)**		**Elevation of top of Foundation (mOD)**
	Easting	**Northing**	
T1	547979	606315	118
T2	548351	606226	118
T3	548348	605844	116
T4	548696	605641	112
T5	549083	605614	116
T6	549468	605652	119
T7	548967	605241	127
T8	549331	605146	130
T9	549665	605345	124

2.2.2. A combined hardstand area of approximately 4,700m^2 per turbine is proposed. The EIAR based on preliminary design assumes traditional gravity-based foundations, each turbine will be erected on a steel reinforced concrete foundation. A turbine foundation excavation diameter of approximately 32m is proposed with an estimated depth of approximately 3.0m for each foundation. Detailed ground investigation will determine whether the ground conditions are unsuitable for gravity-based foundations or if pile foundations are required.

2.2.3. The EIAR note that some flexibility in the location of turbines, specifically in relation to ground conditions and archaeology may be required and reference is made to the criteria set out in the Wind Energy Development Guidelines for Planning Authorities (the 2006 Guidelines).

2.2.4. The maximum extent of works required to construct the wind farm infrastructure is included within the red line planning boundary (EIAR Figure 1.4 and on the submitted planning application drawings).

2.3. Site Entrance, Site Tracks and Watercourse Crossings

2.3.1. Construction access (temporary) will be from L5302 and a new temporary entrance with culverting of existing road drain is proposed. The boundary along the public road at this location and the access track will be reinstated following completion of the construction phase, and only reinstated during operation should replacement turbine components be required.

2.3.2. Operational access (permanent) will be via the existing entrance of L5302, approximately 120m to the west of the proposed temporary entrance. An upgrade the entrance to provide 80m visibility splays is proposed and will require the removal of gate piers, a stone wall and several trees along the L5302. If required, the existing culvert will be upgraded.

2.3.3. Onsite tracks proposals comprise approximately 4.5km permanent and 2km temporary tracks. Existing tracks that coincide with the proposed new tracks are to be excavated and reconstructed, except the first 500m of existing tracks from the permanent site entrance which are considered to be in a good condition and may only require upgrading and widening. Tracks will be c. 5m in width and finished with crushed fill surface.

2.3.4. No new watercourse crossings over mapped streams or rivers are proposed. The proposed site tracks will require the upgrading of 7 no. existing culverted watercourse crossings, the removal of one existing culverted crossing and the construction of 17 no. new culverted watercourse crossings (NIS, Table 3).

2.4. Onsite Substation and Cabling

2.4.1. A 38kV onsite substation is proposed and will be located near existing farm building and the permanent site entrance. The substation will contain an Independent Power Producer (IPP) control room, ESB control room, switch room and ancillary facilities. The stated proposed building footprint is 130m^2. Onsite power, communication and control cabling (approximately 5.3km) will be installed underground in trenches along the site access tracks where possible. The applicant has confirmed, in response to RFI Item 20, that the proposed substation has been designed to ESBN specifications. The Decommissioning and Restoration Plan included in RFI Appendix 24.1 confirms that the onsite substation will be permanent, an ESB Networks asset and form part of the electrical grid network.

2.5. Site Drainage

2.5.1. None of the watercourse crossings within the proposed wind farm site are of mapped streams or rivers.

2.5.2. Existing culverts to be upgraded are associated with existing farm tracks and new culverts over drains are associated with new tracks, and are listed in EIAR Table 9.9 and detailed on planning application drawings, refs. 20910-NOD-XX-XX-DR-C-08005 to 20910-NOD-XX-XX-DR-C-08010.

2.5.3. Crossings of the Blackwater (Munster) River_140 along the GCR will be via Horizontal Directional Drilling (HDD).

2.6. Temporary Works

2.6.1. Two temporary **construction compound** areas are proposed. One compound (1,438m^2) is located adjacent to the onsite substation, and a second compound (1,650m^2) is located alongside the access tracks in the vicinity of T9. Temporary facilities will be removed, and the ground will be reinstated with landscaped topsoil on the completion of the construction phase.

2.6.2. It is envisaged that excavated material will be stored onsite and used for backfill and reinstatement works. Storage areas for topsoil and subsoil are proposed near the proposed turbines except for T5 and T7, and near the substation and the site entrance (maximum height of 1.5m for topsoil and 2m for subsoil). Material excavated for the construction/upgrading of onsite access tracks will be placed in berms (maximum height of 0.6m) alongside the tracks and/or stockpiled in designated temporary storage areas.

2.6.3. Along the grid connection route, any earthen (sod) banks will be removed and stored separately for use during reinstatement. Any surplus excavated material not suitable for reuse will be disposed of to a licenced waste facility.

2.6.4. It is anticipated that the construction phase for the proposed development will take approximately 18 months. An indicative construction programme is provided in Figure 5.1 of the EIAR.

2.7. Grid Connection

2.7.1. Grid connection to Mallow 110kV substation at St. Joseph's Road, Mallow via 38kV underground cabling is proposed, and GCR Option 1 forms part of the planning application:

- GCR Option 1 - from site to Mallow 110kV substation via the L5302 (1km), L1200 (2.2km), L1205 (2km and crosses N20), R581 (2km), L1207 (2.7km), L53201 (1.4km), L5320 (1.2km and crosses N72), private lane, L12201 (0.6km and crosses L1220-25).

2.7.2. The GCR is primarily located within the public road corridor and will be installed in trenches which are c.1.25m deep and 0.6m wide. Horizontal Directional Drilling (HDD) is proposed for certain crossings including the Blackwater (Munster) River_140 adjacent to the N72 and the N20. It is anticipated that the ducts will be installed below or above existing culverts. The applicant's response to RFI Item 1 include installation of additional joint bays at the location of the flyover for N72/N73 relief road. The GCR is permanent will comply with ESBN specifications The Decommissioning and Restoration Plan included in RFI Appendix 24.1 confirms that the GCR from the onsite substation to the Mallow 110kV substation will be permanent, an ESB Networks asset and part of the electrical grid network.

2.7.3. The EIAR also assesses a GCR Option 2, from site to Mallow 110kV substation via L5302 (1km), L5523 (1.8km and crosses N20), L5568 (1.5km), L5566 (1km and crosses R581), L1207 and then follows the same path as GCR Option 1. This route includes HDD crossing at Blackwater (Munster) River_140 adjacent to the N72, the N20, and the crossing of railway line and gas transmission line.

2.7.4. GCR Option 2 does not form part of the development for which planning permission is sought, and no design flexibility has been sought from Cork County Council for the grid connection route.

2.8. **Transport Routes**

2.8.1. In proximity to the site, the turbine delivery route and the construction haul route will utilise the local roads L1200 (ref. Lisgriffin road), L5523 (Kilmaclenine to N20) and L5302 (site entrance at Croughta). All traffic will approach the site entrance along L5302 from the east. Regional road R580 may also be used as a haul route.

2.8.2. The two turbine delivery route options considered are as follow:

- TDR Option 1: From Foynes, Limerick via the N69, N18, M20, N20, before continuing along the L5523 and west along the L5302 to the proposed site entrance.
- TDR Option 2: From Ringaskiddy, Cork via the N28, N40, N8, R635, N20, L1200 and west along the L5302 to the proposed site entrance.

2.8.3. The temporary accommodating works along the TDR option routes involve minor hardcore surfacing and vegetation removal and localised enabling and/or widening works as per Table 16.9 and 16.10 and EIAR Appendix 16.1.

2.8.4. Planning permission has not been sought for any temporary accommodating works along the TDR.

2.9. Operation

2.9.1. The proposed wind farm will operate 24 hours per day, 7 days per week. The proposed development would be monitored remotely with routine maintenance carried out. The expected lifespan for the proposed Wind Farm is approximately 35 years. Access to the wind farm site will be restricted to the turbine operator, associated service teams and the farmer only.

2.10. Decommissioning

2.10.1. At the end of the operational lifespan, the proposed development will be decommissioned. This will involve the complete removal of above ground components including parts of foundations which projects above ground. The remainder of foundations, hardstands and crane pads will be covered by soils and reseeded or left to re-vegetate. Underground cabling will be cut back and recycled. Access track will be left in situ. Onsite substation and GCR to Mallow 110kV substation are permanent and will not be decommissioned (RFI Appendix 24.1) Decommissioning is estimated to take 2 months to complete.

3.0 Planning Authority Decision

3.1. Decision

3.1.1. A notification of the decision to grant planning permission was issued by Cork County Council by Order dated 22nd May 2025 with 71 no. conditions attached. Refer to Section 7.7 below for an overview of the conditions.

3.2. Planning Authority Reports

3.2.1. There are two **Planner's Reports** by the Area (Executive) Planner and two reports by the Senior Executive Planner on file which inform the decision, and these are summarised below.

3.2.2. Planner's Reports make reference to technical reports from Council departments and to reports by Cork County Council commissioned reports by external consultants, as follows:

- O'Challaghan Moran & Associates (OCM) - 1st Report (dated 02/10/24) on EIAR Chapter 9 Hydrology and hydrogeology and Chapter 10 Soils and Geology and the CEMP, and 2nd Report (dated 19/05/25) on FI submissions Item 2.
- Malone O'Regan Environmental (MOR) – Report (dated 21/05/25) providing 'Acoustic Peer Review of Responses to Further Information Items 10, 11 and 12'.

3.2.3. **Planners' Report, 1st Report** (dated 02/10/24, Executive Planner & 03/10/24, Senior Executive Planner) – Recommend Further Information and the 24 RFI items listed in the final recommendation pertains to the matters summarised below:

- Wind Energy Strategy Map in the County Development Plan 2022: The proposed wind farm site is located in an area where wind farms are Open for Consideration. Part of the grid connection route located within an area identified as Normally Discourage.
- Principle: The nature of the proposed development is supported in principle, having regard to the policy context at all levels in respect of progressing

renewable energy and onshore wind farm projects. Conclude that there are some concerns with regard to the potential impacts of the proposed development and those issues are included in the further information.

- Adequacy of the EIAR: EIAR considered to provide an adequate assessment of the project and meets legislative requirements. Further information required in order for the planning authority to reach a reasoned conclusion on the significant effects on the environment as a result of the proposed development.
- Population and human health: Derelict dwellings should be added to sensitive receptors list.
- Ecology: References to Council's Ecologist Report and clarification sought on hedgerow loss and bats.
- Ornithology: Reference to Council's Ecologist Report and clarification sought on breeding survey for nocturnal species, transect surveys and habitat enhancement plans.
- Hydrology and hydrogeology: Reference to the no objection by Council's Environmental officer. Clarification sought on Uisce Éireann assets. Reference to commissioned OCM Report which states that the risk posed by the construction and operation of the proposed development has been comprehensively addressed and mitigation measures included. Further information required on karst environment at T1 and T5 and risk to groundwater. Reference to further information requested by Council's Area Engineer on flood risk along GCR.
- Land, Soils and Geology: Reference OCM Report and further information sought on karst environment at T1 and T5. Monitoring of large scale soil and subsoil stripping during the initial construction phase of the wind farm site recommended.
- Material Assets: Clarification on the agreement with Vodaphone requested.
- Shadow Flicker: Reference to CDP Objectives RP-30 and HE16-19 and request for the inclusion of derelict buildings in the assessment.

- Noise and Vibration: Reference to report by Council's Environmental Officer and request for further information including scaled map showing sensitive receptors, dwellings involved, and tonality/impulsivity assessment.
- Landscape and Visual: Change in landscape character when viewed from more exposed locations noted. Reference is made to distance to sensitive receptors, population centres and transport routes, and national guidelines including upcoming national guidelines. Considers that the proposed development can be given further consideration with regard to landscape and visual impact. Reference to request for derelict dwellings to be included in sensitive receptors list.
- Archaeology and Cultural Heritage: Reference to Archaeologist report and recommended conditions therein.
- Traffic and Transport: Reference to responses received by TII, NM20 Project Coordinator and the NRO, and to the further information request by the Area Engineer.
- Air Quality, Climate Change, and Interactions and Cumulative: No issues raised.
- Mitigation Measures: Comprehensive summary table noted, and note further information request.
- Appropriate Assessment (AA): Reference to the AA carried out by the Council's Ecologist. The Ecologist is noted to be satisfied that, due to the distance and limited use of the site by whooper swans, the proposed development will not significantly impact the Kilcolman Bog SPA or its SCIs in terms of their conservation objectives. In terms of Blackwater River (Cork/Waterford) SAC, the Ecologist is satisfied that no direct damage, loss or alterations to the habitats will occur and that with embedded measures that there will be no impacts to water quality, the quality of the qualifying habitats, supporting habitats for QI species. The Ecologist refers to the OCM Report and further information request on karst environment and potential water quality impact. Requests an amended NIS to include assessment of potential disturbance of ex-situ otters at GCR crossing of South Caherduggan stream.

- Equine Impacts: Reference to the concerns raised by the Veterinary Officer and observations. In the absence of any Irish guidance, the planner notes separation distances in the British Horse Society, Advice on Wind Turbines and Horses – Guidance for Planners and Developers' 2015. Requests further information on the potential impact on the adjoining equine business and mitigation measures.
- Decommissioning Phase: Requests the submission of an outline Decommissioning and Restoration Plan.
- Grid Connection: Sufficient information within the EIAR and NIS to enable the planning authority to undertake a cumulative impact assessment.
- Turbine Delivery Route: Submissions by TII and Area Engineer noted.

3.2.4. **Planners' Report – 2nd**, (dated 21/05/25, Executive Planner & 21/05/25, Senior Executive Planner) recommendation of grant subject to conditions.

- Item 1 – NM20: Reference to response from Cork NRO and recommended conditions.
- Item 2 – Karst Environment: Reference to OCM FI Report, which considered the additional information satisfactorily. The submitted information confirmed that potential karst anomalies were associated with non-karst features.
- Item 3 - Appropriate Assessment: Reference to Council's Ecologist 2nd Report on the findings of the otter survey and satisfied that the proposed development will not lead to adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC (site code: 2170), in view of its conservation objectives, provided that the mitigations in the submitted revised Natura Impact Statement and the proposed surface water management design are adhered to.
- Item 4 – Bats: Reference to Council's Ecologist 2nd Report. All appropriate bat surveys have been conducted, satisfied that there will be no interference of roosting bats along grid connection route, satisfied that the location of a transitional roost site relative to T9 will not lead to direct impacts on foraging brown long-eared bats and accepts a relocation of T7 is not viable but recommends a condition relocating T5 20m to the north.

- Item 5 – Birds: Reference to Council's Ecologist 2nd Report, outlining that whooper swans tend to avoid wind farm installations and as there are no other wind farms within 8km of the proposed site, and taking into account that no whooper swans were recorded in the hinterland surveys, satisfied that any barrier effect caused by this wind farm will be minimal and it is unlikely to cause significant impacts on the condition or ecological requirements of whooper swans. Satisfied that enhancement measures and the predicted benefits outweigh the risk of collisions. Monitoring condition recommended.
- Item 6 & 7 – Hedgerows/treelines: Ambiguity with regard to access tracks and removal of hedgerows noted. Reference to Council's Ecologist 2nd Report, satisfied that sufficient connectivity will be retained on site for commuting and foraging bats albeit via alternative routes. Conditions relating to hedgerow retention in specific locations recommended.
- Items 8 & 19 – Landowners: Relevant landholding relating to habitat enhancement and grid connection confirmed. Condition recommended by Ecologist.
- Item 9 – Sensitive receptors: Note that the applicant's sensitive receptor list remains unaltered and that dwellings considered uninhabitable or ruinous have not been included. Reference to two derelict/unoccupied dwellings within farm complexes located just within the 500m buffer zone of the proposed wind turbines, and outlines that these appear to have potential to be renovated and consider that "mitigation measures are warranted in the event these properties are re-used within the lifetime" of the proposed development. Recommend conditions to control noise and shadow flicker to address such a scenario.
- Items 10, 11 & 12 – Noise: Reference MOR Report, considers the submission thorough and meets industry best practice. Recommend conditions addressing noise effects on two uninhabited properties (see Item 9 above), and mitigation plan. MOR Report considers that the information provided within the response and original EIAR based on the turbine type is adequate. The commitment by the applicant to carry out tonal analysis and assessment during the commissioning stage is noted. MOR Report concludes that noise associated with the proposed development can be controlled by suitable worded conditions for sound power

levels of turbines, turbine type and size, sound pressure levels at sensitive receptors, tonality and impulsivity. Reference conditions recommended by Council's Environmental Officer.

- Item 13 – Telecommunications: Satisfied with applicant's response.
- Items 14 & 15 – Sightline and auto track drawings: Reference to Area Engineer's report which finds the applicant's response acceptable. Notes reinstated hedgerow shall not interfere with sightlines.
- Item 16 – Turbine delivery route: Reference to Area Engineer's report which finds the applicant's response acceptable. Note that a bond is required.
- Item 17 – Haul route bridges: Reference to the Area Engineer's report which finds the applicant's response acceptable. Reference to responses by TII, Cork NRO and Iarnród Éireann.
- Item 18 – Flood risk zone (grid connection): Reference to Area Engineer's report, which finds the applicant's response acceptable and conditions recommended.
- Item 20 – Substation: Satisfied with applicant's response.
- Item 21 – Viewpoints: Satisfied with applicant's response
- Item 22 – Equine interest: Note the objection by the Veterinary Officer, 2nd Report. Reference to the conclusion by the applicant's submission in relation to BHS guidelines and no significant long-term adverse impacts on equine welfare or issues arising for staff working with horses. Note that there is a lack of clear guidance at national level in regard to impact equine interests and that the matter is not referenced in the 2006 Guidelines or the Draft 2019 Guidelines, and refer to the absence of any peer reviewed studies which indicate that wind farms have a negative impact on bloodstock, livestock or agriculture. Further note that this issue has been raised in previous ABP cases, where it was concluded that there was a lack of conclusive evidence that wind turbines pose a threat to the welfare of horses or livestock.
- Item 23 – Note no objection and conditions recommended by Uisce Eireann.
- Item 24 - An outline Decommissioning and Restoration report submitted. Notes that a minimum level of decommissioning/ restoration is proposed and that a

number of development components appear to be permanent and not temporary. Recommend a revised comprehensive Decommissioning and Restoration report with associated plans which fully restores the site in a sustainable manner is conditioned.

- RFI: Satisfied that all matter has been addressed and conditions noted.
- Adequacy of the EIAR: Satisfied that the EIAR, with relevant amendments and clarifications, describes the effects of the proposed development on the environment and, taking account of mitigation measures, those effects are considered acceptable.
- Conclusion: Conclude all outstanding issues addressed and with particular regard to the strategic planning context of the proposed development, recommends grant subject to conditions.
- Development contribution: None applicable to wind energy development in Cork County Council. The substation is noted as temporary and no development contributions apply.

3.2.5. Other Technical Reports by Cork County Council departments and officers are summarised in Table 3.1 below.

Table 3.1 Summary of technical reports from Cork County Council departments.

Ecologist	
1st Report (02/10/24)	Recommends further information. AA: • Blackwater River SAC: Refer to further information request on karst environment, and for these to be addressed to rule out potential structural impacts may lead to soil movements and impacts on groundwaters and watercourses. No information submitted on potential ex-situ otter effects at the GCR crossing of South Caherduggan stream. • Kilcolman Bog SPA: Satisfied that, due to the distance and limited use of the site by whooper swans, the proposed development will not significantly impact the SPA or its SCIs in terms of their conservation objectives.

	• Satisfied that no other EU designated site could be impacted by the proposed development due to the lack of any hydrological or other ecological connectivity to same. • Amended NIS requested. EIAR: • Bats: Static bat surveys not conducted in spring. Preliminary roost bats survey of Ballyviniter Road railway bridge required. Consider scope for relocating T5 and T7 with regard to maintaining hedgerow. • Birds: Specify why nocturnal migration surveys were not conducted. Clarification why no transect surveys conducted at T1, T2, T3, and T4. Assess enhancement measures of pond within the site and increased collision risk. • Hedgerows: Hedgerow to north of T2, scope for alternatives/methods to reduce permanent impacts to this mature boundary and submit a hedgerow appraisal of this boundary. All hedgerow/treelines to be removed have not been submitted.
2nd Report (21/05/25)	No objection subject to conditions. • Item 3 – AA: Satisfied, beyond reasonable scientific doubt, that the proposed development will not lead to adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC (site code: 2170), in view of its conservation objectives, provided that the mitigations in the submitted revised NIS and the proposed surface water management design are adhered to. • Item 4 - Bats: Considers all appropriate bat surveys to have been conducted. Relocation of T5 to be condition. Satisfied the location of T9 will not lead to direct impacts on foraging brown long-eared bats and of the opinion a derogation licence is not required. Satisfied there will be no interference of roosting bats as a result of GCR installation. • Item 5 – Birds: Satisfied that any barrier effect will be minimal and it is unlikely to cause significant impacts on the condition

	or ecological requirements of whooper swans. Monitoring recommended. Satisfied that enhancement measures and the predicted benefits outweigh the risk of collisions. • Item 6 – Hedgerows: Satisfied that there will still be sufficient connectivity onsite to allow for the continued commuting and foraging of bats in area. A maximum 10m wide gap north of T2 to be conditioned. Still ambiguity in regard to access tracks and hedgerow removal, and conditions recommended to prevent and/or maintain hedgerow loss. • Item 24 – Decommissioning/restoration: Condition restoration of temporary access tracks. • Recommended conditions included as Conditions 6 to 21 of the Planning authority's decision (see Section 7.7 below).
Archaeologist	
1st Report (18/09/24)	No objection subject to conditions. • No recorded archaeological monuments within site, Zone of Notification of adjacent SMR/RMP intersects with the site. • A robust protective buffer zone will be required to be established prior to construction, specifically for RMP CO024-219 (Feature 83 on Figure 15.9, EIAR), RMP CO024-033 (Feature 60), RMP CO024-237: Ring-ditch (Feature 89) and RMP CO024-034 fulacht fiadh (Feature 61). • All monuments should be added to the CEMP. • Mitigation measures relating to advance test trenching, historic farm buildings/structures, historic field boundaries, programme of archaeological monitoring to be conditioned.
2nd Report (12/05/25)	Recommendation as per report dated 18/09/24.
Environment Report (Water quality)	
1st Report (24/09/24)	No objections subject to conditions: • Concludes that the applicant has submitted detailed proposals to protect water quality during construction and operation.

	• Conditions include submission of updated CEMP and measures to protect water quality, drainage measures and monitoring of watercourses.
2nd Report (22/04/25)	No objections subject to conditions as per report dated 24/09/24.
Environment Report (Noise, Vibration and Air Quality)	
1st Report (01/10/24)	Recommends further information. • A suitably scaled map showing the location of all noise sensitive receptors. • Clarification on measures to address the impact of the final choice of turbine if this is different from the candidate turbine. • Clarification on any assessment of operational tonality/impulsivity undertaken, and any changes in the overall predicted cumulative noise levels at noise sensitive receptors arising from such an assessment.
2nd Report (21/05/25)	No object subject to conditions. • Notes the recommended conditions by MOR FI Report. • Additional conditions relate to noise compliance monitoring programme, odour or dust nuisance, Construction/Decommissioning Dust and Noise Management Plan, Community Liaison Officer.
Environment Report	
1st Report (02/10/24)	No objection subject to conditions. • Conditions include environmental pollution protection measures applicable to construction and decommissioning phases and waste prevention and management measures.
2nd Report (17/04/25)	No objection subject to conditions as per report dated 02/10/24.
Veterinary Department	
1st Report (30/09/24)	Recommends refusal. • Proposed wind turbines present an adverse risk to equine holdings in the locality, in particular thorough-bred enterprise within adjoining land holding.

	• Blade movement, shadow flicker and noise effect of large turbines have the potential to result in significant risk to the safety of horses and personnel. • The proposed development is directly adjacent to a thorough-bred racing enterprise and it does not meet the minimum separation distance of three times blade tip height (525m in this instance) from a business with horses as recommended by British Horse Society.
2nd Report (20/05/25)	Recommends refusal. • Reiterates the observations of the 1st report. • Highlights the adjoining equine racing enterprise is a bloodstock enterprise and that thoroughbreds have a highly evolved sensitivity to the environment. • States that there is a significant risk to health and safety from the proposed development.
Roads (Area Engineer)	
1st Report (01/10/24)	Recommends Further Information. • Revised sightline detail. • Turbine delivery autotrack drawing of entrance. • Detailed analysis of turbine delivery route from the N20. • Confirmation of deliveries via R580 and L1319. • Assessment of bridges along delivery routes. • Comments from TII and Irish Rail. • Surface water dealt with and deemed acceptable. • Information of works within flood zones along grid connection route. • Bond calculations for local roads, impact from haulage and cable routes.
2nd Report (21/05/25)	No objection subject to conditions. • RFI Item 14 to 19: Submission acceptable. • Bond calculations as per report dated 01/10/24.

	• Conditions pertaining to the protection and maintenance of the public road network.

3.3. Prescribed Bodies

3.3.1. **Inland Fisheries Ireland (IFI)** (20/08/24) – one report, following observations made:

- No physical interference with natural watercourses without prior consultation with the IFI. Instream works to take place between July to September.
- Measures to prevent discharges of polluting matters such as cement.
- Measures to prevent silt deposition in streams.
- Measures relating to watercourse and stream crossings.
- Measures to prevent increased surface water runoff from hardcore areas.
- Measures for storage of fuels and oils.
- Ground stability to be monitored, and site development works should not result in creation of unstable ground conditions or lead to ground instability.

3.3.2. Department of Housing, Local Government and Heritage (DAU) – two reports:

1st Report (12/09/24) – following observations made:

- Nature Conservation: The grid connection works, route, habitats and assessment appear to be omitted from the EIA.
- The development site is approximately 5km upstream of the Blackwater River (Cork/Waterford) SAC (Site Code: 002170). Potential adverse impacts on the SAC through water quality should be fully assessed and it should be assessed whether or not the project is compatible with the Conservation Objectives for each of the QI habitats and species including Freshwater Pearl Mussel.
- Bats and Hedgerows: Clarification on methodology used as bats survey took place between July-September and not as per the SNH guidance referenced which requires surveys between April to October.
- Majority of turbines are adjacent or close to hedgerows rather than in the middle/centre of area of fields. If they had been placed further away as

outlined design constraint considerations, bat mortalities would be reduced and hedgerows could have been retained.

- Clarification on distance between turbine and building with brown long-eared bat transition roost and whether a Bat Derogation Licence is required.
- Collision risk for bat species has been categorised as high for all turbines apart from T1 in the EIAR. There are lacunae and doubts regarding how many bat fatalities expected and how much would be unacceptable and trigger a change in curtailment strategy and what further curtailment measures that would be.
- Amphibians: Potential effects on common frog and smooth newts should have been assessed.
- Bird nesting season: Recommended that vegetation removal should take place outside of the bird nesting season.
- Ornithology: There are lacunae and doubts regarding how many overall bird fatalities expected and how many fatalities of what species would trigger the need for additional mitigation and what form And detail would such possible mitigation take and is it proven to be effective.
- Clarification on what surveys for nocturnal species and night migration/commuting species were carried out.

2nd Report (30/04/25) – following observations made:

- Repeats a number of observations from the previous report.
- Exact distance between T9 and building with brown long-eared bat transition roost, and confirmation whether Bat Derogation License is required.
- FI confirms that no nocturnal migration surveys were conducted. Notes that the absence of evidence is not evidence of absence and that a lack of desktop information available could apply even to important routes.
- Given the amount of bat activity within the site, it is very important to avoid creating unnecessary gaps in corridor/commuting habitat, a gap as little as 10m can cause desertion.
- FI offer to move T5 20m to the north would reduce further biodiversity loss.

- FI confirms that hedgerow assessment was conducted in the winter season which meant that annual plants had died back making identification difficult/impossible, and the applicant has not clarified if this affects the cumulative scores.
- FI states that as hedgerow is likely to develop into a treeline given the lack of proper management and loose its functionality. This is a presumption and does not lower a hedgerows current value or mitigate biodiversity loss.

3.3.3. **Department of Agriculture, Food and the Marine** (03/09/24) – one report, following observations made:

- Felling license required for any trees to be felled/removed.
- Reference to the Feeling and Reforestation Policy document.
- Any EIAR and/or NIS should include an assessment of the impact of and measures, as appropriate, to prevent, mitigate or compensate for any significant adverse effects direct or indirect identified on the environment arising from such felling and replanting of trees.

3.3.4. **HSE National Environmental Health Service** (13/09/24) – one report, following observations made:

- Satisfied that the EIAR provides an adequate description of the proposed project.
- Emphasis the need for continued engagement with the public through to decommissioning. The local community should have access to feedback mechanism.
- Hydrology and Hydrogeology: Recommends that the mitigation actions described under sections 9.6.2, 9.6.3 and 9.6.4 of the EIAR are implemented to protect surface and groundwater, and should be incorporated into the CEMP.
- Lands, Soils and Geology: Recommends that the mitigation actions described under section 10.5 of the EIAR are adopted to minimise the potential for likely significant effects in the area. CEMP will be central to the delivery of

mitigation, and the use of drought resistant vegetation as a dust control mechanism for stockpiles should be considered.

- Shadow flicker: Recommends that a shadow flicker control system as described in section 12.9 of the EIAR is conditioned.
- Noise and Vibration: Recommends the adoption of the noise mitigation measures including turbine curtailment strategy as listed under section 13.10 of the EIAR are included as a condition.
- Air Quality (including dust): Recommends mitigation measures described under section 17.6 of the EIAR are conditioned. Recommends the use of vegetation to control dust from stockpiles and to monitor dust deposits at or next to the nearest sensitive receptors.
- Climate Change: Chapter 18 does not address adaptions for all phases of the proposed development. The proposed development could benefit from a Climate Change Risk Assessment and recommends potential hazards (including severe weather), exposure levels and vulnerability are examined and predictive modelling in excess of 35 years from now is included. A range of measures to build resilience to climate change to be incorporated.
- Recommends that overall the proposed development looks to deliver infrastructure that is at minimum, carbon neutral.
- Recommends that mitigation measures under section 18.7.1 of the EIAR are conditioned to minimise the cumulative impact of emissions. Key measures include sustainable procurement, use of zero or low emission vehicles and plant and support active travel for staff where possible.

3.3.5. **HSE South Emergency Management Health** (27/08/24) – one report, following observations made:

- No observations to make with respect of the application. Outlines recommendations within the context of site operations should an incident occur and emergency services assistance be required.

3.3.6. **Transport Infrastructure Ireland (TII)** (02/09/24) – one report, following observations made:

- Interactions with the national roads network noted including crossing of N20/N72; interactions with future M20 and N72/73 Mallow road; and temporary accommodating works to N69/N18/N/M20/N28/N40/N27/N/M8.
- Consultation, prior to any decision, with N/M20 Project Office and Cork national Road Design Office regarding M20 and N72/73 Mallow road relief scheme.
- Proposed crossing of N72 and N20 shall be by HDD and subject to prior to commencement approval of full proposals by the road authority in consultation with TII.
- Notes that abnormal route options are assessed in the EIAR and that a full assessment of the national road network including national road structures along the haul is critical.
- Revised Construction Traffic Management Plan is required. To demonstrate compliance of proposed temporary works to the national road network; that national road structures have been assessed and these shall not be adversely affected; details of consultation; and mitigation measures.

3.3.7. **N/M20 Cork to Limerick (09/09/24)** – one report, following observations made:

- No observations to make in relation to the application in respect of the N/M20 Cork to Limerick project.

3.3.8. **Cork National Roads Office** – two reports, following observations made:

- 1st report (02/10/24): application is considered premature as the final line and level for the N72/N73 Mallow Relief Road has not been determined as of yet.
- 2nd report (19/05/25): recommends conditions.

3.3.9. **Iarnród Éireann (26/08/24)** – one report, following observations made:

- The route of the proposed 38kV cable will cross the Dublin to Cork Railway Line, under the public road at underbridge No UBC331.
- Any works on or near the railway to ensure that there is no increase in risk to the railway as a consequence of these works.

- Condition that it will be necessary prior to commencement of works for the applicant to apply to Iarnród Éireann for separate licence agreement.

3.3.10. **Uisce Éireann** – two reports:

1st Report (09/09/24) – recommends further information:

- Records indicate there is an existing 3 inch water pipe within the public road at Knockaunavaddereen, and a 400mm and 315 mm water main within the public road between the L12707, L5320 and the junction of the L1220 roads.
- Feasibility of build over and/or diversion in consultation with Uisce Éireann's Diversion team required, or submission of revised plans/layouts indicating separation distance as per Uisce Éireann's Standards and Code of Practice have been achieved.

2nd report (25/04/25) – recommends the following conditions:

- Standard Uisce Éireann conditions relating to Connection Agreement(s), Standard Details and Codes of Practice, and Confirmation of Feasibility of Diversion(s), where applicable.

3.3.11. **Gas Networks Ireland** (11/09/24) – one report, following observations made:

- Gas Transmission Pipeline identified in the general area and the applicability of Gas Networks Ireland Wayleaves.
- Aurora telecom Ducts identified within the public road.

3.3.12. **Irish Aviation Authority (IAA)** (27/08/24) – one report, following condition recommended:

- Aeronautical warning light scheme, provision of as-constructed coordinates and notification of crane operations to be conditioned.

3.3.13. **Department of Defence** (22/08/24) – one report, following condition recommended:

- Obstacle lighting specifications provided, applicable to all turbines.

3.4. Third Party Observations

3.4.1. The planning authority received some 248 no. third party submissions on the original application, and a summary of these are included in the Planner's Primary Report

(Appendix A). Correspondence from Cllr Michael Moynihan (dated 30th August 2024) requesting to be kept informed is also noted.

3.4.2. The issues raised in these submissions are generally reflected in the issues raised in the third party appeal and observations received by the Commission (summarised in Sections 6.1 and 6.4 below).

3.4.3. Further Information received was deemed to not be significant by the Planning Authority and therefore, no further third party submissions were invited.

4.0 Planning History

Table 4.1 Relevant Planning History

Subject Site	None recorded.
Other renewable energy developments	None recorded in the vicinity of the proposed wind farm site. Within 5km: • 22/5174: Amendment to permitted Solar Farm (5MW) under reg. ref. 15/7003 (ext. 21/4498) at Gortnagross, Mallow. Approximately 4.6km southeast of the proposed wind farm site.
Other relevant developments within the vicinity (wind farm site)	Recent planning history for new developments in the vicinity of the proposed wind farm site: • 25/5554: Permission granted (September 2025), to construct a dwelling at Boherascrub West. • 24/6015: Permission granted (March 2025), to construct a dwelling at Lisleagh, Ballyclough. • 24/4965: Permission granted (July 2024), to construct agricultural buildings at Groine, Croughta, Ballyclough. • 23/5263: Permission granted (December 2023), new hurling wall and pitches at Ballyclough GAA Grounds, Lisleagh. • 23/4900: Outline permission refused (July 2023), to construction a dwelling at Derryorgan, Ballyclough. • 22/6517: Permission granted (January 2023), to construction a dwelling at Lisleagh, Ballyclough.

	• 22/5310: Permission granted (July 2022) to construct an agricultural building at Derryorgan, Ballyclough. • 22/5215: Permission granted (July 2022) to construct a dwelling at Farrancotter. • 22/4715: Permission granted (July 2022) to construct a dwelling at Kilgilky South, Cecilstown. • 21/7298: Permission granted (July 2022) to demolish existing dwelling and construct a dwelling at Scart. • 21/6575: Permission refused (February 2022), to construct a dwelling at Curraglass, Lisgriffin. • 21/6068: Permission granted (April 2022) to construct a dwelling at Ballycushen Td., Ballyclough. • 21/5065: Permission granted (June 2021) to construct agricultural buildings at Boherascrub West, Buttevant • 307697 (19/5802): Permission granted (March 2022) for extension to limestone quarry at Scart, Ballyclough and Kilgilky South, Cecilstown.
Other relevant developments within the vicinity (GCR)	Recent planning history for new developments and/or changes to road frontage along the Grid Connection Route: • 24/5762: Split Decision (November 2024), portacabin and associated works at ESB 110kV Substation, St. Josephs Road, Carrigoon beg, Mallow, • 24/5631: Permission granted (August 2025) to construct a dwelling at Copsetown, Mallow. • 23/5118: Outline permission refused (September 2023) to construct a dwelling at Curraghphadeen, Mallow. • 23/4699: Permission granted (July 2023), to construct agricultural building and outdoor sand arena at Cloghlucas North, Mallow.

	• 23/4622: Permission granted (May 2023), to construct agricultural buildings and farm entrance at Baltydaniel East, Newtwopothouse. • 23/4581: Retention and planning permission granted (June 2023) for agricultural buildings at Baltydaniel East, Mallow. • 22/6870: Permission granted (November 2023) to demolish existing light industrial units and to construct industrial/warehouse distribution building and 25/4854, permission granted (November 2025) to construct a new loading dock extension onto existing industrial/warehouse distribution building at Masterlink Logistics Limited, Newtwopothouse. • 21/6326: Permission granted (October 2021), to construct a livestock underpass and associated development at Knockaunavaddreen, Ballyclough, Mallow, Co. Cork.

5.0 Policy Context

5.1. European and National Policy, Legislation and Guidance

Table 5.1 European and National Policy, Legislation and Guidance

RED III (European Renewable Energy Directive (EU/2023/2413))
RED III raised the overall renewable energy target from 32% to at least 42.5% at EU level by 2030, but it is aiming for 45%. This means almost doubling the existing share of renewable energy in the EU. The revised Directive sets out measures to further streamline administrative permitting and granting procedures for renewable energy developments including connection to the grid. RED III was transposed into Irish legislation, S.I. 274 of 2025 (as amended).
European Wind Power Action Plan
The RED III renewable target of at least 42.5% by 2030 will require the installed capacity to grow from 204GW (2022) to more than 500 GW by 2030. The plan identifies six pillars of concerted action including acceleration of deployment through increased predictability and faster permitting, improved auction design, access to finance, creating a fair and

competitive international environment, skills and industry engagement and Member State commitments.

REPowerEU Plan 2022 and Directive EU 2018/2001 (as amended 18/05/2022)

This plan was prepared in response to the Russian invasion of Ukraine and focuses on the need to end the EU's dependence on Russian fossil fuels and to tackle the climate crisis. The plan amends the Directive on the Promotion of the Use of Energy from Renewable Sources (Directive EU 2018/2001) to require that 45% of energy is from renewable sources and includes the accelerated rollout of renewable energy.

European Green Deal 2020

The aim of this policy is to make Europe climate neutral by 2050. In 2021, the European Climate Law made greenhouse gas emission targets a legal obligation. These targets were increased from 40% to 55% by 2030.

Directive 2019/944 and Regulations EU 2019/941

There is an obligation on each Member State to monitor the security of electricity supply within their territory over the medium to long-term and each member state is entitled to set and monitor the level of security of supply deemed appropriate for its own needs.

Climate Action Plan (CAP) 2024 and CAP 2025

The purpose of the CAP is to lay out a roadmap to deliver on Irelands climate ambition, of 51% reduction in GHG emissions from 2021-2030 and net-zero emissions by 2050. The CAP aligns with the legally binding economy-wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022. CAP 2025 builds upon CAP 2024 by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and it should be read in conjunction with CAP 2024. The Key Target for Onshore Wind is to achieve 6GW by 2025 and 9GW by 2030.

Climate Action and Low Carbon Development Act, 2015, as amended

The Act commits Ireland to the objective of becoming a carbon-neutral economy by 2050, reducing emissions by 51% by the end of the decade. Section 17 of the Climate Action and Low Carbon Development (Amendment) Act, 2021 amends the principal act such that Section 15(1) requires:

"A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—

(a) the most recent approved climate action plan,

(b) the most recent approved national long term climate action strategy, *(c) the most recent approved national adaptation framework and approved sectoral adaptation plans,* *(d) the furtherance of the national climate objective, and* *(e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.''* "Relevant body" means a prescribed body or a public body
Energy Security in Ireland to 2030, Energy Security Package (November 2023)
Confirms that Irelands future energy will be secured by moving to an electricity-led system maximising our renewable energy potential.
National Energy Security Framework (April 2022)
Sets out the Governments response to the impacts of the war in Ukraine. It coordinates energy security work across the electricity, gas and oil sectors. Under 7.2, the Framework notes that prioritising renewables is in line with the requirements of the recast Renewable Energy Directive and the EC REPowerEU action statement.
Policy Statement on Security of Electricity Supply (November 2021).
This Statement sets out that ensuring energy security is a national priority, as the electricity system decarbonises towards net zero emissions.
Long-Term Strategy on Greenhouse Gas Emissions Reductions (April 2023)
The Strategy sets out that the transition to a climate neutral future, the pathway to decarbonisation must be underpinned by affordability and security in how we access and use energy. In the short-term, capacity shortfalls in the electricity system needs to be addressed and ensure adequate conventional generation is in place to support the elevated levels of renewable electricity being generated.
National Climate and Energy Plan 2021-2030 (NCEP)
Ireland's target to reduce greenhouse gas emissions increased from 40% to 55% by 2030. It refers to reaching 70% of energy from renewables by 2030, underpinned by the Renewable Energy Support Scheme. Energy security is a key priority.
National Planning Framework (NPF) First Revision (April 2025)
National Strategic Outcome 8 Transition to a Carbon Neutral and Climate Resilient Society: sets out that for Ireland to meet its climate targets, reduce its greenhouse gas

emissions, and improve its energy security by reducing reliance on imported fossil fuels and diversifying its electricity supply, an accelerated delivery of additional renewable electricity generation is essential to deliver 80% of Ireland's electricity needs from renewable sources by 2030. The need to develop enabling infrastructure including reinforce the distribution and transmission network to facilitate planned growth is recognised. Along with geographical focused renewables investments to minimise the amount of additional grid investment required, for example through co-location of renewables and grid connections.

National Policy Objective (NPO) 70: Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a climate neutral economy by 2050.

NPO 71: Support the development and upgrading of the national electricity grid infrastructure, including supporting the delivery of renewable electricity generating development.

NPO 72: Support an all-island approach to the delivery of renewable electricity through interconnection of the transmission grid.

NPO 73: Support the co-location of renewable technologies with other supporting technologies and complementary land uses, including agriculture, amenity, forestry and opportunities to enhance biodiversity and promote heritage assets, at appropriate locations which are determined based upon the best available scientific evidence in line with EU and national legislative frameworks.

NPO 74: Each Regional Assembly must plan, through their Regional Spatial and Economic Strategy, for the delivery of the regional renewable electricity capacity allocations indicated for onshore wind and solar reflected in Table 9.1, and identify allocations for each of the local authorities, based on the best available scientific evidence and in accordance with legislative requirements, in order to meet the overall national target.

Table 9.1: Additional Renewable Power Capacity Allocations for the Southern Region is 978MW for onshore wind by 2030 and 3,302MW for solar. The total national share for the region in 2030 is 40% of onshore wind and 43% of solar.

NPO 75: Local Authorities shall plan for the delivery of Target Power Capacity (MW) allocations consistent with the relevant Regional Spatial and Economic Strategy, through their City and County Development Plans.

National Development Plan 2021-2030 (NDP)
The NDP sets out investment priorities underpinning the implementation of the NPF and Chapter 13 deals with NSO 8 Transition to a Climate-Neutral and Climate Resilient Society. Public capital investment choices must contribute to a 51% reduction in greenhouse gas emissions by 2030 and lay the pathway to achieve net-zero greenhouse gas emissions by 2050. This will require grid-scale renewable electricity generation and storage, supported by significant expansion and strengthening of the electricity transmission and distribution grid onshore and offshore.
National Biodiversity Action Plan 2023 – 2030 (NBAP)
The NBAP has a list of Objectives which promotes biodiversity as follows, Objective 1 Adopt a whole of government, whole of society approach to biodiversity; Objective 2 Meet urgent conservation and restoration needs; Objective 3 Secure nature's contribution to people; Objective 4 Enhance the evidence base for action on biodiversity; Objective 5 Strengthen Irelands contribution to international biodiversity initiatives. The Wildlife (Amendment) Act 2023 provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan.
National Landscape Strategy for Ireland 2015-2025
The Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. The Strategy is a policy framework which will inform and assist in the resolution of challenges arising from competing priorities when dealing with the landscape, and assist in the achievement of greater consistency in decision making. The Strategy will inform and assist in the resolution of challenges arising from competing priorities in the landscape, for example: infrastructural provision versus landscape protection, or local versus national objectives.
Wind Energy Development Guidelines - Guidelines for Planning Authorities (2006)
The 2006 Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area and it provides advice in relation to the information that should be submitted with planning applications. The impacts on residential amenity, the environment, nature conservation, birds and the landscape should be addressed. The guidelines provide guidance on siting and design within the landscape, and identifies six landscape character type. The guidelines notes that it is common for wind farms to be

located in one landscape character type but be visible from another, and that the entire visual unit should be considered.
Draft Wind Energy Development Guidelines (2019)
The 2019 Draft Guidelines propose several key amendments to the original document in relation to noise, visual amenity, shadow flicker and community engagement. The advice relating to siting, design and landscape are largely the same as the 2006 Guidelines. These guidelines emphasis that wind turbines in order to optimise wind resources are often located in elevated exposed locations, and that given their size and appearance wind turbines will be prominent within the landscape. It is stated that wind turbines cannot be "hidden", and that the most effective way of minimising landscape and visual impacts are through site selection, turbine type and positioning and layout. Underground grid connection is noted as the preferred and default approach, and considered to be the most appropriate environmental and/or engineering solution, particularly in sensitive landscapes where the visual impacts need to be minimised.
Electricity Transmission Infrastructure Development, Roads Sector Engagement Framework & Interim Guidance (February 2025)
Establishing effective and efficient ways of working together to deliver on CAP 24. Recognising the unique challenges presented by the accommodation of transmission network infrastructure in public roads. The Interim Guidance has been developed to assist in the delivery of the grid infrastructure rollout by the energy sector while also seeking to mitigate impact and ensure the continued proper management of the road network. Its purpose is to assist Road (Local) Authorities, in their role licensing road openings or making submissions to Planning Authorities, regarding the proposed placement of Medium or High Voltage electricity assets, including ducts, cables and associated infrastructure under public roads.

5.2. Regional and Local Planning Policy

5.2.1. Regional Spatial and Economic Strategy for the Southern Region 2020-32 (RSES)

Table 5.2 Summary of relevant sections and objectives of the RSES

Regional Spatial Economic Strategy for the Southern Region 2020-32
• The RSES seeks to support the delivery of the programme for change set out in Project Ireland 2040, the NPF and the NDP, and to ensure coordination

between the City & County Development Plans and Local Enterprise & Community Plans.

- The RSES seeks to facilitate the sustainable development of additional electricity generation capacity throughout the region and to support the sustainable expansion of the transmission network.
- The RSES acknowledges climate change as the most important long term challenge facing Ireland and states that the Regional Assembly is committed to implementing regional policy consistent with the CAP.
- RSES recognises and supports the many opportunities for wind as a major source of renewable energy and recognises that wind energy technology has an important role in delivering value and clean electricity for Ireland.
- Regional Policy Objectives (RPOs) of relevance are:
    - RPO 50 Diversification, RPO 56 Low Carbon Economy, RPO 87 Low Carbon Energy Future, RPO 95 Sustainable Renewable Energy Generation, RPO 96 Integrating Renewable Energy Sources, RPO 98 Regional Renewable Energy Strategy, RPO 99 Renewable Wind Energy, RPO 219 New Energy Infrastructure, RPO 221 Renewable Energy Generation and Transmission Network, and RPO 222 Electricity Infrastructure.

5.2.2. **Cork County Development Plan 2022-2028**

The Cork County Development Plan 2022-2028 (referred to as the CDP hereafter) came into effect in June 2022, and key relevant objectives, sections, figures and appendices are noted below. Relevant sections and objectives of the CDP are summarised in Table 5.3 below.

Table 5.3 Summary of relevant sections and objectives of the Cork County Development Plan 2022-2028

Chapter 13 Energy and Telecommunications
• Section 13.4.4 outlines that energy generation in the county is likely to evolve significantly reflecting move towards a low carbon economy and increased

need for energy from renewable sources, and that the county is well positioned to become self-sufficient in renewable energy and contribute to the achievement of national energy targets outlined above.

- Objective ET 13-1: Energy, to fulfil the county's potential in terms of contributing to the sustainable delivery of a diverse and secure energy supply; to assist in meeting renewable energy targets; and managing overall energy demand (a). A renewable energy strategy for the county to be prepared (b).
- Objective ET 13-2: Renewable Energy, supports Ireland's renewable energy commitments by facilitating the development of renewable energy sources (including wind) at suitable locations and where it has been satisfactorily demonstrated that such development will not have adverse impacts on the surrounding environment (including water quality), landscape, biodiversity or amenities (a). Support and facilitate renewable energy proposals that bring about a direct socio-economic benefit to the local community (b).
- Objective ET 13-4: Wind Energy, seeks to facilitate national targets on renewable energy and climate change mitigation by supporting further development of on-shore wind at appropriate locations in line with the Wind Energy Strategy and CDP objectives on energy, climate change, biodiversity, landscape, heritage, water management and environment etc.
- Objective ET 13-5: Wind Energy Projects, supports a plan led approach and on-shore wind should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration' and generally avoid "Normally Discouraged" areas as well as sites and locations of ecological sensitivity.
- Figure 13.2 Policy Consideration for Wind Energy Projects, the proposed wind farm site is located within a landscape of Medium importance.
- Figure 13.3: Wind Energy Strategy Map, the proposed wind farm site is located within an area "Open for Consideration" and Section 13.6.7 and Objective 13.7 are as such applicable. Parts of the grid connection route is located within "Normally Discouraged".
- Section 13.6.7: Open to Consideration, comprises locations that may have potential for wind farm developments but there are also some environmental

issues to be considered e.g. urban areas, metropolitan/town green belts, and Natural Heritage Areas (NHA's) are not generally considered suitable. Proposals within sensitive catchments requires high design standards in terms of environmental protection measures and must be able to demonstrate that they have been designed to prevent any risk of peat slippage or erosion and to ensure the ongoing protection of water quality and the maintenance of natural hydrological processes. Cumulative effects in terms of landscape and visual impacts and impacts on Natura 2000 sites are a consideration.

- Objective ET 13-7: Open to Consideration, proposals to avoid adverse impacts on residential amenity (noise, shadow flicker and visual impact); Urban areas and Metropolitan/Town Green Belts; Natura 2000 Sites, Natural Heritage Areas (NHA and pNHA) and other sites and locations of significant ecological value; architectural and archaeological heritage; visual quality of the landscape; and consideration of the cumulative impacts.
- Objective ET 13-8: Normally Discouraged, parts of the grid connection route is located within such area.
- Objective ET 13-9: National Wind Energy Guidelines, on-shore wind should be designed and developed in line Wind Energy Guidelines (2006, Draft 2019 and any relevant update).
- Objective ET 13-10: Development in line with Best Practice, to be undertaken in observance with best industry practices, and with full engagement of communities potentially impacted by the development. Requires effective complaints procedure in accordance with Code of Practice 'Good Practice for Wind Energy Development Guidelines 2016' to be put in place.
- Objective ET 13-11: Public Consultation and Community Support, carry out active public consultation (a) and submit a 'Community Report' (b).
- Section 13.7 Development Proposals, assessment criteria for wind energy development includes:
    - Environmental assessments (EIA, AA etc.).
    - Community engagement and participation.

- Grid Connection, including strategic function of national road network.
- Geology and ground conditions, including peat stability.
- Site drainage, water storage and hydrological effects, the hydrological table, flood risk.
- Landscape and visual impact assessment.
- Visual impact of ancillary development.
- Potential impact on natural heritage.
- Potential impact on the built heritage.
- Carbon emissions balance (requires peat extraction).
- Local environmental impacts including noise, shadow flicker, electromagnetic interference, etc.
- Adequacy of local access road network.
- Cumulative effects
- Quarries to be used or borrow pits.
- Waste/surplus material.
- Decommissioning considerations.

- Objective ET13-21: Electricity Network, facilitating infrastructure connections to renewable energy project subject to planning considerations (a), and protection of nature conservation-sites and/or habitats or species of high conservation value (b).

Chapter 17 Climate Action

- Table 17.2 Climate Action Strategy, includes support for the provision of infrastructure for the renewable energy sector, and to facilitate the generation of renewable energy as appropriate.
- Objective CA 17-2, outlines that in order to achieve a reduction in greenhouse gas emissions, an increase in renewable energy production, an increase in energy efficiency and enhanced biodiversity, support the transition to a low carbon, competitive, climate resilient and environmentally sustainable economy

by 2050 through implementation of the polices of this plan that seek to deliver, among others, renewable energy production and reduced energy consumption.

Chapter 2 Core Strategy

- Identifies the site as located within both the North Cork and the Greater Cork Ring Strategic Planning Areas.
- CS-4: Greater Cork Ring Strategic Planning Area and CS-5: North Cork Strategic Planning Area include to facilitate the development of renewable energy projects in support of national climate change objectives, criteria (i) and (g) respectively.

Chapter 5 Rural & Chapter 8 Economic Development

- Section 8.21 Renewable Energy, outlines that renewable energy projects can contribute to the diversification of the rural economy and benefit local communities and supports the provision of appropriate renewable energy proposals in accordance with the provisions of the CPD, in particular Chapter 13.

Chapter 11 Water Management

- Objective WM 11-1: EU Water Framework Directive and the River Basin Management Plan
- Objective WM 11-2: Surface Water Protection
- Objective WM 11-3: Groundwater Protection
- Objective WM 11-10: Surface Water, SuDS and Water Sensitive Urban Design

Chapter 12 Transport and Mobility

- Objective TM 12-13: National, Regional and Local Road Network

  a) Support the sustainable development of infrastructure that strengthens the quality of inter-regional connectivity from Cork to Limerick (proposed N/M20 and Rail), and from Cork to Waterford (N25) as identified in the NDP.

  c) Support the following National, Regional and Local Road investment projects as outlined in Project 2040 and the RSES for the Southern Region:

  Key Project 2040 projects: N/M20 Cork to Limerick; and N72/N73 Mallow Relief Road.

Chapter 14 Green Infrastructure and Recreation
• Figure 14-2 High Value Landscapes, the proposed wind farm site is not located within a High Value Landscape. Landscape to the east of Main Street in Buttevant is noted to be a high landscape value, Volume 3 North Cork, Section 2.7.23. • Appendix F Landscape Character Assessment of County Cork, identifies the site as located within the Landscape Character Type (5) Fertile Plain with Moorland Ridge. • Objective GI 14-9: Landscape, assessment criteria include to protect the visual and scenic amenities of built and natural environment (a), a pro-active view of development while protecting the environment and heritage generally in line with the principle of sustainability (b), high standards of siting and design (c), protect skylines and ridgelines (d), discouraging extensive removal of trees, hedgerows and historic walls or other distinctive boundary treatments (e). • Objective GI 14-10: Draft Landscape Strategy, ensure regard for the value of the landscape, its character, distinctiveness and sensitivity as recognised in the Cork County Draft Landscape Strategy and its recommendations. • Objective GI 14-12: General Views and Prospects, to preserve the character of all important views and prospects. • Objective GI 14-13: Scenic Routes, to protect the character of views and prospects from scenic routes.
Chapter 15 Biodiversity and Environment
• Objective BE 15-2: provides protection to natural heritage sites, habitats and species • Objective BE 15-6: Provide for the protection and enhancement of in the development management process, including encouraging retention of existing trees and hedgerows. • Objective BE15-7: implement best practice to minimise risk of spread of invasive species including implementation of Invasive Alien Species Management Plan.

- Objective BE 15-8: provides protection to trees and woodlands., and includes protection of mature hedgerows where appropriate.
- Objective BE 15-12: include criterion for air emissions associated with all new development are to be in line with Environmental Quality Standards.
- Objective BE 15-13: include criteria which seek the minimisation and control of noise and light pollution associated with activities or development.

Chapter 16 Built and Cultural Heritage

- Objective HE 16-2: secures the protection of Archaeological Sites and Monuments.
- Objective HE 16-4: works within Zones of Archaeological Potential and Zones of Notification to take cognisance of the impact of potential works.
- Objective HE 16-5: protects the Zones of Archaeological Potential around archaeological monuments.
- Objective HE 16-6: protects and preserves industrial and post medieval archaeology.
- Objective HE 16-9: large scale planning applications to be subject to archaeological assessment to guide the design and layout of the proposed development.
- Objective HE 16-10: conservation/protection and buffer zones for archaeological sites within a development.
- Objective HE 16-11: protection of archaeological landscapes and their setting.
- Objective HE 16-13: protect and preserve previously unrecorded archaeological sites.
- Objective HE 16-14: protection of structures, and the curtilage, included in the Record of Protected Structure.
- Objective HE 16-15: protect where possible structures included in the NIAH.
- Objective HE 16-16: Protect non-structural elements of the built heritage.

- Objective HE 16-20: protect the archaeological, architectural, historic and cultural element of the historic/heritage landscapes of the County of Cork.

5.3. Natural Heritage Designations

5.3.1. The Blackwater River (Cork/Waterford) SAC (Site code: 002170) is located c. 5.1km downstream, northeast of the proposed wind farm site and c. 1.1km south of the proposed grid connection route. Kilcolman Bog SPA (Site code: 004095) is located c. 9.4km to the northeast of the proposed wind farm site.

5.3.2. The nearest Natural Heritage Area (NHA) is Eagle Lough a proposed NHA located c. 7.5km to the northeast of the proposed wind farm site, and Awbeg Valley (Above Doneraile) a proposed NHA located c. 4.5km to the northeast of the proposed grid connection route.

6.0 The Appeal

6.1. Grounds of appeal

6.1.1. The Commission received 11 third party appeals, as listed below:

- Tullacondra Turbine Awareness Committee, submitted by Noonan Linehan Carroll Coffey LLP on behalf of (hereafter referred to as Tullacondra TAC).
- Aisling Brattle.
- Arthur O'Grady.
- Blánaid Sheahan.
- Daniel & Tara Crowley.
- Donal & Sheila Gayer.
- Eavan Long.
- Eoin & Michelle Sheahan.
- Fergal Sheahan.
- Morna McDowall.
- Willie Aherne.

6.1.2. The combined main points made in the grounds of appeals can be summarised as follows:

Table 6.1 Summary of grounds of appeal

Summary of Grounds of Appeal	Location in report
Consultation: • Public only afforded 4 weeks and not 5 weeks as the application was not available online for the first week. • Notices went up the same day roads were closed for major upgrades for 6 weeks. • Members of the public were not given the opportunity to respond to further information submission. • Minimal to no meaningful consultation with the community. Local community not properly informed or involved. Transparency is lacking in wind energy developments. Local voices are being marginalised • Layout decided well in advance of public consultation, and community engagement commenced after the project feasibility commenced. • Public event took place in February during peak calving season and only a select few were notified. • Not in accordance with code of practice. Contravenes Aarhus Convention.	**Section 7.6** **Section 8.4**
Principle & Policy Context: • The maximum rated capacity of 40.5MW is not of strategic or national importance. • Should fall into the category of Normally Discouraged 'Wind Deployment Area' in terms of CDP objective ET 13-5. • The proposed development does not satisfy the mandatory pre-conditions associated with Open for Consideration and is disqualified from further consideration. • Runs contrary to both objective 13-7 of the CDP and the classification of the area as a High Value Landscape and will have a profound negative impact on the visual quality of the surrounding landscape.	**Section 7.2** **Section 7.6**

Summary of Grounds of Appeal	Location in report
• Turbines are to be switched off and curtailed for shadow flicker, noise, birds. Is this a reliable source of renewable energy. • Renewable energy zoning in CDP lacks comprehensive SEA. • Proposed development contravenes policy GI 14-9 of the CDP. • Single house within 150m from proposed wind farm found contrary to GI14-9, reference to 23/4900. • Focus should be on offshore wind farms. • Wind farms should be located on the top of mountains. • Wind farms must be properly regulated and sited with respect of the people living in their shadow. • Extent of proposed tracks and cabling not consistent with sustainable development. • No meaningful update since 2006 and out of date. Does not reflect real risk involved, designed for smaller turbines and different technology. Allows inappropriate developments to proceed because there are no modern safeguards in place.	
EIAR: • EIAR methodology dismisses Moderate effects and devalues Profound and Very Significant effects and is misleading and compromises the integrity of the EIAR. • Submitted EIA inadequate in terms of screening and public consultation. Legal precedent for thorough environmental scrutiny. • Site more suitable for solar farm given terrain and proximity to dwellings.	**Section 8.4**
Layout and Scale: • Turbines are much too large, are too many in number and are packed in far too tightly together.	**Section 7.5**

Summary of Grounds of Appeal	Location in report
• The proposed turbine spacing is less than recommended in prevailing wind direction and far less than what is required to account for air flow turbulence and wake effects from upwind turbines. • Met mast will experience a double wake effect and measurements will not be reliable.	
Residential Amenity: • Does not meet 1000m setback in Draft 2019 Guidelines. • Within 500m of dwellings including uninhabited homes which may become reoccupied. Turbines less than 500m from a farm house in the process of being renovated. • H17 detailed incorrectly as inhabited and derelict. • Infringes Art 8 of the EC on Human Rights and Irish constitution, right to respect for private and family life. • Massive in stature and would loom over homes and farms and dominate every view. • Impact on homes from noise and shadow flicker. • Restrict further building of homes within a 2km buffer of the proposed development. • Proven again and again that homes in close proximity to the wind turbines will be devalued.	**Section 7.3**
Population & Human Health: • Census data shows the population density in this area is significant. • The site is of agricultural importance. Impact on food security by loss of agricultural farming land. • Industrial energy infrastructure that offers little or no benefit for local residents. • Disruptions to farming and financial damage to farming community.	**Section 8.7**

Summary of Grounds of Appeal	Location in report
• Families rural right to livelihood destroyed and violates NPFO19, protecting generational farming families. • Noise pollution, vibration and shadow flicker impact on livestock, in particular horses and dairy herds. • Major wind farms and thoroughbred racehorses and breeding stock are incompatible land uses. • Profound and irreversible effect on equine business. • Proximity of high power cables to equine and bovine business. • Trenching noise, disruption and dust would negatively affect dwellings and equine and bovine businesses. • Study area for impact on equine businesses should be 5km. • Submitted Equine Welfare Assessment report does not include gallop or paddocks located within 75m of T3. 6 of the 9 turbines would be in breach of the BHS Guideline (within 525m). • Underground cables prevent future underpass. • WHO 2018 guidelines, environmental noise exposures directly linked to cardiovascular and psychological diseases. • Negative effects on health and destroying mental and physical wellbeing of local residents. Impacts include sleep disruption, stress, sensory overload, and anxiety. • Breaches 2000 Act on protection of health. • Impact from noise and shadow flicker will be devastating on local families and their young children. • Cork CC ignored high court decisions on unacceptable health and wellbeing impacts on communities. • Red Zone for radon exposure.	
Landscape and Visual: • Turbines are disproportionately overbearing for the landscape.	**Section 8.14**

Summary of Grounds of Appeal	Location in report
• Need to protect the traditional appearance and rural character of the landscape. • Site lacks visual backdrop. • Dominate Cork's rolling lowland landscape, and entire visual basin. • Scenic views including Kerry Mountains will be lost. • Visible for miles and from many aspects a tangled view of spinning blades will be presented. • Significantly and negatively impact the visual quality of what is classified in the CDP as an important landscape. • Interferes with the character of the landscape, with a view or prospect of special amenity value or natural interest or beauty. • EIAR concludes adverse operational visual impacts.	
Geology: • Failure to disclose the significance of copper and silver reserves present within the site. • Major omissions in survey of karst features, numerous sluggea and swallow holes in the area. • Geological instability concerns. The site is underpinned by karst rock and fault lines. • Boreholes misrepresent full geological instability. • High risk of subsidence and contamination.	**Section 8.11**
Hydrogeology & hydrology: • Negative impact on volume and purity of water supply including private wells. • No site specific well survey. • The EIAR fails to establish groundwater flow direction, nor does it provide site-specific information on groundwater depths.	**Section 8.10**

Summary of Grounds of Appeal	Location in report
• RFI drilling did not provide any water table dept data. • Lack of site specific hydrogeological data represents a substantial omission in the EIAR. Undermines the integrity of the groundwater impact assessment and leaves critical risks unquantified. • Phosphorous runoff threatens WFD Q-values and status. • Site qualifies as a Corrin site under EU Nitrates Directive. • No protective measures against nutrient leaching into aquifers. • Mitigation strategy cannot be deemed robust and effective as it is not based on a proper understanding of site-specific hydrogeological conditions. • Mismanagement of groundwater protection.	
Biodiversity & Ornithology: • No surveys carried out for 2 acres of set-aside lands immediately adjacent to the site. • Habitat removal and damage in a relatively intensive agricultural area is devastating for an ecosystem already under immense pressure. • Not enough habitat locally for displaced invertebrates, birds and mammals, resulting in further decline in species populations. • Wildlife displacement could trigger TB outbreak in intensely farmed area. • Damage to 'species rich grassland' restoration work being carried out. • Lack of mitigation and management measures for invasive species along TDR 1 and GCR Option 2. • Impact on birds including yellowhammer and nesting raptors such as peregrine and owls. • Birds' migratory pathways disrupted and high collision risk for whooper swan, peregrine falcon, barn owl and long eared owl.	**Section 8.8** **Section 8.9**

Summary of Grounds of Appeal	Location in report
• Bats survey incomplete. • Impact on bats including treat to Brown long eared bats, leisler's bats and pipistrelles. Disruption from noise and hedgerow removal. • Impact on bat habitat along GCR. • Proximity to Blackwater River SAC, impacts on freshwater pearl mussels, salmon, kingfisher and other protected species. • Gaps in freshwater pearl mussel survey and population extent data. • Result of crayfish survey not provided. • Historic water quality values and timing of aquatic invertebrates sampling. • No electrofishing survey as per IFI. • New channel for migratory fish with Fermoy Weir collapse in 2019. • Timing of otter survey at South Caherduggan Stream affected by flooding. • The Aquatic Baseline Report is not adequate for accurate determination. • No otter surveys of Ballyclough/Finnow Stream and a 10m buffer for otters will not be maintained.	
Appropriate Assessment: • The site is an SAC area with protected water. • SAC/SPA assessment non-compliant with Art 6(3) HD. • Mitigation measures are speculative and does not satisfy legal thresholds of no reasonable scientific doubt. • Material contravention of objective in the CDP for the conservation and preservation of a European site. • Kilcolman Bog SPA and Blackwater Callows SPA, high risk to whooper swan, peregrine falcon and barn owl.	**Section 9.0**

Summary of Grounds of Appeal	Location in report
• SAC 002170, failure to assess the QI Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation • Kilcolman Bog SPA and Blackwater Callows SPA and high risk to whooper swan, peregrine falcon and barn owl.	
Shadow Flicker: • Turbines have to be switched off, that highlights unsuitability of the site. • WHO guidelines cap Shadow flicker at 30 hr/year, modelling shows widespread exceedance. • Assessment not updated to include derelict properties.	**Section 8.12**
Noise: • Relying on the out of date 2006 guidelines is unsafe and in doing so the EIAR is both misguided and misleading. • The out of date 2006 Guidelines does not even discuss AM. • Predicted noise exceeds WHO and EPA. • Draft 2019 Guidelines recommended limits of 37 dB LAeq (external). • 45dB as conditioned is a severe deviation. • There is nothing precluding the use of BS4142:2014+A1:2019. • High court case confirms that compliance with 2006 Guidelines does not protect residential amenity. • No monitoring carried out at EO1 or EO2, B1 is approx. 750m to the north/west. • Background noise levels for BN4 noted as different results than BN1. • The predicted turbine noise will have a serious negative adverse noise impact. • Prevailing winds will exasperate the noise on those living in the paths of these winds.	**Section 8.13**

Summary of Grounds of Appeal	Location in report
• Noise nuisance can be experienced in a home over 1km from turbines. • The constant noise generated by turbines are like several low-flying planes that never lands. • Irish courts have confirmed that turbine noise is a nuisance. • EIAR concludes adverse operational noise impacts. • EIAR lacks monitoring setup details and not clear if it meets best practice. • Material breach of CDP objectives ET13-4 and 13-7. • Assessment by a 0.6dB reduction at H17 concludes a significant adverse long term effect to be not significant. Assessment states a 2.5dB difference would be small and typically imperceptible. • Amplitude modulation occurs far more commonly than stated within the EIAR. • WSP report concludes turbine wake effects and inflow turbulence do contribute to AM occurrence. • AM more likely to occur on the proposed wind farm due to turbine size and tight footprint, and the impact will likely be very significant. • BS4142 advise the addition of penalty where impulsivity is present in the noise. • Application should be refused because the applicant has no credible means of addressing OAM when it will occur. No record of AM mitigation being deployed successfully anywhere. • Assessment not updated to include derelict properties.	
Archaeology & Cultural Heritage: • Impact on stone walls along GCR. • Impact on Megalithic tomb (Co24-05602) and Ringfort (CO024-099) not assessed.	**Section 8.15**

Summary of Grounds of Appeal	Location in report
• Misleading as Ringfort (128) is located adjacent to L5523 and not L1333. • Area of significance, contains fulacht Fiadh, ringforts, dolmens and prehistoric dwellings. • Injure or interfere with a historic monument or which is situated in an archaeological area. • EIAR concludes adverse operational impacts.	
Material Assets: • Impact on Saorview reception. No mitigation measures to address Saorview reception interference. • Impact on NBI Fibre broadband lines along TDR routes from temporary disconnection. • Turbine blades are non-recyclable. • Air ambulance not consulted by Cork CC. The air ambulance flight path will be obstructed by the proposed turbines. No assessment of distance to Rathcoole Aerodrome. • Potential impact on Cork Airport, reference to Cork Airport 25NM ILS zone and requirements for an ILS inspection report. • No information provided on Irish Coast Guards, Irish Air Corps, Shannon Airport, Kerry Airport and Waterford Airport and flight paths. Impact flight safety in an area of active low-level. • The weight of public objection should be recognised. • Endanger or interfere with the safety of aircraft or the safe and efficient navigation thereof.	**Section 8.16**
Traffic & Transport: • No road restoration or resurfacing commitment. Recent resurfacing will be undone. • Loss of recreational country roads.	**Section 8.17**

Summary of Grounds of Appeal	Location in report
• An existing deficiency in road network, unsuitable to carry increased road traffic. • Widening of roads required. • Endanger public safety by reason of traffic hazard or obstruction of road users. • Serious traffic congestion. • Impact on emergency services response time. Infringes art 2 ECHR (right to life). • Access concerns regarding TDR 1 including Node 12 (Knockaunavadree ringfort (128)), Node 11 Grange Bridge (Bridge (35) Bridge on L5523, and Node 10. • TII has deemed the application premature pending the determination of the outcome of the route for the N/M20 road Cork to Limerick. • Premature pending the determination of a road layout for the area and any part thereof.	
Other Matters: • Owns the public road along GCR. No evidence that a licence from the Commission for Regulation of Utilities has been obtained. Landowner consent required, application considered premature. • Landownership along TDR and GCR. • No landowner approval of enhancement measures. • Failure to include Prospecting Licence PLA 3535 and 3536 in the cumulative assessment in the EIAR. • Large quantities of concrete proposed which contain significant amounts of carbon.	**Section 7.6** **Section 8.19**

6.2. Applicant Response

6.2.1. The applicant's response (dated 28/07/25) to the third party grounds of appeal, can be summarised as follows:

- Submits that it is evident that Irish and European policy emphasises the exceptional and urgent need to prioritise the delivery of renewables, such as the proposed development. Submission references Directive 2018/2001, CAP 24 and Section 15 of the Climate Action and Low Carbon Development Act 2015.
- Submits that the appeals reiterate objections to Cork County Council and all items raised in the appeals have been suitably addressed in the EIAR and RFI submissions.
- Submits that the council did a thorough and extensive assessment of the planning application, EIAR and NIS.
- Submits that the Aquatic Ecology Baseline Report provided a robust basis for determining the absence of likely significant effects on the aquatic environment arising from the proposed development.
- Submits that the River Blackwater (Cork/Waterford) SAC QIs have been included in the NIS. Restates the absence of a realistic and viable pathway for pollutants/impacts/effects the River Blackwater (Cork/Waterford) SAC.
- Submits that Freshwater Pearl Mussel surveys were carried out in excess of the NPWS guidelines, that the presence of FPM was not ruled out and that the EIAR and NIS fully assess the potential effects on the SAC
- Submits that the hydrology and hydrogeology assessment in the EIAR found that residual effects will be neutral or slight on hydrogeological receptors and that the assessment and the RFI relating to karst environment were independently reviewed by O'Callaghan Moran & Associates on behalf of Cork CC.
- Submits that the noise assessment has been carried out by experienced experts in acoustics and in accordance with best practice guidelines, and that

the considers the conditions by Cork CC to be robust, fully implementable and reasonable.

- Submits that the approach taken by the Commission in ref, PL92.318689, Condition 11 in relation to AM would be welcome.
- Submits that a letter confirming that works within the public road, namely the 38kV cable will be undertaken by a statutory undertaken was included in Part 1, Section 2 of the planning application.
- Submits that the Equine Welfare Assessment in response to RFI 22 covers items raised in the planning appeals.

6.3. Planning Authority Response

6.3.1. Letter dated 21st July 2025 confirming that conditional permission was granted, having had regard: policy context, national guidelines, nature and scale of the development, location and site context, potential impact and benefits, and submissions.

6.4. Observations

6.4.1. 64 no. of valid third party observations were received in response to the appeal and a list of the observers are included in Appendix A of this report. In addition, correspondence was also received from Cllr Michael Moynihan (dated 16th July 2025) requesting to be kept informed.

6.4.2. I have reviewed observations received and find that the main points raised are broadly aligned with the main points raised in the grounds of appeal. Furthermore, I note a number of observations make direct reference to the appeal submitted by Tullacondra TAC (also referred to as the community appeal in a number of observations) and specifically to reports by technical expert included within the Tullacondra TAC appeal. I have summarised the main points made in the grounds of appeal in Table 6.1 above, and to avoid duplication and in the interest brevity, I have not repeated such points herein where those have also been raised in observations. Table 6.2 below provides a summary of the additional relevant main points raised in

observations and should as such, be read in conjunction with the summary provided in Table 6.1 above.

Table 6.2 Summary of additional relevant main points made in observations (to be read in conjunction with summary in Table 6.1)

Summary of addition relevant main points	Location in Report
Consultation: • Grid connection route not consulted on.	**Section 7.6**
Principle & Policy Context: • 2006 Guidelines are not subject to SEA.	**Section 7.6**
EIAR: • EIAR not updated after RFI response and does not reflect design changes submitted in RFI1.	**Section 8.4**
Scale & Layout: • Turbines T2, T3 and T4 are not located as previously marked by the applicant. • Layout is not in accordance with 2006 Guidelines or SEAI guidelines or IWEI on turbine separation distance and wake. • Distance to adjacent boundary should be 5 RD.	**Section 7.5**
Residential Amenity: • Not in accordance with CDP Objective 5-30 derelict housing. • There is a housing crisis. Precautionary approach to be applied to derelict buildings. • Overshadow property due to proximity. • Directly impact on quality of life, it will make life very uncomfortable. • Open for consideration where proposals avoid adverse impacts on Residential Amenity, not avoided for noise, shadow flicker and visual impact in response to RFI 6.	**Section 7.3**
Population & Human Health: • Accelerate depopulation in a small community and deter young people from moving to the area.	**Section 8.7**

• Not in accordance with Rebuilding Ireland. • Health impacts not explored in detail, mental health not assessed in the EIAR. No Independent health impact assessment submitted. • Individual health circumstance raised. • Grid connection runs past homes, high voltage and magnetic fields 16m from house. • Risk to equines and handlers from noise, light and movement. • No supporting data to assume general habituation in RFI 22. • RFI 22 relies on British Horse Society (BHS) distance, does not address risk outlined by BHS. • Ireland is a world leader in equine industry, and people maintaining the industry should be a high priority. • Impacts on dogs and sheep.	
Landscape and visual: • Photomontages inaccurately depict the actual height. • Dominate skyline and result in light pollution from red lights. • Cumulative visual impact excessive and oppressive. • Cumulative impact on landscape not adequately addressed.	**Section 8.14**
Geology: • Karst risk across half the site remains unquantified. Insufficient investigation carried out at T2 location. • Deep foundations on fragile rock and aquifers, large number of Fulacht Fia's on the site. • Sluggea on the site of T2, T3 and T4 - groundwater flow in the direction of T2. • Foundation clarity required.	**Section 8.11**
Hydrology & hydrogeology: • Impact on water not adequately addressed, private wells and springs for drinking water.	**Section 8.10**

• Pond close to turbine T2 not included in the EIAR. • Scrub located at turbines T7 and T8 is a pond. • Stream going through the site has not been mentioned. • Bentonite fluid use during HDD.	
Biodiversity & Ornithology: • RFI submitted bat survey two years old at time of RFI. • Nocturnal surveys not completed. • Collision risk modelling does not include increased bird activities. • Impact on red tail bees from removal of hedgerow. • How is knotweed being eradicated? • Loss of hedgerows along townland boundaries. • Impact on red squirrel territory. • Lack of specific details in replanting or monitoring.	**Sections 8.8** **Section 8.9** **Section 9.0**
Noise: • Continuous noise including low-frequency and infrasound, disruption to daily life and sleep. • Cork County Council noise condition does not address AM. • Incredible quiet background levels, 16dB on average. Limits proposed are simply too high in such a quiet area. • Cumulative effects of being located close to multiple turbines not assessed. • Tonal risk deferred to post-consent phase and tonal from substation dismissed. Tonal penalties should be included. • Located in a valley landscape trapping sound. • Post AM monitoring by applicant, should at least be independent.	**Section 8.13**
Archaeology & Cultural heritage: • Registered monument lies inside the site and Turbines T2, T3 and T6 will destroy archaeological heritage.	**Section 8.15**

• No serious archaeological study has been done. • Grange bridge and historic wall will be destroyed. • Setting assessment limited by no field survey and no discussion of visibility on heritage character and visual impact linkages. • Lack of cumulative assessment. • EIAR sensitivity terminology confusing.	
Material assets: • RFI 13 correspondence from Vodafone not signed, outdated, no evidence of reroute and mitigation not sufficient. • There is a lack of engagement with Irish water and risk in RFI 23. • No submission from Cork Airport. • Submission by Rathcoole Air Base dismissed by Cork CC. • Water utilities under the road are affected by weight. • Concerns regarding disruption of water supplies with Irish water utilities on one side of road and a private group water scheme on the other side. • Insufficient details and assessment of ESB requirements in RFI 20.	**Section 8.16**
Traffic and Transport: • Abnormal loads will result in major disruption of national road. • RFI 14 response does not include a 4.5m setback for permanent access and there is no written confirmation from Roads. • Several bad accidents at Kilmaclennie cross. • The proposed entrance is on a bad bend. • Permanent loss of roads used for walking, cycling and horse riding. • The verbal agreement in RFI 1 of GCR traversing the N72/73 relief road is not sufficient. • Cumulative impact from wind farm on infrastructure not adequately addressed	**Section 8.17**

Other matters: • Concerns regarding blade throw, ice throw, and mechanical failure. • Terrified of burning and collapsing turbines. • Safe manuals say not stay within a 400m radius of the turbines, impact on adjacent farms. • Failure to reproduce landowner consent in RFI 19. • Surveys not consented to. • Proximity of turbines to adjacent landowner boundaries. • Cumulative impact of multiple wind farms in the region has not been addressed. • Curtailment mitigations leave only 6.75% efficiency. Takes 20yrs to be carbon neutral. • Microplastic from turbines impacts. • Car exhaust pollution impacts. • Sulphur hexafluoride SF 6 emissions not assessed. More damaging than CO2. • No cumulative assessment of N72/N73 provided. • There is a lack of decommissioning details in RFI 24.	**Section 8.7** **Section 8.20**

6.5. Further Responses

6.5.1. Two of the appellants submitted responses to the appeals as follows (in summary):

- Blánaid Shehan (dated 14/07/25) – the submission expands on the original appeal submission but raises no additional matters to those raised in the combined grounds of appeal.
- Tullacondra TAC (dated 23/07/25), submitted by Noonan Linehan Carroll Coffey LLP on behalf of – the submission outlines support to noise and archaeology matters raised in other appeals. Refers to High Court judgements on matters relating to wind turbine noise and the 2006 Guidelines, and

historical monuments omitted from the EIAR and Cork CC Archaeology Reports. Requests that the application is refused.

7.0 Assessment

7.1. Introduction

I have examined the application details and all other documentation on file, including the appeal, all of the submissions and observations received in relation to the appeal, and inspected the site. I have had regard to relevant local/regional/national and European policies and ministerial and other guidance where relevant. I am satisfied the substantive issues for assessment relate generally to planning and sustainable development, the Environmental Impact Assessment (EIA), Appropriate Assessment (AA), all detailed below separately in the individual sections. In the interests of brevity, I have sought to avoid, where possible, undue repetition and instead indicating where overlaps occur.

I consider that the key **planning and sustainable development** issues arising are as follows:

- Principle of Development and Policy Context.
- Residential amenity
- Impact on property values
- Layout and Scale
- Other Matters

Section 8.0 below assesses Environmental Impact Assessment.

Section 9.0 (including **Appendix 2** and **Appendix 3)** of this report assesses **Appropriate Assessment**.

In this regard, I have addressed relevant matters raised in the appeal, and summarised in Section 6.0 above, throughout Section 8.0 **Environmental Impact Assessment** and Section 9.0 including Appendix 1 and 2 **Appropriate Assessment.**

7.2. Principle of the Development and Policy Context

7.2.1. The Wind Farm

The proposed development includes for 9 no. wind turbines with a total rated output of 40.5MW for 35 years which will be exported to the national grid.

As set out in Table 5.1 above, Irelands obligations under EU and international treaties are framed in the national climate objective under the Climate Action and Low Carbon Development Act, 2015, as amended. This national climate objective commits Ireland to becoming a climate resilient, carbon neutral economy by 2050, reducing emissions by 51% by the end of the decade (2030). To achieve this objective, Climate Action Plan 2024 (CAP 24) provides that a 75% reduction in emissions in the electricity sector is required by 2030 (based on 2018 levels) and that central to achieving this is the strategic increase in the share of renewable energy to 80% by 2030, including ambitious targets of deploying 9GW of onshore wind. Published on 15th April 2025, Climate Action Plan 2025 (CAP25) reaffirms these renewable energy generation targets.

National policy (including the NPF First Revision and Climate Action Plan 2024 and 2025) include objectives to support proposals which aim to achieve a climate neutral economy and sets national renewable energy targets. The provision of electricity by onshore wind farm and grid connection are supported by national policy. Such objectives and targets are also repeated at a regional policy level, Southern RSES, and RPO 99 seeks to support the sustainable development of renewable wind energy at appropriate locations in the region and to support related grid infrastructure.

Support for climate action and increase in renewable energy are also outlined at a local policy level, in particular I note the core strategy CS-5 for North Cork Strategic Planning Area and Renewable Energy Objective ET 13-2a) in the CDP seek to facilitate the development of renewable energy sources in support of national climate objectives and at suitable locations within the county. Section 13.4.4. of the CDP recognises that Cork is well positioned to become self-sufficient in renewable energy and contribute to the achievement of national energy targets. The support for further development of onshore wind energy projects at appropriate locations within the

county is also set out in Objective ET 13-4 Wind Energy. It is important to note that the RSES and the CDP predate the First Revision of the NPF (2025) and specifically NPO74, which allocates a 978MW of additional onshore wind capacity delivery target to the Southern Region by 2030. There are no amendments to the Southern RSES currently in response to NPO74, which would see an allocation of this target to Cork County Council and for which the county will require to plan for the delivery of as per NPO75. The Commission will note that there is no cap on capacity for electricity generated by wind farms in the county as suggested in appeal submissions nor is there a threshold applicable to the appeal in relation to strategic or national importance.

The support of a planned approach for wind energy projects is outlined within Objective 13-5 Wind Energy Projects and criterion b) outlines that onshore wind energy projects should focus on areas considered “Acceptable in Principle” and “Areas Open to Consideration”. Areas to generally be avoided include “ Normally Discouraged” areas and sites and locations of ecological sensitivity. As noted previously, the proposed wind farm site is located within an area “Open for Consideration” as per Figure 13.3 – Wind Energy Strategy Map. CDP Appendix A outlines that the wind energy strategy was prepared in line with the 2006 Guidelines, but has been reviewed in light of the requirements of the draft 2019 Guidelines. Submissions have raised concerns that the CDP Wind Energy Strategy has not been subject to Strategic Environmental Assessment (SEA). I note, however, that the strategy was developed for the previous CDP 2014 and was subject to the SEA process for same, the strategy was then brought forward for the current CDP which was subject to SEA.

Technical and environmental issues to be considered within areas “Open for Consideration” are detailed within Section 13.6.7 of the CDP, and applicable assessment criteria for potential wind farm developments within area “Open for Consideration” are set out in Objective ET 13-7, and I have summarised these in Table 5.3 above. Furthermore, appropriate locations for onshore wind energy projects as per Objective ET 13-4 are identified as those being in line with the Wind Energy Strategy, objectives detailed in Chapter 13 of the CPD and other objectives of the CDP in relation to climate change, biodiversity, landscape, heritage, water management and environment. Also, of note, is the support for renewable energy

projects that bring about a direct socio-economic benefit to the local community as per criterion b) of objective ET 13-2.

The potential effects as a result of the proposed development on residential amenity, European Sites, architectural and archaeological heritage, the visual impact on the landscape have been assessed either below in my planning assessment or within the EIAR and the AA. In this instance, I have concluded that the proposed development would not have an adverse impact on any of these areas and would, therefore, be in compliance with Objective ET 13-7 of the CCP. Furthermore, I have concluded that the proposed development would be in line with the Wind Energy Strategy and objectives detailed in Chapter 13 of the CDP, and in compliance with Objective ET 13-4.

7.2.2. **Grid Connection**

Part of the grid connection route, west of the N20 is located within a “Normally Discouraged” in terms of CDP objectives ET 13-5 and within a High Value Landscape, and the matter has been raised by an appellant. I note these areas are not normally suitable for wind farm development due to their overall sensitivity arising from ecological, landscape, amenity, recreational and settlement considerations. In this regard, I am satisfied that the grid connection will be via underground cabling and largely contained to the public road, access track and one section across fields, there will be no visual impact from these works once complete.

Considering the matter of grid connection within the public road network, I note there is clear national and local policy support including CDP Objective 13-21 to facilitate the connection of renewable energy projects to the national grid. Draft 2019 Guidelines outline that the preferred approach is for grid connection, where possible, to be via underground cabling and that this approach is based on environmental consideration and technical solutions. This aligns with of ESB Networks’ General Specification for Contestably Built Underground Networks (2021) which states a preference for underground cables to be installed within public property and/or taken in charge property and not on private property, insofar as this is physically possible. In my view, this approach also corresponds with the policy emphasis on accelerating delivery and minimises the potential for additional delays associated with third party lands. The role of road infrastructure in facilitating the delivery of grid infrastructure is

recognised in CAP 24 and in response to CAP 24, the recently published Electricity Transmission Infrastructure Development, Roads Sector Engagement Framework & Interim Guidance (February 2025).

The Commission will note that submissions have raised concerns regarding the grid connection within the public road and impact on the N20 and the Mallow Relief Road. CDP Section 13.7 sets out that "grid connections with the potential to impact on the strategic function of the national road network should be discussed and agreed with Transport infrastructure Ireland and should use alternative available routes where feasible in the first instance." In this regard, I note the GCR is located to the west of, and does not overlap with, the planned corridor for the N/M20 Cork to Limerick strategic road scheme. The Commission will note that TII in its response to the application referred the matter to the N/M20 Project Office who raised no concerns. The proposed crossings of the existing N20 and N72 will be via HDD as per the construction methodology in Chapter 5 and as required by TII. A section of the GCR overlaps with the route corridor identified in the CDP for the N72/N73 Mallow Relief Road and the interaction with the N72/N73 Mallow Relief Road was further addressed by the applicant in the response to RFI Item 1 by the inclusion of joint bays within the L5320 at either end of the proposed relief road flyover. The Commission will note the Cork National Road Office in its response to further information recommended conditions to address sequencing (see Section 3.3). I am, therefore, satisfied that the proposed development has accommodated the N72/N73 Mallow Relief Road in the proposed design. I have addressed impact on road network capacity in my EIAR, Section 8.17.

7.2.3. **Conclusion**

Having regard to the above, the provision of electricity by onshore wind farms is supported by national, regional and local policy. I am satisfied that the proposed development, when operational, will contribute to Irelands 2030 renewable energy target and climate action commitments. I consider that there is clear policy support to facilitate the connection of renewable energy projects to the national grid, and I am satisfied that the location of the grid connection would not impact on the strategic function of the existing or proposed national road network. Having regard to the location of the wind farm site on lands designated as open for consideration in the

Cork County Development Plan 2022-2028, it is considered that the principle of the proposed development is acceptable, subject to further planning and environmental considerations as detailed below.

7.3. Residential Amenity

Appellants and observers have raised concerns regarding wind turbine setback from houses including uninhabited and vacant and/or derelict dwellings and impact on residential amenity as a result of the proposed development. I have addressed these under the main topics below and made reference to the EIA in Section 8.0 where applicable.

7.3.1. Sensitive residential receptors

Appendix 12c of the Tullacondra TAC appeal includes a plan indicating the location of houses referred to as uninhabited and dilapidated properties and includes a property raised in the appeal by Daniel and Tara Crowley. Similar concerns have been raised in a number of observations along with reference to CDP Objective 5-30: Redevelopment or replacement of an Uninhabitable or Ruinous dwelling. I note the Planning Authority and the applicant have also made reference to Objective 5-30.

I note EIAR Section 2.7 outlines the approach taken to identifying sensitive receptors and includes “occupied dwellings, unoccupied dwellings (excluding dilapidated properties), planning permission sites (validated and granted up to the cut-off date of 20th March 2024), and a school” within 2km of proposed turbines. The planning authority sought in RFI Item 9 for the inclusion of dilapidated and uninhabited properties in the sensitive receptors list of the EIAR for reasons pertaining to the objective of the CDP for the reuse of such dwellings. I note the applicant reconfirmed the EIAR list of sensitive receptors in its response to RFI Item 9.

In Section 8.4 below, I consider the EIAR to be in compliance with Article 94 in that a description of the baseline environment and likely evolution in the absence of the development have been satisfactorily provided. In considering this, I have had regard to the definition of sensitive receptors provided in the 2006 Guidelines and the draft 2019 Guidelines which include occupied dwelling house, or dwelling or houses

where their inhabitants may be disturbed, respectively. I have reviewed the planning history in the vicinity of the proposed development as per Section 4.0 above. Furthermore, I have also had regard to the protection of residential amenity as per CPD policy Objective 13-7, and in planning policy terms protection, this is afforded to occupiers of residential properties.

Whilst I note CDP Objective 5-30 encourages the redevelopment or replacement of existing uninhabitable or ruinous dwellings, I am satisfied that Objective 5-30 does not afford any specific protection of uninhabitable or ruinous dwelling. In this regard, I note CDP Objective 5-29 is applicable to the replacement of habitable dwellings and not relevant. Furthermore, CDP Objective 5-30 sets out that redevelopment or replacement would be "subject to normal proper planning and sustainable development considerations as well as the requirements of other objectives in this Plan." Having regard to the above, I am satisfied that an uninhabitable or ruinous dwelling does not merit the inclusion as a sensitive receptor in the EIAR solely on the basis of Objective 5-30 of the CDP. Furthermore, where such a property is subject to a live planning application or an extant planning permission, I am satisfied that this would be included in the applicant's EIAR methodology as referred to above.

Appellant, Daniel and Tara Crowley, in their submission refers to planned works on an "old derelict" farm house located within 500m to the east of T9 and have included relevant technical drawings, photographs and postcode. The property was identified as dilapidated in the EIAR and excluded from the assessment as per Figure 2.3, with the main inhabited farm dwelling listed as receptor H17. From review of submitted drawings, the property in question is located c. 460m from T9 and c. 640m from T6. Having visited the property and having regard to the definition under the Derelict Sites Act, 1990, I would concur with the appellant's description of the property as derelict. The property, a single storey cottage located within the existing farmyard adjacent to several operational farm buildings, was observed not to be wind or watertight and with a partially collapsed roof over porch and missing window and door. No evidence of external restoration works to secure the property were noted during my site visit. The Commission will note that the Planner's Report outlined that it was evident from its condition during site inspection that the property has been uninhabitable for some time. Whilst I note the appellant's concerns, it is my view, given the derelict condition of the property and the lack of certainty and/or evidence

of a likely future redevelopment of the property, that the exclusion of the property from the EIAR sensitive receptor list is appropriate.

I have reviewed Appendix 12c of the Tullacondra TAC appeal, which includes the uninhabitable property within 500m of T1 as referred to in the Planner's Report, and I am satisfied that no additional sensitive residential receptors taking account of the above outlined considerations have been identified.

Having regard to recommended Conditions 22 and 27 by the planning authority, it is my view, that it is not reasonable or appropriate to condition an operational curtailment strategy for the proposed wind turbines in order to mitigate potential noise and shadow flicker effects on uninhabitable and derelict properties, where these properties for the reasons set out above are not considered sensitive receptors, and where these are located within the mandatory 500m setback as per Draft 2019 Guidelines (see Section 7.3.2 below).

In the event the Commission do not concur with my assessment, then a condition omitting T9 should be attached to any permission granted in order to meet a mandatory 500m setback as per Draft 2019 Guidelines, or if applying a setback of 4 times the tip height then a condition omitting both T6 and T9 should be attached (see Section 7.3.2 below).

7.3.2. Setback from residential property

There is no minimum setback distance within 2006 Guidelines. The proposed turbine layout setback from residential properties exceeds the minimum distance of 500m as per the Draft 2019 Guidelines, and meets the 4 x maximum tip height (175m) i.e. 700m. As outlined in the previous section, I am satisfied that at the time of writing, there is no change to the sensitive residential receptor baseline listed in the EIAR.

Whilst I note submissions reference for setback to be measured to curtilage, I am not aware of any such requirements within the wind energy guidelines. In regard to a 2km buffer for any future residential development, as raised in submissions, I am not aware of any such mandatory distance and I am satisfied that any new residential development would have to be in accordance with the provisions of the CDP and would have to take account of permitted and existing development to ensure these are adequately protected.

7.3.3. **Visual residential amenity**

I note the 2006 Guidelines provide guidance on the appropriate setting and design of turbines. I note the location of dwellings in the vicinity of the turbines and the associated terrain, which I have considered in more detail in Section 8.13. I conclude therein that there is the potential for a small number of residential properties located within c. 2km to experience significant visual effects where these will experience uninterrupted primary views of the proposed wind turbines. I do not consider, taking account of the setbacks provided, that the proposed development, individually or cumulatively, would dominate the visual amenity of these properties.

7.3.4. **Shadow Flicker**

I have addressed matters relating to shadow flicker in Section 8.11 below, and I conclude that with the application of mitigation, there will be, as far as reasonably possible, no shadow flicker on sensitive residential receptors, individually or cumulatively, as a result of the proposed development.

7.3.5. **Noise**

I have addressed noise in Section 8.13 below. Operational noise can be controlled by noise limits, and I am satisfied that the predicted noise levels, individual and cumulatively, subject to mitigation measures, will not exceed applicable noise limits at identified sensitive noise receptors.

7.3.6. **Conclusion**

Considering the above, I am satisfied that the assessment submitted by the applicant is sufficiently comprehensive to conclude on residential amenity impacts. Having regard to the location of the site, the setback of proposed turbines to residential receptors, and the mitigation measures involved during the construction and operational phases, I am satisfied that the proposed development would not lead to significant negative impact on the residential amenity of the occupiers of properties in the vicinity of the site. Furthermore, I am satisfied that the proposed development avoids adverse impacts on residential amenity in accordance with CDP Objective ET-7. I do not agree with submissions that reaching this conclusion would interfere with European Convention on Human Rights – Article 8.

On balance, based on National Policy supporting renewable energy (see Section 5.0), I consider that the potential benefits associated with renewable energy generation including wind energy within the context of a climate emergency, outweigh the potential perceived adverse visual effects for a small number of residential receptors. I am, therefore, satisfied that the proposed development would be consistent with the Climate Act and National Policy in support of renewable energy and a refusal of permission would not be warranted on the basis of residual visual effects on residential receptors.

7.4. Impact on property and farmland values

A number of submissions raises concerns regarding impacts on property values and the value of farmlands in the vicinity as a result of the proposed development. I have addressed submissions relating to bovine and equine interests in Section 8.7 below, and have not repeated it herein.

I note the proposed development will not impact on existing property access/ works on adjacent lands, and the proposed turbines are setback from adjoining properties and setback a minimum 700m from sensitive residential receptors.

Submissions have made referenced working paper “The Impact of Wind Farms on Property Values: A Geographically Weighted Hedonic Pricing Model” (Y. Sunak and R. Madlener, May 2012). I note this working paper from Germany concluded, overall, that the model applied revealed a complex picture of the influencing effects and that reliable recommendations could not be reached given the influence of strong local variations. Submissions have made reference to the Centre for Economic Research Inclusivity and Sustainable (CERIS, 2023), “Wind turbines and house prices along the west of Ireland” working paper. I note this working paper, based on a small sample of houses, conclude a potential decrease in property values within 1km of a wind turbine, but that these were not persistent and diminished over the operational lifetime.

The applicant has not submitted a consideration of potential impact on property values with the planning application. I am aware that there are a number of international studies available with regard to this topic and that conclusions within these vary, and I have referred to a few recognised studies below. I further note no

empirical studies have been carried out in Ireland. London School of Economics (2014) and RWI Leibniz Institute for Economic Research (2019) conclude that house prices are negatively affected in proximity to wind farms and attributed this to visual or visual and noise impact, respectively. Other well-known international studies found no statistical evidence that home prices near wind farms were affected (Lawrence Berkley National Laboratory, 2009, 2013) or found no statistically significant effect on property values (University of Guelph, 2014). The Centre for Economics and Business Research (CEBR, 2014) study found no negative impact on property prices, and the 2016 Climate Exchange study "Impact of wind turbines on house prices Scotland" found no evidence of a consistent negative effect on house prices. I note a more recent study has also found that decline in property values recovered post construction ("Commercial wind turbines and residential home values: new evidence from the universe of land-based wind projects in the United States", Energy Policy Journal, 2023).

Having regard to the rural and sparsely populated local area and setback distance to residential property, together with the amenity considerations as considered in the preceding section, and the conclusion that there will not be any significant harmful impact upon adjacent occupiers, I am satisfied that the proposed turbine would not lead to any adverse impact on the property values in the vicinity of the site. Overall, it has not been demonstrated with certainty, that the presence of the proposed wind farm will directly result in an attributable depreciation of property or land values in the vicinity.

7.4.1. Community Benefit Fund

Concern have been raised regarding the community benefit fund scheme. I note a mandatory Community Benefit Fund (CBF) under RESS or a voluntary community benefit scheme will be provided by the applicant as per section 5.2.11 of the EIAR. The proposed development is noted to have the potential to generate a CBF estimate at 250,000 per annum or 3.75m over the first 15 years. A collaborative process between the Tullacondra CBF and the local community is proposed. I am satisfied that a standard approach to CBF is proposed. In the event the Commission in minded to grant consent, CBF should be conditioned

7.5. Scale and Layout

7.5.1. Turbine locational references

Submissions have noted that T2, T3 and T4 are not located as previously marked by the applicant. I have reviewed the locational references provided in EIAR Table 5.1 and the RFI Site Layout (dwg. ref. 20910-NOD-XX-XX-DR-C-08005 to 08010, rev, C02), and I am satisfied that the grid references provided within the EIAR corresponds with the submitted layout plans.

7.5.2. Turbine Dimensions

Observations have raised concerns regarding the scale turbines being proposed and that the turbine dimensions are not specific. The applicant's consideration of turbine numbers and model are outlined in Chapter 4 of the EIAR. As noted previously, the proposed turbine dimension for which planning permission is sought are 175m to tip height, 100m to hub height and 150 rotor diameters. In regard to turbine scale, I note that larger turbines of a tip height of 175m or higher are common to the onshore market and have been permitted onshore in Ireland in more recent years. My EIA as set out in Section 8.0 takes account of the scale of the proposed turbines.

7.5.3. Turbine and met mast layout

Appellants and observers have raised concerns regarding the turbine layout, the tight spacing of turbines and that this is not in accordance with industry best practice, the orientation of turbines and location of met masts downwind from the prevailing wind and increased risk of wind wake and turbulence and impacts on the performance of the met mast. Of note, the Tullacondra TAC appeal encloses turbine manuals dated 2005 and 2007 and for Vestas turbine models no longer available, and I note the contents of these manuals have been referenced in several submissions. I do not consider these manuals of relevance to the proposed development.

The applicant in the Planning Statement (Section 3.1) sets out that the proposed layout has been designed to minimise the potential significant environmental effects while at the same time maximising the energy yield of the wind resource available at the site. The iterative design process outlined in EIAR Chapter 4 refers to optimising

the turbine footprint to maximise the power output. Having reviewed the proposed turbine layout, I note a staggered turbine formation from T1 to T4 and a more cluster formation for T5 to T9. This appears to be broadly orientated towards the prevailing wind from the westerly and south westerly as per Met Eireann data for stations in Cork and Fermoy, and creating a predominately a crosswind layout. The turbine separation distance appears to be largely 2.5 x RD between the closest turbines increasing to c. 4.3 x RD between T7 and T6. The met mast is largely centred within the turbine layout, located between T4 and T7 and crosswind of both. Whilst I note the reference by submissions that the turbines and the met mast are located downwind of the north westerly winds for four weeks monitored in June/July 2022 in reference to Figure 13.7, I am satisfied based on public available wind data that northerly winds are atypical and not dominant winds for the area.

In regard to the 2006 Guidelines and the draft 2019 Guidelines, I am satisfied that the references to windtake relate to the development potential of adjoining wind farm sites and not spacing of turbines within a proposed development. For adjacent wind farms, these guidelines state the same, specifically “to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction.” There are no adjacent cumulative wind farm developments to the proposed development. In reference to industry standards, I note the spacing of turbines within a proposed wind farm is noted to be a commercial decision as outlined by Irish Wind Energy Association guidelines depending largely on orientation, prevailing wind and wind analysis (March 2012).

I understand the standard design approach for optimising energy yield and performance include wind analysis, turbine separation distance in the interest of minimising wake effects and turbulence to optimise individual turbine performance, and turbines numbers to increase overall energy yield. Turbine separation distance is also noted to be a consideration for turbine manufacturing warranty, noting that incorrect spacing could impact on the performance and wear and tear of the turbines. Furthermore, the increased height and blade length of modern turbines are noted to capture more wind energy at lower wind speed and more consistent wind given the higher altitude with less turbulence created by surrounding vegetation and

buildings. I note modern wind turbine design incorporates features which allows for wake adjustments.

Having regard to the above, I am satisfied that the proposed turbine layout and the met masts appear to have been largely orientated towards the prevailing wind direction. Whilst the spacing of turbines and the number of turbines is a commercial decision within the overall iterative design process, I note that the proposed c. 2.5 RD crosswind spacing is not substantially different from the 3 RD spacing required towards other wind farms located crosswind as per both the 2006 Guidelines and the Draft 2019 Guidelines. As above, my EIA as set out in Section 8.0 assessment takes account of the location and layout of the proposed turbines.

7.6. Other Matters

7.6.1. Wind Energy Guidelines

Submissions and observations have raised concerns that the 2006 Guidelines to which regard and reliance is had in planning decisions are outdated and constitutes a plan/programme which should be subject to SEA.

The preparation of wind energy guidance is within the remit of Government. At the time of writing, the 2006 Guidelines remain in force and there are no updates from the Government on an anticipated publication date for new guidelines to replace the 2006 Guidelines. Of note, the applicant in this instance has opted to apply key elements of the Draft 2019 Guidelines in terms of the proposed development including 4 times the tip height setback to houses and zero-shadow flicker, and I consider that this is appropriate and seeks to apply best practice to the consideration of the proposed development.

The matter of SEA in the context of the existing 2006 Guidelines is not within the remit or scope of the Commission in the context of the current appeal. I consider the context of the existing legal environmental framework encompassing environmental assessment to be of relevance here, noting that the NPF First Review, RSES and CPD including the Wind Energy Strategy have been subject to SEA. The Draft 2019 Guidelines are also noted to be subject to SEA, however the status of these remain draft. At a project level, I am satisfied that the proposed development has been subject to environmental assessment under the EIA Directive (refer to Section 8.0)

and considering environmental tiering, I note that the proposed development is consistency with the Wind Energy Strategy of the CDP (refer to Section 7.2 above). Furthermore, I am satisfied that the proposed development has been subject to assessments under the Habitats and Birds Directives and assessment under the Water Framework Directive, as per Section 9.0 and Section 8.9 of this report, respectively.

7.6.2. **Consultation**

A large proportion of the submissions received consider pre-application consultation in relation to the proposed development to be inadequate. Chapter 3 of the EIAR outlines the consultation undertaken, and I have considered this in Section 8.4 below, where I conclude that I am satisfied that appropriate pre-application consultations have been carried out and that third parties have had the opportunity to comment on the proposed development in advance of decision making. The information presented in the EIAR complies with the Aarhus Convention. I further note Cork County Council received a large number of submissions as noted in Section 3.4 above and which indicates a robust engagement with the consultation process of the planning application.

As noted in Section 3.0 above, further Information received was deemed to not be significant by Planning Authority and therefore no further third party submissions were invited. Whilst I note the concerns raised by appellants and observers, I further note that the appellants and observers have had the opportunity to comment on the further information during the appeal as summarised in Section 6.0 above.

7.6.3. **Cumulative Development**

Observations have raised concerns that the proposed development will set a precedent and that the cumulative impact of multiple wind farms in the region has not been addressed. I have reviewed the submitted cumulative development baseline as outlined by the applicant in the EIAR and the RFI Submission, and I am satisfied that the cumulative baseline is sufficiently up to date. It would be within the scope of future wind farm development proposals (not subject to a current planning application) to consider the potential for cumulative effects in combination with the proposed development.

Appellants have raised concerns that Prospecting Licence PLA 3535 and 3536 have not been included in the cumulative assessment. I note these are listed in Table 2.2, Chapter 2 of the EIAR and are scoped out of the of the cumulative assessment on the account of no application for mining lease or licence, no application for an integrated pollution control licence and no application for planning permission related to mining in the area. Having regard to the ongoing explorations across Ireland and the rules relating to mineral exploration activities and licenses as per GSRO Rules Document Mineral Exploration in Ireland 2025, I am satisfied that existing prospecting licences covering the site and the wider area can be excluded from the cumulative assessment.

7.6.4. **Legal matters**

Appellants and observers have raised a number of concerns pertaining to landowner consents, specifically in regard to the GCR and the TDR, habitat enhancement measures and RFI Item 8, and the proximity of turbines to adjacent third party landownership. Appendix 12f) by Tullacondra TAC appeal incorporates a letter from landowner Tim Cronin which outlines that no final consent to allow implementation and maintenance of measures proposed have been provided and that the applicant is aware that he no longer wants to go ahead with this development. I have reviewed the submitted landowner consents and the proposed development layout, and note that T1 is located on lands covered by the letter of consent submitted with the application and signed by Tim Cronin.

I have reviewed the planning documentation, and I am satisfied that required landowner consents were submitted with the planning application. The habitat management enhancement proposals are located within the submitted blue line boundary and as stated in section 2.6 of the EIAR, the blueline boundary encompasses lands for which the applicant has lease options in place rather than the complete land interests of the landowners. The matter of landowner consent has been reconfirmed by the applicant in response to RFI 8.

The applicant has confirmed in the application, and in the response to the appeal, that for the part of the GCR within the public road written confirmation in accordance with Article 22(2) g (ii) of the Planning Regulations 2000, as amended, has been

provided. The matter of landowner consent for section of the GCR where it traverses private land has been reconfirmed by the applicant in the response to RFI Item 19.

Planning permission is not sought for accommodation works along the TDR, and the applicant outlines that all accommodation works are contained within the public road corridor. The matter of works within Cork County Council's land was reconfirmed in the applicant's response to RFI Item 16, specifically for the TDR between the N20 via the L5523-18 and 5523-0 to Kilmaclenine Junction.

Submission raised concerns regarding proximity of T6 to landownership boundary. In this regard, I note RFI Site Layout (Sheet 4 of 6), dwg ref. 20910-NOD-XX-XX DR-C-8008, details that the turbine is positioned 77.8m from the submitted planning application boundary to the north which is sufficient to accommodate the proposed turbine RD of 150m. I have reviewed the remaining turbines in relation to submitted landownership boundary (blue) details and note that all the proposed turbines are fully accommodated within the planning application boundary.

I would refer appellants and observers to Section 34(13) of the 2000 Act, as amended where it is clearly stated that *"a person shall not be entitled solely by reason of a permission under this section to carry out any development".*

7.6.5. **Refusal of one off residential properties**

The appeal by Willie Aherne and a number of submissions make reference to planning decisions to refuse single one off dwelling houses within this area for reasons related to visual amenities and GI 14-9, specifically reference 23/4900. In this regard, I note one of the main differences between these individual developments and the proposed development is the policy context within which they are considered. The development of renewable energy to address climate change and meet renewable energy targets is a national policy which benefits society as a whole with the structures decommissioned and removed after a specified time. The development of a permanent one off house in a rural area has no wider benefit than to the individual/s involved.

7.7. Comments on Conditions

7.7.1. **Table 7.1** below lists the 71 no. of conditions outlined in Cork County Council's Order dated 22nd May 2025. I have reviewed the 71 no. conditions and note these largely include conditions recommended by other Council Departments and prescribed bodies which I have referred to in Section 3.0 above.

7.7.2. I have indicated whether these conditions are included or excluded from the recommended schedule of conditions (Section 12.0 below). I have also, where relevant, made reference to sections within my report and to the Summary of Mitigation Measures as per Chapter 20 of the EIAR.

Table 7.1 Conditions Recommended by Cork County Council and Prescribed Bodies

Summary of recommended conditions **Cork County Council, Order dated 22/05/25: 71 no. conditions**		**In/Exclusion in Recommendation (& Section 12.0).**
Standard	C1: Plans and particulars. C2: 35 years and decommissioning. C3: 10 years and 35 years.	Include standard conditions.
Layout amendments	C4: Amendments in four locations to retain hedgerows. C20: T5 relocated 20m north as outlined in RFI, point 4.	Include & amend. Refer to Section 8.8.
Mitigation Measures:	C10: NIS mitigation measures. C12: EIAR Biodiversity Chapter mitigation measures. C15: EIAR Ornithology Chapter mitigation measures. C11: Habitat enhancement programme and compliance.	Include & amend.
Biodiversity, Ornithology	C5 & C8: Hedgerow and trees protection, both construction and operation. C6: No vegetation cutting/removal/clearance between 1st March and 31st August. C9: Tree felling and hedgerow removal, September to mid-October only, bat specialist and bat roosting potential. C13: Protective fencing for trees. C16: Ornithology monitoring and mitigation plan. C17: Bats monitoring and mitigation plan. C18: Habitat Management Plan, compliance monitoring reports. C19: Role of the Ecological Clerk of Works.	Exclude. Measures included in EIAR.

Summary of recommended conditions **Cork County Council, Order dated 22/05/25: 71 no. conditions**		**In/Exclusion in Recommendation (& Section 12.0).**
Water quality:	C7: Control of water pollution best practice. C14: No stockpiling with 10m of drain, watercourse. C31, C32, C33, C35, C37 & C41: Silt fencing, track drainage, drainage, sediment/silt traps, hydrocarbon spill kits and management of soiled water. C34: Watercourse monitoring. C40: Reseeding of areas.	Exclude. Measures included in EIAR.
Shadow Flicker & Noise	C22: Shadow flicker limits, software control and compliance report. C23, C24, C25 & C26: Turbines noise, substation noise. C65: Noise Compliance Monitoring Programme. C27: Unoccupied properties within 500m, if these become habitable mitigation measures to be applied. C63: Client liaison officer.	Include & amend Include & amend. Include & amend. Exclude. See section 7.3. Include & amend. See section 8.13.
CEMP	C21: Post-construction decommissioning and restoration plan. C28, C29, C42 & C43: Pollution, fuel storage and waste management. C30 & C39: CEMP and drainage management plan. C36: Site Specific Restoration Waste Management Plan. C38: Storage, loading, unloading areas. C62: Odour and dust. C64: Dust and Noise Management Plan.	Exclude. Measures included in EIAR.
Public Roads & Traffic	C44 to C47: Protection of public roads. C48: Wheel wash facility. C50: Road spillages clean up. C53: Road Opening License. C48: Traffic Management Plan. C49: Off carriageway parking. C52: L5302 entrance.	Exclude. Measures included in EIAR.
Archaeology	C54: Archaeological features to be included in CEMP. C55: Archaeologist and monitoring of works identified in Chapter 15. C56 & C58: RMPs CO024-219 / CO024-033 / CO024-037 / CO024-034 to be preserved in-situ and buffer zones specified. C57: Archaeologist and archaeological testing.	Include & amend. Exclude. Measures included in EIAR.

Summary of recommended conditions Cork County Council, Order dated 22/05/25: 71 no. conditions		In/Exclusion in Recommendation (& Section 12.0).
Aviation	C59: Fixed red obstacle lighting. C61: Aviation warning lights, coordinates and notice.	Include & amend.
Services	C60: Uisce Eireann infrastructure. C68: Infrastructure diversion costs. C70: Iarnród Eireann agreement.	Exclude. Separate approval requirements.
GCR	C66 & 67: Grid connection installation L-5320 and Mallow Relief Road.	Include & amend.
Decommissioning.	C69: Partial and full decommissioning of turbines.	Include & amend
Bonds	C71: Road network security bond.	Include & amend.
Additional Comments		
Development contribution	The substation (130m^2) is to be permanent. Cork County Council's Development Contributions Scheme 2015, non-residential development contributions applicable.	Add S48.

8.0 Environment Impact Assessment

8.1. Introduction and statutory provisions

8.1.1. This section sets out an environmental impact assessment (EIA) of the proposed development.

8.1.2. The proposed development comprising 9 wind turbines and an output of approximately 40.5MW exceeds the threshold for mandatory EIA, as per Part 2 (3)(i), Schedule 5 of the Planning and Development Regulations, 2001 (as amended). The proposed development therefore requires EIA.

8.1.3. The submitted EIAR considers the totality of the Proposed Project i.e. the proposed wind farm, 38kV substation, proposed grid connection route, turbine delivery route and all associated works.

8.2. EIA Structure

8.2.1. This section of the report comprises the environmental impact assessment of the proposed development in accordance with Planning and Development Act 2000 (as amended) and the associated Regulations, which incorporate the European directives on environmental impact assessment (Directive 2011/92/EU as amended by 2014/52/EU). Section 171 of the Planning and Development Act, 2000 (as amended) defines EIA as:

a. consisting of the preparation of an EIAR by the applicant, the carrying out of consultations, the examination of the EIAR and relevant supplementary information by the Commission, the reasoned conclusions of the Commission and the integration of the reasoned conclusion into the decision of the Commission, and

b. includes an examination, analysis and evaluation, by the Commission, that identifies, describes and assesses the likely direct and indirect significant effects of the proposed development on defined environmental parameters and the interaction of these factors, and which includes significant effects arising from the vulnerability of the project to risks of major accidents and/or disasters.

8.2.2. Article 94 of the Planning and Development Regulations, 2001 (as amended) and associated Schedule 6 set out requirements on the contents of an EIAR.

8.2.3. This EIA section of the report is therefore divided into two sections. The first section assesses compliance with the requirements of Article 94 and Schedule 6 of the Regulations. The second section provides an examination, analysis and evaluation of the proposed development and an assessment of the likely direct and indirect significant effects of it on the following defined environmental parameters, having regard to the EIAR and relevant supplementary information:

- population and human health,
- biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive,
- land, soil, water, air and climate,

- material assets, cultural heritage and the landscape,
- the interaction between the above factors, and
- the vulnerability of the proposed development to risks of major accidents and/or disasters.

8.2.4. It also provides a reasoned conclusion and allows for integration of the reasoned conclusions into the Commission's decision.

8.3. Issues Raised in Respect of EIA

8.3.1. Issues raised in respect of EIA by parties to the appeal are discussed in Sections 6.0 above and include the following:

- Biodiversity / Natura 2000 sites
- Birds
- Land and Geology
- Hydrology and hydrogeology
- Traffic and transport and other material assets
- Noise and vibration
- Shadow flicker
- Landscape and visual
- Cultural Heritage
- Air and Climate

8.3.2. The issues raised will be assessed under the relevant sections in this report.

8.4. Compliance with the Requirements of Article 94 and Schedule 6 of the Regulations 2001

8.4.1. The applicant's EIAR comprises of Volume II Main Report (including Chapters 1 – 20), Volume III Appendices (2.1 to 18.2), Volume IV Visualisations, and Volume I, a stand-alone Non-Technical Summary (NTS).

Submissions have raised concerns relating to the EIAR including significance methodology, public consultation, environmental scrutiny, insufficient data and that the EIAR was not updated following the receipt of RFI. Observations have referred to case law relating to the requirement for EIA, as noted above, EIA is mandatory for the proposed development.

8.4.2. Compliance with the requirements of Article 94 and Schedule 6 of the Regulations is assessed below.

Table 8.1 Compliance with the requirements of Article 94 and Schedule 6

Article 94 (a) Information to be contained in an EIAR (Schedule 6, paragraph 1)
• A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development (including the additional information referred to under section 94(b).
Chapter 1 provides a description of the site location including maps (Figure 1.1 to 1.4). Chapter 5 provides a description of the proposed development including details on layout, project components, access, material requirements, temporary works, biodiversity enhancement, community gain proposals, construction methodology, operation, and decommissioning. It is noted that the proposed development does not involve demolition works. The description is adequate to enable decision making. I do not consider the additional joint bays identified in the applicant's RFI response materially alter the description of the proposed development.
• A description of the likely significant effects on the environment of the proposed development (including the additional information referred to under section 94(b).
An assessment of the likely significant direct, indirect, and cumulative effects of the proposed development is carried out for each of the technical chapters of the EIAR, Chapter 6 to 18. Interactions are considered in EIAR Chapter 19, and a Schedule of Mitigation and Monitoring Proposals is presented in EIAR Chapter 20. I am satisfied that the assessment of significant effects is comprehensive and robust and enables decision making. Having reviewed the applicant's RFI response, I am satisfied that this do not alter the assessment of likely significant effects.

- A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development (including the additional information referred to under section 94(b).

The EIAR includes embedded mitigation measures and measures to address potential adverse effects identified in technical studies. These, and arrangements for monitoring, are outlined in technical studies and summarised in Chapter 20 (Schedule of Mitigation Measures) and Appendix 5.1 (CEMP). Mitigation measures comprise standard good practices and site-specific measures and are largely capable of offsetting significant adverse effects identified in the EIAR, for the reasons stated in the assessment below. I do not consider that the applicant's RFI response alters or adds to these measures.

- A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment (including the additional information referred to under section 94(b).

A description of the alternatives considered is contained in Chapter 4 of the EIAR. The alternatives considered include, 'do nothing'; alternative site locations; alternative turbine heights, models, layout and evolution of design; alternative access track design, alternative location of ancillary infrastructure and temporary works; alternative grid connection points and routes; alternative turbine delivery routes; and alternative site access. The main reasons for opting for the current proposal were based on an optimal project design that meets design objectives, and responds to the constraints posed by the characteristics of the site, its location and the type of development.

I am, therefore, satisfied that the applicant has studied reasonable alternatives in assessing the proposed development and has outlined the main reasons for opting for the current proposal before the Commission and in doing so the applicant has taken into account the potential impacts on the environment. I comment on layout, where necessary in the technical assessment below and in Section 7.0 above.

Article 94(b) Additional information, relevant to the specific characteristics of the development and to the environmental features likely to be affected (Schedule 6, Paragraph 2).

• A description of the baseline environment and likely evolution in the absence of the development.
A description of the baseline environment for the proposed development has been provided in each of the technical chapters of the EIAR. A likely evolution in the absence of the development is provided under the 'do nothing scenario'. I am satisfied that a comprehensive understanding of the baseline environment has been provided and enables identification of key impacts in respect of likely effects as a consequence of the proposed development. I comment on baseline, where necessary, in the technical assessment below and in Section 7.3 above. I also comment on the applicant's RFI response, where relevant.
• A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved
The methodology employed in carrying out the EIAR, including the forecasting methods is set out, in Chapter 2 and in each of the individual chapters assessing the environmental effects. The applicant has indicated in the different chapters where difficulties have been encountered (technical or otherwise) in compiling the information to carry out EIAR. I comment on these, where necessary in the technical assessment below and for the reasons stated, I am satisfied that forecasting methods are adequate in respect of likely effects.
• A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.
This issue is specifically dealt with in Chapter 5, Section 5.6 of the EIAR. Specific risks have been identified in relation to the vulnerability of the Proposed Project including the proposed development to traffic incident, contamination and fire.
Article 94 (c) A summary of the information in non-technical language.

This information has been submitted as a separate standalone document. I have read this document, and I am satisfied that the document is concise and comprehensive and is written in a language that is easily understood by a lay member of the public.
Article 94 (d) Sources used for the description and the assessments used in the report.
The sources used to inform the description, and the assessment of the potential environmental effects are set out within each chapter. I consider the sources relied upon are generally appropriate and sufficient.
Article 94 (e) A list of the experts who contributed to the preparation of the report.
A list of the various experts who contributed to the report are set out in Chapter 1 of the EIAR and in Appendices. Where relevant the introductory section of each of the chapters and appendices also detail the individual's expertise, qualifications which demonstrates the competence of the person in preparation of the individual chapters within the EIAR. I am satisfied that the EIAR has been prepared by experts with competency in the technical subject areas. A list of the various experts who contributed to the RFI is also provided.

8.4.3. **Consultations**

A number of the appellants and the observers have raised concerns regarding consultations, outlining that a fair, open and transparent consultation process was not carried out, and that it was not carried out during the EIAR process.

The application has been submitted in accordance with the requirements of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended) in respect of public notices.

Consultations are described in Chapter 3 of the EIAR. The applicant carried out EIA scoping consultation with Cork County Council, prescribed bodies, other non-governmental organisations, utility providers and telecommunication providers (Scoping Consultation Document, September 2022, EIAR Appendix 3.1). The Community Engagement Report is included in EIAR Volume III, Appendix 3.3 and summarised in EIAR Chapter 3, Table 3.3. Project website was launched in

November 2022 and public consultations activities were carried out between January 2023 and May 2023. Activities included, in summary:

- Project website updates and dedicated project e-mail and phone number.
- Engagement with local representatives.
- Google digital marketing campaign and press release.
- Appointed Community Liaison Officer (CLO) and ongoing direct liaison/meetings upon request.
- Letter/leaflet drops and public exhibition invitation (household within 2km radius).
- Door-to-door visits (households within 1km).
- Public exhibition (advertised).
- Feedback form and online survey.
- Meeting with local club, forming of community partnerships, and tour of operational Kilmeedy Wind Farm.

I am satisfied that the community engagement meets the requirements of the 2006 Guidelines and the Draft 2019 Guidelines. Furthermore, I note the community engagement programme in parts overlap with the EIA scoping consultation and baseline surveys informing the EIAR. As stated previously, the information presented in the EIAR complies with the Aarhus Convention.

Taking account of the information provided within the EIAR, I am satisfied that appropriate consultations have been carried out and that third parties have had the opportunity to comment on the proposed development in advance of decision making. The large number of submissions received by Cork County Council as noted in Section 3.4, indicates a robust engagement with the consultation process of the planning application.

8.4.4. **Compliance**

Having regard to the foregoing, I am satisfied that the information contained in the EIAR, and supplementary information provided by the applicant is sufficient to comply with Article 94 of the Planning and Development Regulations, 2001. Matters of detail are considered in my assessment of likely significant effects, below.

8.5. Assessment of Likely Significant Effects

8.5.1. This section of the report sets out an assessment of the likely environmental effects of the proposed development under the environment parameters, as set out Section 171A of the Planning and Development Act 2000, as amended (see paragraph 8.2.3 above). Where relevant, headings based on the environmental parameters have been subdivided and ordered to better reflect the layout of the submitted EIAR and the main environmental considerations of the proposed development.

8.5.2. In accordance with section 171A of the Act, which defines EIA, this assessment includes an examination, analysis and evaluation of the application documents, including the EIAR and submissions received and identifies, describes and assesses the likely direct and indirect significant effects (including cumulative effects) of the proposed development on these environmental parameters and the interaction of these.

8.6. Significance methodology

The Commission will note that observers have raised concerns that the methodology for significance criteria within the technical chapters are reclassifying the significance of an effect, noting that Moderate effects are being dismissed as Not Significant and Profound and Very Significant effects are being devalued as Significant.

The methodology in Chapter 2 of the EIAR sets out terminology for the description of effects which aligns with the EPA Guidelines (2022) including different levels of significance (e.g. imperceptible, not significant, slight, moderate, significant, very significant and profound). This is considered good practice as per the EU Guidance on the preparation of the Environmental Impact Assessment Report (2017), aiding communication in terms of the scale of the effect. I note the majority of the technical chapter expands on the methodology in Chapter 2, taking account topic specific assessment methodology and/or recognised limits, a multi-criteria analysis of value/importance, sensitivity and magnitude, and professional judgement. I find this to be in accordance with the EPA's Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022) and EU's EIAR Guidelines (2017). I am, therefore, satisfied that if an effect is described as being Profound or Very Significant within the EIAR, and the EIAR then deems the effect to be

equivalent to Significant in terms of the EIA Directive as per the methodology, then this does not devalue that effect as suggested by observers.

From my review, I note the potential for significant effects to arise from an effect described as moderate is topic methodology specific, taking account of the multi-criteria analysis and/or professional judgement. Population and Human Health and Material Assets are the only topic specific methodologies where Moderate effects are identified as Not Significant in EIA terms, and I note the significance of effects on population and human health is drawn from the findings of related topic specific assessment. Given this, I am satisfied that the EIAR methodology does not dismiss moderate effects as suggested by observers.

8.7. Population and Human Health

Chapter 6 of the applicant's EIAR deals with population and human health.

RFI Response Report, RFI Items 9 and 22 are of relevance and includes: Appendix 9.1 Sensitive Receptors Database and Appendix 22.1 Equine Welfare Assessment Report.

8.7.1. Issues Raised

A number of issues have been raised by the appellants and observations in relation to community, population, human health, animal welfare including dairy cows and equine interests.

I have addressed sensitive receptors and residential amenity in Section 7.3 and devaluation of properties in Section 7.4 above, I have addressed the displacement of badgers in Section 8.8 below and not repeated these herein. I have made reference to my assessments in Section 8.10 Water, Section 8.12 Shadow Flicker, Section 8.13 Noise and Vibration, Section 8.14 Landscape and Visual, Section 8.17 Material Assets (Traffic and Transport), Section 8.18 Air and Section 8.19 Climate below.

8.7.2. Context

It is noted that taking account of possible interactions, the assessment presents an amalgamation of findings of the following assessments: Chapter 9 Hydrology and Hydrogeology, Chapter 10 Land, Soils and Geology, Chapter 12 Shadow Flicker,

Chapter 13 Noise and Vibration, Chapter 14 Landscape and Visual, Chapter 16 Traffic and Transport, Chapter 17 Air Quality and Chapter 18 Climate in the EIAR.

The study area for the population and human health assessment is shown in Figure 6.1 of the EIAR and includes the Electoral Divisions (EDs) of:

- Templemary (proposed wind farm)
- Kilmaclenine (proposed wind farm and GCR)
- Buttevant, Caherduggan and Mallow Rural (GCR).

The study area also extends to include the area immediately adjacent to road network of TDR.

The assessment study area is considered appropriate, and the assessment methodology includes desktop study.

8.7.3. **Baseline**

Baseline is set out in Section 6.4 of the EIAR.

The **population** recorded for the full study area is 8,677 (2022 census), a population change of 8.44% between 2016 and 2022 which is slightly higher than the increase recorded at Cork county level (7.60%). The population (2022 census) of the wind farm site Eds, are 344 for Templemary and 709 for Kilmaclenine with a population density of 18 people per km^2 and 30 people per km^2, respectively. The population trends for the study area generally reflects the trends at both county and state levels.

The percentage of the population in **employment** is higher for the study area (47.8% in 2016) than at county level (43.1%). The main employment sectors within the study area are “Professional Services” and “Commerce and Trade”. The study area EDs (excluding Mallow Rural) have a higher percentage of the working population engaged in the Agricultural, Forestry or Fishing Industries than the County. Deprivation scores for the study area are above the national average for Templemary, Kilmaclennie and Caherduggan EDs, and below the national average for Buttevant and Mallow Rural EDs. 87.7% of people in the study area rated their **health** as being either ‘good’ or ‘very good’.

Land use, the main Corine Land Cover for the study area is Pastures and Non-Irrigated Arable Land. Sensitive receptors are shown on EIAR Figure 6.9, and the

settlement pattern is characterised by dwellings and farm buildings located along public roads or down private lanes. Smaller villages within 3.5km of the proposed wind farm site include New Twopothouse, Lisgriffin, and Ballyclogh (Ballyclough) and in terms of settlements, Buttevant is located c. 4.7km to the northeast and Mallow is located c. 8.2km to the south.

The nearest **tourism and recreation** amenities are Ballyclough GAA (1.48km to the south) and Kilguilkey House Equestrian Centre (1.8km to the west). No major attractions noted within 10km of the proposed wind farm site.

8.7.4. Likely Potential Effects

Table 8.2: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• None.
Construction	• Population and demographics trends: temporary, imperceptible and Not Significant. • Employment: local short-term, significant, positive, **Significant**. Business/services, local short-term slight positive and Not Significant. • Land use (wind farm), temporary moderate negative and Not Significant. Land use along GCR/TDR, brief slight negative effects on access (Not Significant). • Recreation & tourism: identified attractions located sufficient distance from the wind farm site and not on haul route, Not Significant. Traffic management measures along GCR/TDR, slight, negative and Not Significant. • Human Health: potential impacts on ground and surface water quality with potential to impact water, and land, **Significant**. Potential arise of air pollutants from dust and exhaust emissions, Not Significant. Temporary moderate, negative effect on public safety along GCR/TDR, Not Significant. • Amenity: noise and vibration and traffic effects, Not Significant.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Operation	• Population and demographics trends: imperceptible and Not Significant. • Employment: potential to make a substantial contribution to creating jobs, supporting the rural community and investing in the Cork economy, long term positive effects, **Significant**. • Land use: permanent land use change of 3.49ha (6% of redline boundary), permanent, slight, positive and Not Significant. • Recreation & tourism: considering surveys (SEAI and Fáilte Ireland) and public attitude polls (Wind Energy Ireland), it is anticipated that, over time, the proposed turbines will become a feature of the landscape and viewed positively by the community. Visual effects on recreational facilities and heritage sites ranges from minor to moderate/minor to moderate, adverse and Not Significant. • Human health: Effects on health considering air emissions, underground electric cable, shadow flicker, noise, Not Significant. No health effects arising from landscape and visual effects. Not Significant. • Amenity: Potential for shadow flicker effects to impact on sensitive receptors would be long term, negative, moderate to **Significant**. Predicted turbine noise levels comply with noise criteria at all sensitive receptors except one, H17, where there will be a slight exceedance at 6m/s wind speed (daytime), potential **Significant**. Landscape and visual effects on communities within 5km, ranges from adverse, moderate/slight to moderate, Not Significant.
Decommissioning	• Similar effects to construction, but of reduced magnitude. Once fully decommissioned the land will revert fully to agricultural use. Not Significant.
Cumulative	• No cumulative effects identified.

8.7.5. **Mitigation**

- Mitigation measures as per EIAR Chapter 9 Hydrology and hydrogeology to prevent pollution and to protect surface and groundwater quality.
- Traffic management measures as per EIAR Chapter 16 Traffic and Transport.
- Construction dust control and exhaust mitigation measures as per EIAR Chapter 17 Air Quality.
- Construction Environmental Management Plan.
- Operational curtailment measures as per EIAR Chapter 12 Shadow Flicker.
- Mitigation measures as per EIAR Chapter 13 Noise and Vibration.

8.7.6. **Residual Effects**

- No significant residual effects on population, employment, land use and recreation and tourism predicted. No significant residual amenity effects as a result of operational shadow flicker and construction and operational noise and vibration.
- No significant residual effects on human health predicted. Potential overall net Significant beneficial effect upon the global climate, contributing to overall positive effects on human health and wellbeing of the population.

8.7.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Population trends

A number of submissions have expressed concerns that the proposed development will lead to depopulation of the area, and that this goes against the Irish Government seeking to address our aging population in the countryside and the restoration of rural Ireland. Whilst the concerns are noted, no relevant studies have been referred to in submissions and I am not aware of any peer reviewed evidence base demonstrating that the presence of wind farm development over the past few decades in Ireland have led to significant, or noticeable, depopulation within rural areas. I have considered the findings of the applicant's EIAR in terms of imperceptible effects on population and potential significant positive effects on employment. I have had regard to my conclusions in the preceding sections 7.2 to

7.4, in relation to renewable energy targets and landuse policy context, setback to residential receptors, and the findings of no significant negative impact on the residential amenity and no adverse impact on the property or land values. I am, therefore, satisfied that the proposed development would not result in significant effects on the population trends in the area and that overall, it cannot be demonstrated that the presence of the proposed wind farm will directly result in depopulation within the area.

Health impacts

Submissions have raised concerns that health impacts have not been addressed in sufficient detail within the EIAR. I note the EPA Guidelines (p. 28) outlines that "the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR." It outlines that no specific guidance on the meaning of the term Human Health has been issued in the context of EIA Directive 2014/52/EU, and that the approach taken in the EPA guidelines corresponds with the EC's SEA Implementation Guidance on the consideration of human health. I note the EU Guidance on the preparation of Environmental Impact Assessment Report (2017) identifies human health as a broad factor, highly project dependent and one that should be considered in the context of the other factors in Article 3(1) of the EIA Directive including environmentally related health issues. I have reviewed the applicant's human health assessment within Chapter 6 of the EIAR, and I am satisfied that the assessment is project specific, considers relevant factors within Article 3(1) of the EIA Directive and that an assessment of the interaction of factors has been carried out in Chapter 19 of the EIAR.

Following on from this, I note several concerns regarding impact on health including mental health have been raised in submissions, and that a number of these have made reference to individual personal health circumstances. Concerns raised specifically relates to health impacts as a result of the proposed development from the disturbance effects including noise, vibration and shadow flicker, pollution effects including water supplies and air, visual impacts, and electro and magnetic fields (EMF). I have assessed these factors in the relevant sections below, and I have therein found that the proposed development, subject to mitigation measures, would

not have any unacceptable direct or indirect residual effects on the water, would not result in significant adverse residual effects on air quality, would not exceed the thresholds and/or limits that are applicable to noise and shadow flicker, and would not result in significant effects from the interaction of those factors. Furthermore, Chapter 6 outlines that based on the rotation per minute by modern turbines any shadow flicker would be well below the threshold known to trigger epilepsy symptoms. Chapter 6 further details that the installation of the proposed underground electric cables is common practice throughout the country and will fully comply with specifications and that this does not give rise to any specific health concerns referencing ESB document EMF & you (2017). Submissions have not submitted documentation indicating otherwise.

Both appellants and observers make reference the WHO Environmental noise guidelines for the European Region (2018), and the Tullacondra TAC appeal appends a copy of sections these guidelines. Other health risk related papers referenced in submissions are noted, however given these are not project specific and in the absence of peer review, I have not considered these further. The purpose of the WHO Guidelines (2018) is to provide recommendations for protecting human health from exposure to environmental noise originating from various sources. In terms of wind turbines, the WHO guidelines considered average noise exposure and set a guideline exposure level of 45 dB L_{den}. The conditional recommendation outlined that wind turbine noise above this level is associated with adverse health effects, although the evidence on the adverse effects of wind turbine noise was rated to be of low quality. No recommendations were made for nighttime wind turbine noise levels or for addressing sleep disturbance given the quality of evidence. I have addressed noise limits in Section 8.13 below, and note therein the uncertainties concluded within the WHO Guidelines relating to Lden or Lnight and how these factors provide for a poor characterisation of wind turbine noise and how this may limit the ability to observe associations between wind turbine noise and health outcomes. I also note recent studies including “Report for UK Government: A review of Noise Guidance for Onshore Wind Turbines” (WSP, 2023) which advised that the WHO Guidelines “have limited relevance and are not considered to offer a robust platform for developing a framework of wind turbine noise effects thresholds.”

The Commission will note the WSP report is also included in the Tullacondra TAC appeal submission. Having regard to the limitations of the noise characterisation factor applied within the WHO Guidelines and the data informing it, and taking account of the findings of the EIAR, I am satisfied that the proposed development in terms of health effects will not exceed the thresholds and/or limits that are applicable to noise levels for wind farm development within the jurisdiction and which are designed to protect receiving environments.

Most submissions also reference recent High Court judgements pertaining to operational wind farms and noise nuisance and the TTAC appeal, Appendix 8 to 10 are noted. Whilst I note the concerns raised, I do not consider these judgments directly applicable to the appeal given the very specific site and individual circumstances surrounding these. The matter of noise limits and noise characteristics in relation to the 2006 Guidelines have been addressed in Section 8.13 below.

Submissions have also raised concerns regarding the location of the site within a radon red zone area. The designation of high radon area by the EPA is applicable to areas where one in five homes are likely to have a high radon level as per the Ireland's State of the Environment Report 2024 (EPA). I am satisfied that the proposed substation will be to ESBN specifications and note that the proposed development will be remotely managed when operational.

Having regard to the above, I am satisfied that the limits and buffers to sensitive receptors including setbacks to residential receptors as applied to the proposed development by the applicant in accordance with best practice and standards are designed to protect receiving environments and in this regard I consider that the proposed development given its distance from receptors will not adversely impact the population including vulnerable persons.

Impacts on equine interests

A technical expert opinion by Dr. D P Leadon is appended to the appeals by Tullacondra TAC and Arthur O'Grady and Eoghan O'Grady, the latter also includes letters from Irish Racehorse Trainers Association and Horse Racing Ireland. Both appellants and observers have raised concerns that the proposed development

poses a significant threat to the local equestrian industry including local bloodstock industries, and raising concerns regarding impact on animal welfare, animal health, safety of handlers, business concerns and that until the effects have been scientifically documented and the risk proven to be absolutely negligible or studied adequately the precautionary principle should be applied. Concerns and reference to papers relating to potential health impacts on horses are noted, however given these are not project specific and in the absence of peer reviewed scientific evidence, I have not considered these further.

The Commission will note the concerns raised in response to the appeal are largely similar to those raised at planning application stage and which were addressed by the applicant in RFI Item 22.1. As summarised in Section 3.2 above, the planning authority considered the RFI response from applicant to be satisfactory and the Commission will note the objection by the Council's Veterinary Department.

There are no national policy or guidelines applicable to the topic, and it is equine interest are not considered in the 2006 Guidelines or the draft 2019 Guidelines. On the account of the lack of relevant advice within the jurisdiction, the planning authority, the County Veterinarian Department, the applicant and the appellants make reference to advice issued by The British Horse Society (BHS), specifically minimum separation distances outlined in Advice on Wind turbines and Horses – Guidance for Planners and Developers (March 2024). I consider this approach acceptable. The BHS in May 2025 published an updated policy statement, BHS Policy January 2025 in "Advice on Wind Turbines and equestrian access" and outlines that the reason for the update in policy reflects wind farms becoming more common and more familiar to horses and equestrians. The updated BHS policy (May, 2025) recommends a separation distance between a commercial turbine and any "route" of blade tip height plus 10% which is substantially less than the minimum separation distance of 200m or 3 x tip height "between a turbine and any route used by horses or a business with horses" as recommended in March 2024. Taking account of the UK context, routes are defined in BHS (2025) to include "all classes of highway available to horses – bridleway, restricted byway, byway open to all traffic, general purpose road (surfaced or unsurfaced) – and permissive routes." I note BHS (2025) does not stipulate separation distance between wind turbines and a business with horses.

Considering the scope of the BHS advice (May 2025), I am satisfied that there are no potential routes, as defined by the BHS, within blade tip height plus 10% of the proposed wind turbines. The nearest such route would be L5302 located 650m from the nearest turbine which also exceeds the previous advice of (3 x tip height). The applicant's response to RFI Item 22.1 concludes that any potential equine facilities are located more than 525m (3 x tip height) from the nearest proposed turbine. The expert opinion by Dr. D P Leadon states that this is factually incorrect, and refers to land use for training of racehorse located some 75m west of proposed turbine T3. I further note the letter from Horse Racing Ireland makes reference to a grass gallop within 25m of T4. Whilst the scope of the BHS policy (May 2025) in terms of separation distance is only applicable to wind turbines and routes, the Commission will note Section 7.6 above, where I confirm that all proposed turbines are fully accommodated within the planning application boundary. In my view, the proposed wind turbines meet with recommended separation distances by the BHS.

The risk to horses and personnel from blade movement, shadow flicker and noise are raised by the Council's Veterinary Department and a number of other submissions. The technical expert opinion by Dr. D P Leadon outlines how the sensory abilities of horses and how these differ from those of humans, specifically in relation to sight and hearing, and how reactions from unpredictable and unexpected noise can lead to long lasting effects and injuries. I note the BHS (May 2025) outlines that the evidence of adverse effect on horses from wind turbines is slight. Noting that negative effect from wind turbine on horses, access opportunities and business should not be assumed and that there has been more feedback of "horses being undisturbed by turbines than of adverse reactions, and few where the horse's response was not eased with familiarity and sensitive handling."

Movement of modern large scale turbines is considered to be slow and rhythmical and less likely to be perceived as a threat in the BHS guidance. Noise generated by modern large scale turbines is considered to be lower and changes with distance, angle and conditions, however, the guidance also notes that horses are not good at locating the source of a noise and that this may cause unexpected reactions. The applicant's response to RFI Item 22 outlines that noise produced by the proposed wind turbines are significantly lower than standard noise. As outlined previously, the proposed wind turbine layout includes for a minimum setback to dwellings of 700m in

order to protect residential amenity including noise. Applicable noise limits to sensitive residential receptors are set out in Chapter 13 of the EIAR and are in line with applicable guidance (Section 8.13 below). Moving shadows are noted in the BHS guidance to be less obvious when appearing across vegetation, and finds that horses likely to be troubled by shadows are also likely to be troubled by long grass being rippled in the wind. Concerns have been raised regarding shadow flicker, however as clearly set out in the applicant's response to RFI 22, shadow flicker occurs where the blades cast a shadow over a window and does not apply to horses grazing or exercising outdoors.

The BHS recommends familiarisation, allowing horses to be accommodated in a field close by to experience the turbines. I note the applicant's comprehensive response to RFI Item 22 (Appendix 22.1) also concluded that environmental habitation and training techniques assist with adaptability. BHS also outlines mitigation measures such as good communication during construction phases including notification of specific activities, concrete pour and commissioning periods.

The technical expert opinion by Dr. D P Leadon sets out that a detailed assessment on equine facilities should extend to out to 5km in terms of Zone of Influence (ZoI). No guidelines or evidence justifying the 5km ZoI has been referenced or submitted, and as such, I am satisfied that the baseline outlines in Chapter 6 of the EIAR and scope of the applicant's RFI Appendix 22.1 are adequate.

Having regard to the lack of guidance on the matter within the jurisdiction, the revised policy statement by BHS, the applicant's comprehensive submission on the matter in response to RFI Item 22, and in the absence of any peer reviewed scientific evidence which indicate that wind farms have a negative adverse effect on equine interests, I am satisfied that the proposed development will not have a significant adverse effect on equine interests within the area.

Impact on farms including livestock interest

Concerns have been raised on the impact on bovine interests including cattle and dairy cows and ovine interests. A study into the impact of wind turbines on cattle welfare by the European Reference Centre for Animal Welfare (EURCAW) has been referred, although no specific reference to the study has been provided. Other

papers relating to potential impacts on livestock has been referenced in submission, however given these are not project specific and in the absence of peer review, I have not considered these further.

It is not uncommon for wind farms and agricultural interests to operate alongside each other including grazing by livestock. It is anticipated that existing grazing will continue onsite throughout the operation of the proposed wind farm and the design process detailed in EIAR Chapter 4 emphasises the importance of existing agricultural operations. I note that EURCAW Ruminants & Equines as referenced in submissions have published a response to a query relating to the effects of wind turbine on bovines on pasture (Q2E-Ruminants-Equines-2024-005, October 2024). This response, whilst outlining a need for further research, noted that the expected outcome of such research is a conclusion that domesticated species will not be harmed by the sound of wind turbines and will habituate. It found that wind turbine noise does not give rise to noise that is sudden and high pitched such as may frighten an animal, are less than other sounds experienced by cattle on farms and that wind turbine noise levels are well below those likely to impact on animal welfare including dairy cows. It further noted that there is no evidence that shadow or visual disturbance caused by wind turbines have an impact on bovine welfare.

Having regard to the above, and in the absence of any peer reviewed studies which indicate that wind farms have a negative impact on livestock or agriculture, I am satisfied that the proposed development would not have a significant effect on such interests. Furthermore, whilst I note observations to the planning application raised concerns that proposed development would have a detrimental effect on local farms commitments under the Common Agricultural Policy 2023-2027, I am, however, satisfied that the proposed development will not have a significant adverse effect on ongoing agricultural interests within the surrounding area.

8.7.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that potential effects on population and human health as a result of the proposed development would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation

measures and through suitable conditions. I am therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the population and human health. I note the potential for significant positive employment effects as a result of the proposed development.

8.8. Biodiversity

Chapter 7 of the applicant's EIAR deals with biodiversity and in the following appendices:

- Appendix 7.1 – Bat Baseline Report
- Appendix 7.2 – Aquatic Ecology Baseline Report
- Appendix 7.3 – Habitat Management Plan
- Appendix 7.4 – Technical Note on Site Access Track Separation Distances

Ornithology is addressed separately in Chapter 8.

The Planning Report (RSK, 2024) includes in Appendix 3, Tree condition Survey (Dermot Casey Tree Care, May 2023) and in Appendix 4, Technical Note: Site Access Track Separation Distance from Vegetation (BFA Consulting, November 2023).

RFI Response Report, RFI Items 3, 4, 5(a), 6, and 7 are of relevance and includes: Appendix 3.2 Confirmatory Otter Survey Results; Appendix 4.1 Preliminary Bat Roost Assessment Results (September 2022); and Appendix 6.1 Hedgerow Assessment Report. The Natural Impact Statement is included in Appendix 3.1, my AA is set out in Section 9.0 below. I have considered landownership matters including RFI Item 8 in Section 7.6 above, and not repeated these herein.

8.8.1. Issues Raised

A number of appellants and observers have raised concerns in relation to loss of hedgerows and impacts on bats, impacts on species rich grassland, invasive species, badger disturbance and bovine Tuberculosis, otter surveys and aquatic ecology. The Tullacondra TAC appeal appends an expert opinion by Pascal Sweeney, Sweeney Consultancy, titled "Appraisal of Aquatic Ecology Reporting in

EIAR for Tullacondra Green Energy Ltd" (No date) (hereafter referred to as SC Report).

8.8.2. **Context**

In addition to desk study, ecological surveys undertaken are summarised in EIAR Table 7.1 and include:

- Extended Phase 1 habitat survey (July and August 2022, January 2023)
- Badger (Meles meles) surveys (July and August 2022, January 2023)
- Bat surveys (Spring, summer, autumn 2022 and November 2022)
- Other mammal surveys (July and August 2022, January 2023)
- Amphibian surveys (May 2023)
- Aquatic ecology (summer 2022 and winter 2022)

Further details on ecological surveys including scope and methodology are provided in Section 7.6.3.2 of the EIAR and for bats and aquatic ecology in Appendices 7.1 and 7.2.

Caherduggan South Stream Otter surveys in RFI Appendix 3.2 were carried out January 2025. Preliminary bat roost inspections of Ballyviniter Road Bridge and Caherduggan South Stream watercourse crossing were carried out September 2002 (RFI Appendix 4.1).

8.8.3. **Baseline**

Ecological baseline is set out in Section 7.7 of the EIAR.

Protected sites: Of relevance to the biodiversity (excluding birds) chapter and scoped in due to connectivity, include Blackwater River (Cork/Waterford) SAC (c. 5.1km) of **International Importance**, and Awbeg Valley (above Doneraille) pNHA (c. 7.3km) of **National Importance**.

Habitats: No protected or priority plants recorded on the wind farm site. The wind farm site and surrounding land holding predominately comprise improved grassland (GA1), arable land (BC1) and tilled land (BC3), deemed to be of Local (lower value) importance or Negligible ecological value. Habitat types recorded and deemed to be

of **Local (Higher value) importance** and key ecological receptors include: two pockets of mixed broadleaved woodland (WD1); smaller pockets of scrub (WS1) with two small fragments of wet grassland (GS4) occurring adjacent to these; disturbed ground (ED2) occurring mainly along farm lanes; hedgerow (WL1) and treelines (WL2) which mainly occur mainly field boundaries; drainage ditches (FW4) which are common within the site including along field boundaries, a karst feature / historic quarry (Artificial Lakes and Ponds, FL8) located east of T5; and a lake (Eutrophic Lakes, FL5) was recorded north of the site.

Invasive non-native species such as Japanese knotweed were recorded in two locations within the wind farm site, and two locations along the TDR options.

Fauna: Deemed to be of **Local (higher value) importance** and key ecological receptors include**:**

- **Terrestrial invertebrates**: Red-tailed bumblebee (*Bombus lapidaries)* and buff mining bee (both red-list species) were recorded utilising the wind farm site. Devils-bit scabious (Succisa pratensis) recorded within wet grassland areas, but no evidence of marsh fritillary butterfly being present recorded.
- **Bats**: Proposed turbines located within low suitability site for bats, with area south of T8 (substation and access) identified as being of moderate suitability. Brown long-eared bat transition roost within building 160m southwest of T9 and based on bat activity, predicted common pipistrelle roost within farmyard buildings 600m from T2. Common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat, and a myotis species were recorded during walked surveys and static detector recordings included common pipistrelle, soprano pipistrelle, Leisler's bat, Nathusius's pipistrelle, brown long-eared bat, Natterer's bat, and Daubenton's bat.
- **Badgers**: Six active badger setts were recorded on the wind farm site boundaries along with field signs. An abundance of suitable habitat in the immediate vicinity of the wind farm site.
- **Other mammals**: Droppings of hedgehog recorded along with suitable habitats. No signs of pygmy shrew recorded though habitat is suitable.

Amphibians, reptiles, otters and red squirrel were deemed to be of Local (lower value) importance, and scoped out of the assessment.

Aquatic ecology: There are no mapped stream within the wind farm site or in the vicinity. Drains within the site are all subject to drying. Water leaves the wind farm site via underground limestone aquifers during dry conditions and during wet condition, what water the aquifers do not take are present in small flows within drains. No direct overground downstream watercourse connectivity from the wind farm site was established. The drains within the wind farm site and its vicinity are unsuitable to fish and aquatic species such as White-clawed crayfish and Freshwater pear mussels. Aquatic ecology within the wind farm site is deemed to be of **Local (Higher value) Importance.**

Within the wider catchment, **white-clawed crayfish** were observed at Gortnagross in the Ballyclough catchment and in the Reach 1 and 2 within the Blackwater main channel, downstream of Awbeg (Kanturk) confluence and the Finnow confluence, respectively. **Freshwater pearl mussel** was observed in Reach 2. **Fish** observed in the Blackwater main channel included salmon (juvenile and adult), trout, European eel, river/brook lamprey, three-spined stickleback, minnow and non-native invasive fish, shoals of dace. The Ballyclough river contained trout, European eel and lamprey, and Awbeg (Kanturk) contained salmon (including spawning), trout, European eel, lamprey and three-spined stickleback. Trout was observed in the unnamed stream passing through Lisgriffin. Aquatic ecology within ZoI, **Up to International Importance**.

8.8.4. Likely Potential Effects

Table 8.3: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Existing land management likely to continue and future baseline is assumed to remain similar to current baseline.
Construction	Designated sites:

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Site offers negligible connectivity and the distance negates the risk of sediment reaching the SAC, and the pNHA. No likely significant effect. **Habitats and flora:** Habitat loss and fragmentation effects, and disturbance/damage/pollution effects: • Disturbed ground (ED2), eutrophic lakes (FL5), artificial lakes and ponds (FL8), drainage ditches (FW4), wet grassland (GS4), treelines (WL2), scrubs (WS1), mixed broadleaved woodland (WD1): Magnitude of effects Negligible to Low, and Not Significant. • Hedgerows (WL1): Loss of 140m at site access, 200m for T4 and T9, and 91m, a cumulation of gaps for access track (total 431m). Limited to small scale pruning and punching gaps along TDR expected. Magnitude of effect Medium, direct long-term slight adverse effect **Significant** (Local level). • Invasive non-native species: Potential both in-situ and ex-situ effects due to presence of Japanese Knotweed. Magnitude of effect Low, Slight adverse effect **Significant** (Local level), reduced to Not Significant taking account of embedded mitigations, CEMP. Fauna: • <u>Invertebrates:</u> Habitat loss, disturbance/displacement, and mortality effects, magnitude of effect Low, and Not significant. • <u>Bats:</u> Habitat loss and fragmentation, magnitude of effects Medium, direct, long-term, slight, adverse effects and **Significant** (Local level). Disturbance/displacement and mortality effects, magnitude of effects Low and Not significant taking account of embedded mitigations, CEMP.

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Badgers and other mammals: Habitat loss, fragmentation, disturbance/displacement and mortality effects, magnitude of effect Low, and Not Significant. Aquatic Ecology: • Habitat loss and fragmentation on-site and off-site effects, magnitude of effect Low, and Not significant. • Construction phase effects such as disturbance/displacement/mortality and pollution within the wind farm site and along the GCR, magnitude of effect Low, and Not significant taking account of embedded mitigation measures, CEMP.
Operation	Habitats and flora: • No additional habitat loss. Damage/disturbance and pollution effects, Not significant. • Invasive non-native species, Not significant taking account of embedded mitigation, CEMP. Fauna: • Invertebrates: Habitat loss and fragmentation, disturbance/displacement and mortality effects, magnitude of effect negligible, and Not significant. • Bats: Habitat loss and fragmentation, magnitude of effect Medium, direct, long-term, slight, negative effects and **Significant** (Local level). Collision risk mortality, magnitude of effect Medium, direct, long-term, slight, negative effects and **Significant** (Local level). Disturbance and displacement effect, magnitude of effect Low and Not significant.

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Badgers and other mammals: Habitat loss, fragmentation, disturbance/displacement and mortality effects, magnitude of effects Low, and Not Significant. Aquatic Ecology: • Habitat loss and fragmentation, disturbance/displacement/mortality and pollution effects, magnitude of effect Low, and Not significant.
Decommissioning	• No other effects than those described in construction and operational phases likely to occur. • Decommissioning activities are assumed to be similar to construction activities, although shorter duration and less intrusive. Not significant. • Viability of habitats and associated species likely to increase.
Cumulative	• No likelihood of significant cumulative effects has been identified.

8.8.5. **Mitigation**

Embedded mitigation measures are described in Section 7.8 and include design measures, CEMP and the overseeing of ecological issues by an Ecological Clerk of Works (ECoW). Measures to mitigate adverse effects are outlined in Section 7.10 and include:

- Hedgerow in-situ reinstatement, 20m. Hedgerow loss (411m) offset planting, 2,911m of new hedgerow proposed.
- Feathering the blades during low wind speed and dynamic curtailment strategy with increased cut-in speeds (Years 1, 2 and 3).
- Bat roost monitoring (Years 1, 2 and 3) and bat activity and fatality monitoring (Years 1, 2, 3, 5, 7, 10, 15, 20, 25, 30).

- Temporary habitat loss reinstatement and re-vegetation monitoring.

Enhancement measures of retained habitat and the creation of new habitat leading to a net gain for biodiversity are detailed within the Habitat Management Plan (HMP) (Appendix 7.3). Monitoring strategy of enhancement measures with a HMP monitoring report submitted to the planning authority at the end of each monitoring year (Years 1, 2,3, 5, 7, 10, 15, 20, 25, 30 and 34).

8.8.6. **Residual Effects**

- Taking account of mitigation measures, no significant adverse residual effects are anticipated.
- Taking account of enhancement measures set out within the HMP, a significant positive effect in the long-term on identified sensitive ecological features and on biodiversity as a whole within the local area is predicted.

8.8.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Grid connection and turbine delivery routes

Submissions have raised concerns that vegetation removal and land adjacent to the routes of the GCRs and TDRs have not been surveyed. The GCR and TDR both are located within the public roadway and verge, and whilst I note the comments by DAU, I am satisfied that works associated with both and pathways of same have been assessed in the biodiversity chapter and note Extended Phase 1 Habitat Survey have been carried out in specific locations along the routes (EIAR Table 7.1) including aquatic survey at GCR crossing of Blackwater (Munster_140) and otter survey (RFI Appendix 3.2). Furthermore, I am satisfied that proposed trimming of vegetation along the GCR and TDR routes will be managed by mitigation measures outlined in the CEMP including EcCOW supervision, pre-construction surveys and timing of works.

Habitat loss

Submissions have raised concerns in relation to habitat removal and damage within a relatively intensive agricultural area and the potential devastating effects to an

ecosystem already under immense pressure and that set-aside land adjacent to the site have been committed from surveys. A number of submissions have raised concerns regarding loss of hedgerow as a result of the proposed development. Submissions have also raised concerns regarding the management of habitat enhancement measures proposed.

I am satisfied that the desk study has considered the ZoI for the proposed development. I note the Extended Phase 1 habitat survey covered the proposed wind farm site and the wider landholding within the blue line boundary as shown on Figure 7.4 of the EIAR, which I consider acceptable. The EIAR notes that the wind turbines, substation, met mast and construction compounds will all be located within highly modified agricultural land of low ecological value due to their generally poor botanical diversity. The Extended Phase 1 Habitat survey recorded no rare or protected flora within the site. I note habitat losses as a result of the proposed development are listed in EIAR Table 7.15, and the permanent land take is 2.68ha and habitat losses impacted by temporary works, 11.11ha, will be reinstated. The proposed development will not impact on lakes, ponds, wet grassland, scrubs or woodland habitats recorded within the site. Impact on drainage ditches and treelines are limited, and in regard to the 8 ash trees identified for removal along the L5320, 7 of these are also recommended to be removed due ash dieback disease (Planning Report, Appendix 3 Tree Condition Survey). Disturbed ground habitat is noted as ubiquitous within the area, and the limited removal of such habitat is not considered extensive enough to generate significant effects and this type of habitat can be easily reinstated.

I note no significant effects on these habits are predicted in the EIAR and that mitigation measures relating to tree protection and the managements of pollutants in surface water runoff are included within the CEMP. I note additional tree protection measures are detailed in Appendix 4 of the Planning Report, Technical Note: Site Access Track Separation Distance from Vegetation. In addition, I note EIAR Figure 7.6 and the HMP (Appendix 7.3) detail habitat creation and enhancements within the site including bracken control, meadow creation, pond, scrub and wet grassland habitats enhancement, and woodland planting and habitat creation and enhancement areas are listed in Table 7.23. I am satisfied that both short term and

long term management of habitat enhancement measures are set out within Appendix 7.3.

Hedgerow Habitat: As outlined above, a slight adverse effect (Significant effect at the local level) is predicted as a result of hedgerow loss and fragmentation within the site. The EIAR identifies hedgerows as a semi-natural habitats within an intensively modified landscape, occurring along field boundaries, 14.4km of hedgerow habitat was recorded within the site and the composition of the hedgerow habitat showed signs of management measures typical for agricultural environments. Hedgerow habitat provides breeding, foraging, and commuting opportunities for insects, birds, bats, and non-volant mammals, and is a relatively continues and widespread habitat within the site and the surrounding area. I note Chapter 4 of the EIAR outlines the iterative design process carried out by the applicant which takes account of hedgerow loss and the balance with ongoing agricultural activities, and I have addressed this further below in relation to impact on bats.

Mitigation measures in the EIAR include for 20m of hedgerow reinstatement in-situ planting at the location of temporary works and hedgerow planting within existing access gaps no longer required, 15m. As noted previously, additional new hedgerow planting (2,911m) to offset hedgerow loss (411m) is proposed within the blueline boundary. The EIAR notes that it will take ten years for hedgerow planting to establish, become functional and of value to biodiversity, and as such, considers it a long-term benefit to local biodiversity. I note the location of hedgerow planting seek to improve connectivity for bats away from the operational turbines, and no additional locations for compensatory planting were identified in RFI Appendix 6.1 Hedgerow Assessment Report. I note best practice measures for the protection of hedgerows and trees are listed within the CEMP and that additional measures for the protection of hedgerow are set out in Appendix 4 of the Planning Report, Technical Note: Site Access Track Separation Distance from Vegetation.

The commission will note Condition 4(1-4) as recommended by Council's Ecologist retains hedgerows at four locations and seeks amends to the proposed substation and track layouts. I have reviewed Site Layout Sheet 1 to 6 (dwg ref. 20910-NOD-XX-XX-DR-C-08005 to 10, rev. C01) and RFI Site Layout Sheet 1 to 6 (rev. C02) and I have visited the site.

- Condition 4(1): I consider the proposed removal of the hedgerow to the front of the substation acceptable. I note existing hedgerow connectivity is predominately to the north and the east of the substation site and that the proposed hedgerow planting will improve connectivity to the south and west of the substation.
- Condition 4(2): I concur that there are discrepancies in terms proposed works and potential hedgerow habitat loss along the existing access track between the substation and existing farm buildings. RFI Site Layout Sheet 2 (dwg ref. 20910-NOD-XX-XX-DR-C-08006, rev. C02) details hedgerow habitat only on the east side of the existing access track, however, I concur with the Council's Ecologist, that hedgerow habitat is present on both sides of the track. The proposed upgraded shown tracks include for a minor realignment of the existing track which could potentially result in the loss of hedgerow habitat in addition to the 431m identified in the EIAR. In this regard, I note both existing and proposed tracks are shown to measures c. 5m in width and I concur with the planning authority that upgrades to the existing track should take place within the existing alignment to prevent additional hedgerow loss.
- Condition 4(3): I consider the proposed temporary c.6m wide opening to the west of T8 acceptable in terms of hedgerow connectivity.
- Condition 4(4): I concur with the planning authority that a single gap in the hedgerow to facilitate temporary and permanent access tracks between the met masts and T5 is sufficient and recommend the existing access gap in the hedgerow is utilised.

The Commission will note an appraisal of the hedgerow along the townland boundary to the north of T2 is included in RFI Appendix 6.1. In this regard, I am satisfied that a direct route through the hedgerow to facilitate access to T1 is proposed, and I concur with the Council's Ecologist recommendation that the section to be removed should be restricted to 10m in order to reduce the impact on connectivity.

Conclusion: Having regard to the above, and taking account of the iterative design process and mitigation measures, I am satisfied that habitat loss and fragmentation within the site have been minimised overall and that the footprint of the proposed development have sought to avoid and/or minimise the impact on habitats of higher

ecological value. Furthermore, I am satisfied that the loss of hedgerow habitat within the site will be reinstated, where possible, and otherwise offset by additional hedgerow planting providing long term biodiversity benefits.

In the event the Commission is minded to grant permission, I recommend that additional retainment of hedgerow habitat as outlined above is conditioned (refer to recommended Condition 2 in Section 12.0).

Invasive Species

Submissions have raised concerns regarding the spread and management of Japanese Knotweed. As outlined above, habitat surveys identified Japanese Knotweed within the wind farm and in locations along the TDRs. I am satisfied that the potential for construction works to disturb invasive species and/or soil contaminated with invasive plant material have been assessed in the EIAR. A potential effect-receptor pathway via watercourses and from transport of plant and machinery have also been considered. I am satisfied that mitigation measures described in the CEMP to prevent growth and spread of invasive species are applicable to the wind farm site, the GRC and the TDR and consider these acceptable and in line with best practice.

Impact on Bats

A number of submissions have raised concerns regarding the impact on bats including disruption from noise and hedgerow removal and impact on suitable habitat along the GCR, and concerns that that the bat surveys are incomplete or too old. In addition, the Commission will note comments by DAU in relation to turbine proximity to hedgerows, curtailment strategy and bats mortality, and Condition 20 as recommended by the Council's Ecologist.

Bat surveys: Submission have raised concerns that bat surveys are incomplete and more than two years old at the time of submission. Having reviewed the submitted documentation, I am satisfied that the bat survey effort and scope followed best practice methodologies available at the time of the survey work, specifically Nature Scot (formerly Scottish Natural Heritage) guidance. I note the applicant's response in RFI Item 4(a) confirmed a typographical error in EIAR Chapter 7 (Section 6.6.3.2.3 and Table 7.1) and that spring, summer and autumn static detector surveys were

completed as per EIAR Appendix 7.1. Furthermore, I am satisfied that the low to negligible bat roost potential of the bridge structures surveyed along the GCR is unlikely to have altered in the intervening period between the survey (September 2022) and the submission of the RFI (March 2025) and that, therefore, the surveys, which the applicant notes were inadvertently omitted from the planning application submission, were still considered valid at the time of the RFI submission. I further note that the mitigation measures include for one season of bat activity survey should the time lapse between the surveys and construction exceed three years and that future survey work will be completed according to best practice

guidelines available static detector, activity, and roost inspection surveys. The Commission will note that DAU and the Council's Ecologist have not raised any concerns relating to the methodology, scope or timing of bat surveys carried out for the proposed development.

Bats roost and disturbance: Submissions have raised concerns regarding disturbance of bats from noise. The EIAR found that the proposed development is unlikely to cause disturbance to roosting due to distance to known roost sites, and the Commission will note the Council's Ecologist is satisfied that the location of T9 will not lead to direct impact on brown long-eared bats. No requirements for Bat Derogation Licence were identified. The RFI Appendix 4.1 confirmed low or negligible roost potential at bridge structures along the GCR. As noted above, mitigation measures include for appointment of ECoW and for carrying out pre-construction roost inspection surveys in accordance with best practice and pre-felling surveys of trees, if felling is required. The CEMP is noted to include measures to address temporary disturbance from construction related activities such as noise and lighting including day time work hours, preventing light overspill and avoiding night time work in proximity to sensitive features. The EIAR finds that operational red aviation lights will not affect bats. I am, therefore, satisfied that the proposed development would not result in significant disturbance or displacement effects on bats.

Bats habitat loss, fragmentation and mortality: I note the EIAR confirms that the proposed turbines have been positioned within the northern part of the site which is considered to be of moderate suitability for bats. Surveys are noted to have recorded high bat activity across the site, with bats utilising hedgerows and treelines to

commute and forage. These linear habitats features are considered within the EIAR to have a wider biodiversity value in a local context, providing shelter and foraging resources for assemblages of birds, invertebrates and other mammals. I note all bats recorded whilst included as Annex IV species, are all classified of 'Least Concern' on the Irish Red List (2019). Of the species recorded, Leisler's bat, common pipistrelle, soprano pipistrelle, nathusius' pipistrelle are considered high collision risk species, and high collision risk effect was predicted for all the turbines except T1 (medium effect).

Vegetation removal around the turbine bases will create a buffer zone, however, the applicant in order to minimise habitat loss does not propose to apply a specific buffer zone for treelines or hedgerows to mitigate impacts on bats. The distances between each of the proposed turbine and the closest retained hedgerow are presented in Table 7.14 and ranges from 13m (T4) to 70m (T1). In this regard, I note DAU has queried the design process specially the turbine locations and the proximity to hedgerows. In my view, an iterative design approach has been demonstrated in EIAR Chapter 4, and that this process has sought to minimise the hedgerow losses whilst satisfying other constraint considerations, civil infrastructure requirements and minimising the disruption of existing farming operations. In regard to the latter and considering existing field sizes, I find that a relocation of the turbines to the middle of the fields as suggested by DAU would have been substantially more disruptive to existing farming operations. As noted above, additional hedgerow row planting is proposed which will enhance foraging and connectivity, and I am satisfied that the planting will not increase collision risk for bats.

Mitigation measures proposed by the applicant to reduce impacts on bats include the feathering of blades during low wind speed and curtailment such as increased cut-in speed during bat activity season. I note the Council's Ecologist finds these acceptable. The Commission will note that DAU has queried the proposed curtailment strategy with regard to bat fatalities and trigger levels for change. In this regard, I am satisfied that the proposed curtailment strategy has been clearly set out with the EIAR and that the consideration of effectiveness and appropriateness of turbine curtailment will be based on ongoing monitoring of bat activity levels and bat fatality at turbine locations. I am satisfied that the monitoring results will be submitted to the planning authority and NPWS and that any changes to curtailment strategy will

be done in agreement with the same bodies taking account of reduced activity levels or bat mortality levels. I consider the proposed mitigation measures acceptable.

The applicant in their response to RFI Item 4(b) confirmed that taking account of other site constraints T7 could not be relocated, but that there was scope to relocate T5 20m north and further away from hedgerows. The applicant outlined that a relocation of T5 would not make a significant difference to the level of risks to bats. Of note, the closest distance of T5 to retained hedgerow is 33m as per EIAR Table 7.14. The Commission will note Condition 20 as recommended by the planning authority which relocates T5 20m north away from hedgerow habitat, and I concur with this.

Conclusion: Having regard to the above, I am satisfied that the applicant has sought to minimise the loss of hedgerow and treelines habitats within the design process of the proposed development in order to reduce the impact on foraging connectivity and habitat fragmentation not only for bat species but also for birds, invertebrates and other mammals. As outlined previously, I am satisfied that hedgerow habitat within the site will be reinstated, where possible, and otherwise offset by additional hedgerow planting providing long term biodiversity benefits. I am, therefore, taking account of mitigation measures satisfied that the proposed development will not result in significant adverse effects on bats.

In the event the Commission is minded to grant permission, I recommend that the relocation of T5 20m north is conditioned.

Other fauna

In addition to impacts on bats, a number of submissions have raised concerns regarding impacts on local fauna and I have addressed these below.

Badgers: A number of submissions have raised concerns in relation to the disturbance of badgers and spread of bovine tuberculosis (bTB). The EIAR confirms that badgers are present within the wind farm site and its vicinity, and an abundance of suitable badger habitat is noted to exists throughout the immediate vicinity of the wind farm site. No disturbance of the recorded badger setts is predicted on the account of distance to construction activities, and the reduction in improved agricultural grassland and arable land and hedgerows is considered unlikely to

cause fragmentation to other areas of more suitable habitat. Whilst the concerns regarding the spread of bTB is noted, I am satisfied that the proposed development would not result in adverse effects on badger in terms of habitat loss, fragmentation, disturbance or mortality and that mitigations measures including pre-construction walkover survey of to check for any badger setts will ensure that any new constraints are identified in order to be mitigated further.

Otters: Submission have raised concerns regarding the timing on the otter survey at Caherduggan Stream in response to RFI Item 3 and that Ballyclough Stream along the GCR has not been surveyed. As summarised above, the proposed wind farm site is considered to be of low value and habitat on site was deemed not suitable. The survey of Caherduggan Stream in the vicinity of the GCR crossing (RFI Appendix 3.2) noted suitability for otters in terms of connectivity and potentially foraging, although no evidence of otter activity was recorded at the time of the survey. Whilst I note the concerns raised in relation to the timing of the survey works, I am satisfied that no instream works are proposed at the Caherduggan Stream and that the method for crossing the watercourse and the N72 is via HDD with both the launch pit and reception pit being located within the roadway and setback from the watercourse. I further note no instream works are proposed at Ballyclough Stream. I am satisfied that the GCR works would be short term and 100m sections including HDD usually commencing and finishing in one day. The response to RFI Item 3 outlines that the main treat to otters would be via indirect effects to water quality during HDD operations, and measures to prevent and control surface water runoff during construction and HDD fluid are set out within the CEMP. I further note the potential ex-situ disturbance effects of otters as outlined within the applicants NIS. I am satisfied, taking account of the measures outlined within the CEMP and the adherence of best practice guidance including TII's Guidelines for the treatment of otters prior to construction of a national road schemes (NRA, 2008), that the potential for ex-situ disturbance effects on otters will not be significant.

Red Squirrel: Submissions have raised concerns regarding impact on red squirrel territory. I note the desk study within the EIAR identified records of red squirrel within the study area, however no signs were recorded during surveys and habitats on site were deemed unsuitable to support foraging or breeding red squirrels. On account of these findings, red squirrels were scope out of further assessment within the EIAR

given the potential for significant effects from habitat loss, disturbance/displacement were ruled out. I consider this acceptable.

Red-tailed bumble bees: Observations have raised concerns regarding impact on red-tailed bumble bees from removal of hedgerows. Red-tailed bumblebee (Bombus lapidaries), noted as near threatened and vulnerable respectively on the Irish Red list, were recorded foraging along hedgerows within the wind farm site during the Extended Phase 1 Habitat Survey. I am satisfied that the EIAR has assessed the potential habitat loss impact on red-tailed bumble bees as a result of the proposed development and found the effects to be not significant having regard to an abundance of hedgerow habitat and other suitable habitats presence within the site and surrounding area including grassland, arable land, field margins, scrub and woodland.

Common frog and smooth newts: The Commission will not DAU comments to the planning application that potential effects on common frog and smooth newts should have been assessed. I am satisfied that the baseline of the EIAR considered in sufficient detail the potential for common frog and smooth newts to utilise the proposed wind farm site taking account of survey findings and the presence of suitable habitats, and the avoidance of suitable habitat by the proposed development. On account of these findings, the potential for significant effects were unlikely and amphibians were scope out of further assessment within the EIAR. I consider this acceptable.

Aquatic Ecology

A number of concerns have been raised relating to impact on aquatic ecology, specifically freshwater pearl mussels, salmon, and other protected species. The GS Report has highlighted gaps in the freshwater pearl mussels survey and population extent data, omitted result of crayfish survey, historic water quality values and timing of invertebrates sampling, no electrofishing as per IFI7.

Aquatic Habitat: The SG Report raises concerns that Annex I habitat “Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation” [3260] which is a qualifying interests (QI) of the Blackwater River (Cork/Waterford) SAC has not been assessed in the EIAR. The applicant

response to the appeal highlights that taking account of the absence realistic and viable pathways for pollutants and impacts, a dedicated survey for this habitat type with the SAC was not considered necessary. I considered this acceptable in terms of the EIAR. I note the qualifying interests of the Blackwater River (Cork/Waterford) SAC are assessed in the applicant's NIS and have been assessed in my AA in Section 9.0 below.

The SG Report queries the use of historical **Q-values** rather than checking current values. I note seven biological water quality sample sites were selected in order to carry out Q-value assessment and to augment historic data from the seven EPA monitoring stations. I considered this approach to be satisfactory. The SG Report has queried specifically why no sampling was carried out for upper Awbeg (Kanturk) (EPA name). I note Appendix 7.2 outlines that sampling points where selected based on hydrology and topography of the area and in this regard, I note that the downstream confluence of the Awbeg Kanturk was sampled within the EIAR. Chapter 9 of the EIAR outlines that no works are being carried out within WFD river subbasin Blackwater (Munster)_090 and I am satisfied that there is no pathway to upper reaches of Awbeg (Kanturk). As stated previously, I am satisfied that competence of the personal involved in the preparation of the EIAR has been demonstrated. Refer to Section 8.10 for my WFD assessment.

The SG Report has raised concerns that there is no indication that **crayfish** survey has been carried out and that crayfish plague has not been mentioned. I note the results of the crayfish surveys are presented in section 3.2.3 of EIAR Appendix 7.2 and in section 7.7.5.3 of Chapter 7, as summarised above. I note the drains and watercourses within or in proximity to the site were not suitable for crayfish, however the presence of crayfish was confirmed downstream. Mitigation measures to prevent the spread of crayfish plague are detailed within Chapter 7 of the EIAR. Crayfish is a QI of the Blackwater River (Cork/Waterford) SAC, and have been assessed in my AA in Section 9.0 below. Refer to Section 9.0 for my AA.

The SG Report has raised concerns that **fish** snorkelling survey methodology was used rather than standard electrofishing methodology as recommended by IFI. In this regard, I note snorkel surveys are less intrusive than electrofishing and is the recommended survey methodology for Freshwater Pearl Mussel and which can be used for observing salmonids as per the Margaritifera margaritifera Stage 1 and

Stage 2 Survey Guidelines, Irish Wildlife Manual No. 12, NPWS (Anon 2004). Appendix 7.2 notes that the decision to observe fish population by snorkelling rather than putting them through the unnecessary risk and stress of electrofishing reflects the unsuitability of the site in terms of supporting fish and the lack of direct connectivity to a watercourse through which fish can pass. The Commission will note the IFI has not raised any concerns with the fish surveys carried out for the proposed development. I am, therefore, satisfied that the fish survey methodology applied is acceptable in this instance. Refer to Section 9.0 for my AA.

The SG Report raises concerns that sections of the Blackwater River were not surveyed for **Freshwater Pearl Mussels** and that this approach does not accord with NPWS guidelines, and that the likely presence of freshwater pearl mussel should be assumed in the surveyed stretches. I note the applicant's appeal response outlines that the surveys of reach 1 and 2 covered more than double of the stretch recommended for Stage 1 of the NPWS survey methodology (Anon 2004), and revisiting the surveys would not alter the significance assessment of the EIAR. The applicant outlines that the assessment within the EIAR assumed the presence of Freshwater Pearl Mussel and other sensitive freshwater species being present in the catchment, however the potential for significant effect were excluded on the basis of indirect and remote hydrological link. I am satisfied that absence of a realistic hydrological connections for aquatic species to the proposed wind farm site has been comprehensively demonstrated within the EIAR, and having regard to best practice pollution prevention and control measures as detailed within the CEMP, I am satisfied that the proposed development would not result in a significant effect on Freshwater Pearl Mussels. Refer to Section 9.0 for my AA.

8.8.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that potential effects on biodiversity (including habitats and species) as a result of the proposed development would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am therefore,

satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the biodiversity.

8.9. Biodiversity (Birds)

Chapter 8 of the applicant's EIAR deals with ornithology and is support by Appendix 8.1 Ornithology Baseline Report (RSK, May 2023) and Appendix 8.2 Ornithology Collision Risk Modelling Report (RSK, May 2023). Biodiversity is addressed in Chapter 7.

RFI Response Report, RFI Item 5 (b-d) is of relevance.

8.9.1. Issues Raised

Submissions have raised concerns in relation to impact on protected bird species including habitat loss, disturbance, displacement, and collision risk, and impact on Kilcolman Bog SPA.

I have addressed conditions recommended by DAU and Council's Ecologist in Section 7.7.

8.9.2. Context

In addition to ornithological desk study, ornithological field surveys are noted to have been carried out between October 2020 and March 2023 and include:

- Vantage Point (VP) surveys collected survey data for two complete breeding season and three complete non-breeding season (summary in EIAR Table 8.1 and VP locations Figure 8.4).
- Walked transect surveys between June to October 2021 inclusive and between April 2022 to March 2023 inclusive (see revised Figure 8.1 RFI Appendix 5.1 which includes Transect C and D).
- Targeted surveys of buildings for nesting barn owl and kestrel in July 2022 and May 2023.

The survey approach adopted is noted to have been based on best practice guidance and professional judgement and the geographical scope was determined in reference to Scottish Natural Heritage (SNH, 2017) and CIEEM guidance (2018).

8.9.3. **Baseline**

Ornithological baseline is set out in **Section 8.7** of the EIAR, and a summary of key findings outlined below:

- Ornithological surveys reported no significant change in habitats and their management within the wind farm site within the 2020 to 2023 survey period. Noting that species populations, therefore, are also unlikely to have changed significantly as a result.
- No significant limitations in relation to the scope, scale or context of the impact assessment have been identified.
- No species were recorded to be present in numbers of international importance or in numbers of national importance.
- Based on survey results, the site is considered to be of low value to the following target species:
    - Breeding season: great black-backed gull, grey heron, herring gull, lesser black-backed gull and mallard
    - Non-breeding season: great black-backed gull, hen harrier, lesser black-backed gull, mallard, pomarine skua, snipe and whooper swan.
- Based on survey results, the site is considered to be of local value to the following target species:
    - Non-breeding: golden plover, merlin, and sparrowhawk
    - All season: Peregrine, Kestrel and Buzzard.
- Identified Key Ornithological Features (KOF) include:
    - Kilcolman Bog SPA (c. 9.4km NE) – surveys recorded two flights of QI species wintering Whooper swan. No other QI species recorded during survey. Proposed site not considered to be of value to recorded wintering non-qualifying species included in the citation (black-headed gull, golden plover, lapwing, lesser, black-backed gull and mallard). **International Importance.**

- Barn owl (all seasons) –The site contains suitable foraging habitat. Targeted survey identified a potential winter roost for barn owl in a large stone farm shed (c. 160m proposed turbine T9), one potential suitable nest site for barn owl identified within 1km, and one active barn owl nest site was recorded c. 1.8km from the site. No flight activity recorded, not a KOF for collision risk modelling. Local (Higher value) Importance.
- Buzzard (all seasons) – recorded frequently during the breeding and non-breeding seasons (2020-2023) and two buzzard territories overlap with the wind farm site. Local (Higher value) Importance.
- Kestrel (all season) - recorded frequently during both breeding and non-breeding seasons (2020-2023) and at least on kestrel territory overlap with the wind farm site. Targeted survey results summarised above. Local (Higher value) Importance.
- Peregrine (all seasons) - recorded on 21 occasions comprising multiple birds, no nest sites identified within or in close proximity to the wind farm site, and hinterland surveys (2022) identified four confirmed or possible peregrine nest (nearest c. 2.5km). Local (Higher value) Importance.
- Merlin (non-breeding season) – recorded on 6 occasions (solitary bird) during non-breeding season. Not a KOF for collision risk modelling given the recorded flight activity. Local (Higher value) Importance.
- Golden plover (non-breeding season) – recorded on 9 occasions in small groups except one occasion, a flock of 100 birds recorded c. 350m from the wind farm site during non-breeding season. Local (Higher value) Importance.
- Pomarine skua (all seasons) – recorded one bird on one occasion flying across the site, site considered unsuitable for this species. KOF for CRM given the scarce nature of this species in Ireland. Negligible Importance.
- Whooper Swan (non-breeding season) – recorded flights across the site on two occasions (1 bird and 4 birds). Local (Higher value) Importance – subject to determination of functional linkage with Kilcolman Bog SPA
- Notable Non-targeted species: linnet, meadow pipit, redwing, skylark, starling and yellowhammer (all seasons), and stock dove (breeding season).

- No other species was potentially present in numbers exceeding local (Lower value) importance.
- No other designated site with ornithological interests within 20km were identified as KOF.

8.9.4. Likely Potential Effects

Table 8.4: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Potential changes through future land management and climate change.
Construction	• **Kilcolman Bog SPA**: No direct effects. Proposed site located outside 5km core foraging range for Whooper swan (SNH, 2016) and not functionally linked to the SPA. No regular occurrence of whooper swan recorded. **Not significant.** • Direct habitat loss/fragmentation/disturbance/displacement effects: Barn owl: No removal of suitable roosting/nesting sites, no significant reduction in foraging habitat and outside forage range of confirmed nest. Negligible magnitude of effect, **Not significant.** Raptors (buzzard/kestrel/merlin/peregrine): Limited higher quality foraging habitat within the site. Direct loss highly unlikely to significantly affect prey availability. No significant loss of suitable nesting habitat. Buzzard and kestrel exhibited relatively high levels of flight activity, areas to be disturbed small within the context suitable habitat within the wider area. Negligible magnitude of effect, **Not significant.** Golden plover: Mainly in solitary flights recorded. No roosting activity recorded. No evidence of breeding of any wader species. Suitable habitat limited in extent within the site, and loss of suitable habitat will be limited and area of disturbance small. Negligible magnitude of effect, **Not significant.**

Project Phase	Potential Direct, Indirect and Cumulative Effects
	Whooper swan: See Kilcolman Bog SPA above. Very low level of activity recorded. Negligible magnitude of effect, **Not significant**. Non-targeted species (linnet, meadow pipit, redwing, skylark, starling, stock dove and yellowhammer): temporary and permanent loss of suitable habitats resulting in reduced availability and connectivity of habitats for these farmland bird species. Potential disturbance of birds when nesting and may cause birds to vacate territories close to works. Low magnitude of effect, long-term (habitat/fragmentation) and short-term (disturbance/displacement) slight adverse effect, **Significant** (local level).
Operation	• Kilcolman Bog SPA: As above for construction, and CRM confirmed that the proposed development is highly unlikely to have a significant effect on whooper swans. **Not significant.** • Direct habitat loss/fragmentation/disturbance/displacement effects: **Not Significant** for any of the KOF. • Collision risk effects: Barn owl: No flights recorded and no CRM. Beyond the core foraging range for recorded nest and collision risk for barn owls with turbines is generally deemed to be low. **Not significant.** Raptors: Precautionary collision facilities for kestrel and buzzard estimated at 18.2 and 9.1 over 35 years (0.52 and 0.26 per year), less than 1% of the county population (local population estimates not available). Precautionary collision facilities estimated for peregrine at 0.72 over 35 years (0.02 per year), not considered significant within the context of the national and regional status of this species. No flights recorded within the potential collision risk zone for hen harrier and merlin. Negligible magnitude of effect, **Not significant**. Golden plover: Precautionary collision facilities estimated at 1.632 over 35 years (0.005 per year), less than 1% of the county population. Negligible magnitude of effect, **Not significant.**

Project Phase	Potential Direct, Indirect and Cumulative Effects
	Whooper swan: Precautionary collision facilities estimated at 0.05 over 35 years (0.001 per year), less than 1% of the county population. Transect survey result not included within CRM, and the addition would equate to 0.003% of the cited SPA whooper swan population. Negligible magnitude of effect, **Not significant** Pomarine skua: Precautionary collision facilities estimated at 0.05 over 35 years (0.002 per year). Negligible magnitude of effect, **Not significant** Non-targeted species (farmland bird species): not considered to be susceptible to collisions with new wind turbines. Negligible magnitude of effect, **Not significant.**
Decommissioning	• Direct habitat loss/fragmentation/disturbance/displacement effects: **Not Significant.**
Cumulative	• No potentially significant cumulative disturbance and habitat loss effects are likely.

8.9.5. **Mitigation**

In addition to embedded design mitigation measures, the following mitigations are noted:

- Best practice construction measures detailed within the Construction Environmental Management Plan (CEMP) (Appendix 5.1) which will also be adopted during operational maintenance and decommissioning.
- Timing of works specifically in relation to breeding bird season.
- Appointment of a suitably experienced ornithologist.
- Appointment of an Ecological Clerk of Works (ECoW) and defined responsibilities.
- Installation of aviation warning lights can help to increase their visibility, thereby reducing the risk of bird collision.

- Habitat reinstatement and creation specifically 2,911m of hedgerow habitat, woodland planting and enhancement, wildflower meadow creation, scrub enhancement, wet grassland management, enhancement of existing ponds, field margin development, and bird box provision (as per HMP, Appendix 7.1).
- Implementation of an avian fatality monitoring programme (monthly searches of carcasses within the first three years of operation and subsequently in years 5, 7, 10, 15, 20, 25, and 30). To determine whether EIAR predictions were accurate and whether any additional mitigation measures may be required.
- Post-decommission monitoring to determine the progress of re-vegetation and if necessary to look at introducing supplementary planting with native species.

8.9.6. **Residual Effects**

- Taking account of mitigation measures, no significant residual effects are anticipated.
- Taking account of enhancement measures set out within the HMP, an overall positive effect on identified sensitive ornithological features and biodiversity as a whole is predicted.

8.9.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Submissions have raised concerns regarding impact on birds as a result of the proposed development including yellowhammer and nesting raptors such as peregrine and owls, kingfisher, loss of local habitat and displacement of birds and declines in populations, and interference with birds' migratory pathways and high collision risk for whooper swan, peregrine falcon, barn owl and long eared owl.

Whooper swans: Submissions have raised concerns regarding impact on whooper swans and that nocturnal surveys were not completed. I note the site is considered of low value to wintering whooper swan (amber listed, Annex 1) with no foraging recorded within the site and no observation of whooper swans within the hinterland surveys. No regular flight activity recorded, with whooper swans observed in low numbers on two occasions during three complete non-breeding seasons surveys. The applicant's response to RFI Item 5(b) outlines that the desk study did not identify the site as located on any known paths for migratory birds, that low flight activity by

protected wildfowl species including Whooper Swan was recorded between 2020 and 2023, and that this was sufficient to inform an assessment of effects on migratory birds as a result of the proposed development. I concur with the applicant that nocturnal surveys as per the SNH Guidelines is an alternative method to be considered where high nocturnal activity of important species is likely.

Having regard to the above, I am satisfied that the findings of the EIAR does not indicate that site is located on a migratory route for whooper swans or that dusk and dawn surveys targeting whooper swans were required. I further note the conclusion of the Council's Ecologist that the proposed development is unlikely to cause significant impacts on the condition or ecological requirements of whooper swans and that whooper swans tend to avoid wind farm installations. Whilst I note DAU's response to the RFI, I find that it is reasonable and standard approach to consider the evidence gathered in order to determine the need for additional surveys over and beyond what is considered best practice. I am, therefore, satisfied that the proposed development will not result in a significant adverse effect on whooper swans. The Commission will note my AA conclusion in Section 9.0 that the proposed development will not affect the attainment of the Whooper Swan conservation objective of the Kilcolman Bog SPA.

Kingfisher: Submissions have raised concerns regarding impact on Kingfisher. I am satisfied the proposed development is not predicted to impact on kingfisher. Kingfisher is not an identified targeted species in the EIAR, it was not recorded during surveys, habitats within the site is not suitable and kingfisher is not a qualifying interest or cited interest of any designated sites within the stated 20km ZoI of the site.

Barn owls: No barn owls were recorded during surveys, although the limitations of the vantage point survey in terms of dawn activity are outlined in the EIAR (Appendix 8.1, Section 2.6). Targeted nest searches were carried out and the proposed wind farm site contains suitable foraging habitat, but is located outside the core for gain range for confirmed active barn owl nest. There will be no loss of suitable nesting or roosting habitat as a result of the proposed development. The extent of suitable foraging habitat for barn owl within the site is limited and only small areas will be lost, and enhancement measures are proposed. The Commission will note that DAU and the Council's Ecologist have raised no concerns regarding impact raptor species. I

am, therefore, satisfied that the site is not of high value to barn owl and that the proposed development will not result in a significant adverse effect on this bird species.

Other raptors: All raptor species are identified as target species within the EIAR and I am satisfied that adequate surveys as detailed in EIAR Appendix 8.1 have been carried out. Buzzard, kestrel (red list) and peregrine (Annex I, green list) were recorded within the site throughout the breeding and non-breeding species. Hen harrier (amber list) was observed on one occasion and merlin (amber list) was observed on six occasions, both during non-breeding seasons. No nest sites were identified within the site, and the habitat is noted to provide limited suitability for nesting raptors. Nest sites were identified within the wider landscape.

Intensive agricultural land is not considered to provide high quality prey habitat for raptor species, and the availability of suitable foraging and commuting habitat within the wider landscape is noted. The loss of eight trees is not predicted to have a significant effect, and the removal of seven of these trees due to ash-die-back decease is noted. Buzzard and kestrel were both frequently observed and are considered locally widespread and common. Collision facilities over the lifespan of the proposed development amounting to less than 1% of the county population, and the increase in bird mortality was not considered significant when compared against the stated annual background mortality for these species. Peregrine was recorded on multiple occasions with increased activity during non-breeding season, and is locally common and on the increase in Ireland (green listed). The precautionary collision facilities estimate in the EIAR for peregrine based on flight activity was 0.72 birds for peregrine over the life of the proposed development and not significant. The Commission will note that DAU and the Council's Ecologist have raised no concerns regarding impact raptor species. I am, therefore, satisfied that the site is not of high value to raptor species and that the proposed development will not result in a significant adverse effect on raptor species.

Yellowhammer: Submission have raised concerns that the impacts on yellowhammer have not been assessed. I note yellowhammer (Red listed) is identified as a KOF in the EIAR along with other notable non-targeted species (linnet, meadow pipit, redwing, skylark, starling, stock dove and yellowhammer). I note the findings of the EIAR that passerine species are not considered susceptible

to collisions with wind turbines which aligns with SNH (updated March 2025). As summarised above, loss of hedgerow habitat, reduced connectivity and disturbance is predicted to result in a significant local effect on farmland species during construction. In this regard, and as stated previously, I am satisfied that the iterative design process in Chapter 4 sought to minimise impact on hedgerow habitat within the site (loss of 431m), that this is a widespread and relatively continuous habitat within the site and wider area and that the extensive hedgerow planting will provide long terms benefits.

Habitat Enhancement: Submissions have raised concerns that habitat enhancement will increase collision risk and that this has not been assessed in the EIAR. The applicant has addressed this in RFI Item 5(d), specifically the applicant outlines that enhancement measures to the pond located south of T1 seeks to enhance the habitat for invertebrates and amphibians. These measures are not anticipated to lead to significant increase in the level of bird activity at the existing pond and applicant's technical experts outline that habitat enhancement would outweigh the likely negligible risk of increased bird collisions with turbines. I note the Council's Ecologist concur with this finding. The HMP sets out that the hedgerow planting will be away from wind turbines and will not increase collision risk to birds. I am, therefore, satisfied that the proposed enhancement measures as outlined within the HMP has been designed to avoid an increase in collision risk and I note bird fatality monitoring will take place which will allow for additional remedial measures should this be required.

8.9.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that potential effects on ornithology as a result of the proposed development would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the ornithology.

8.10. Water

Chapter 9 of the applicant's EIAR deals with hydrology and hydrogeology and is supported by appendices:

- Appendix 9.1 Guidance Documents
- Appendix 9.2 Assessment of likely effect and mitigated residual effects
- Appendix 9.3 Site Photographs
- Appendix 9.4 Conceptual and Information Graphics
- Appendix 9.5 Flood Risk Assessment
- Appendix 9.6 Surface Water Hydrochemistry Database
- Appendix 9.7 Surface Water Sampling Laboratory Certificates
- Appendix 9.8 Karst Features along GCR
- Appendix 9.9 Turbine Delivery Routes Constraints
- Appendix 9.10 Brochure on silt management products
- Appendix 9.11 Safety Material Datasheet – Clearbore Drilling Fluid
- Appendix 9.12 Project Monitoring and Emergency response

Land, Soil and Geology is addressed in Chapter 10 and Biodiversity including aquatic ecology is addressed in Chapter 7. The CEMP is included in Appendix 5.1.

The RFI Response Report, specifically RFI Items 2 and 18 (flood risk) are of relevance and include:

- Appendix 2.1 Ground Investigation Factual Report
- Appendix 2.2 Karst Risk Assessment Report
- RFI Appendix 18.1 Clarification of Methodology for Flood Risk Assessment on Grid Connection Route (RSK, March 2025)

8.10.1. Issues Raised

Ballyclough groundwater monitoring WFD – spring pWS

A number of submissions have raised concerns relating to impacts on the water environment in relation to omission of surface water feature, pollutants and water quality, karst environment, and private water supplies. The Tullacondra TAC appeal appends an export opinion by Aqua Geoservices Ltd, “Review of hydrological information submitted as part of Planning Application No. 24/5503 for the development of a nine-turbine Windfarm near Tullacondra”, Co. Cork, (Bruno Telliard, May 2025) (hereafter referred to as AGS Report). The AGS Report has been referenced in a number of submissions and outlines that the EIAR does not provide sufficient site-specific baseline information necessary to quantify and evaluate the potential risks to groundwater receptors.

8.10.2. **Context**

- The study area for the wind farm site and GCR extends to 10km, where applicable, and includes for hydrologically connected rivers and designated areas downstream (up to c.50km and more).
- Desktop study has been carried out for the hydrology and hydrogeology aspects of the proposed development along with field inspections and field hydrochemistry of drainage network and surface water sampling.

8.10.3. **Baseline**

Hydrology and hydrogeology baseline is set out in Section 9.4 of the EIAR.

<u>Hydrology</u>

- Wind farm site is generally flat mixed farmland, elevation from 133m AOD in the south to 120m AOD in the north.
- Blackwater (Munster) WFD surface water catchment, and sub-catchments and river subbasins:
    - Awbeg [Buttevant]_SC_020; and river subbasins Awbeg (Buttevant)_020 (WFD status Poor, At Risk) and Awbeg (Buttevant)_030 (WFD status Moderate, At Risk).

- Blackwater [Munster]_SC_090; and river subbasins Ballyclough Stream_010 (WFD status Poor, At Risk) and Lisduggan_North_010 (WFD status Good, Not at Risk).
- Blackwater [Munster]_SC_060; and river subbasin Blackwater (Munster)_090 (WFD status Good, At Risk). The GCR crosses the Blackwater (Munster) River_140 (or Caherduggan South).
- All river sub basins are within and/or overlapping with Blackwater River (Cork/Waterford) SAC.
- All surface waterbodies draining the site combine in the Blackwater (Munster) River_120, and eventually flow through the Blackwater River (Cork/Waterford) SAC.

- No EPA mapped stream, river and lakes within the site. Extensive network of drainage and surface water channels, many drains identified as “dry drains” that contain no water for much of the year. Localised surface water ponding and ‘perched’ standing water or ‘wet’ conditions, including north / northwest of T1 and the area in the south of T8 adjacent to farm buildings. Historic maps indicate a stream ‘rises’ c. 90m southwest of T4, flowing southwest and appears to “go to ground” close to a karst feature.
- EPA mapped features: Awbeg (Buttevant)_20 river located c. 922m north of the site; and EPA ID: 18_56 and 18_59 lakes located c. 725m northeast of T2, assumed to be surface water ponds or groundwater fed features and possible Groundwater Dependent Terrestrial Ecosystem. Drainage from site connected to a mapped lake EPA ID:18_58.
- Moderate quality of the baseline surface water draining the site and presence of elevated concentrations of Ammoniacal Nitrogen and Phosphorous compounds detected.
- Portions of the GCR falls within Flood Zone, A, B and C, fluvial flooding.

Hydrogeology

- T1 to T3, underlain by groundwater body Mitchelstown (Code IE_SW_G_082, mapped WFD status ‘Good’ and At Risk), and Waulsortian Limestones and a ‘Regionally Important Karstified (diffuse) Aquifer’ (Rkd). T4 to T9 underlain by

groundwater Kilmaclenine (Code IE_SW_G_044, mapped WFD status 'Good' and Not at Risk), and both Locally Important Aquifer (Ll) and Poor Aquifer (Pl).

- EIAR Table 9.15 presents updated subsoils depths and groundwater vulnerability ratings:
    - >15m (T3, T4, T6 & T8), 10m (T1 & T10), 9m (T2), 3.5-7m (T5), 2-3m (T7), and 2-6m (substation).
    - Moderate (T3, T4, T6, T, 8, T9), Moderate to high (T1), High (T2, T5), Extreme (T7) and High to X (substation). Namurian Subsoils, Moderate permeability.
- A number of mapped karst landforms identified in the area, including a swallow hole in proximity to T1 and enclosed depression/quarry in proximity to T5. Linear feature consistent with drainage channels, west of T4 and T3 and crosses the site boundary between T1 and T2, and mapped historic stream, connectivity to karst feature downstream or to a sinking stream. Identified karst features are >15m from GCR.
- Groundwater source protection area. Mapped wells identified, potential for farmyards and local dwellings to have private wells.
- GCR underlain by Mitchelstown, Kilmaclenine and Rathmore West (Code IE_SW_G_070) groundwater bodies, underlain by both Rkd and Ll aquifer and passes through two source protection areas for ground water abstraction.

I note the response to RFI Item 18 did not alter the baseline with regard to flood risk.

8.10.4. **Likely Potential Effects**

Table 8.5: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Existing land-use practice with associated gradual alteration of the existing environment and associated pressures on surface water and groundwater quality will continue.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Construction	Increased runoff – potential to result in increased rates of runoff during the construction phase relative to baseline conditions. Runoff calculations in the flood risk assessment (FRA) (EIAR Appendix 9.5). Surface water, significance level of Slight to **Moderate** for wind farm site. No significant effects predicted for GCR and TDR given limited land take. Groundwater, significance level of **Moderate**. Release of suspended solids – risk of solids being entrained by surface water runoff and intercepted by surface water networks. Vehicular movements, excavations, removal of vegetation (road widening), storage and reuse of soil materials. Relatively shallow excavation (<3m) and dewatering and treatment of potential water in excavations. Surface water, significance level of **Significant**. Groundwater, significance level of **Moderate.** Release of nutrients – displace/disturbed soils, connected with the release of solids entrained in runoff in the connect of the proposed development. Surface water, significance level of **Moderate**. Groundwater, significance level of **Moderate.** Release of hydrocarbons and storage – vehicles and plant introduce risk of accidental hydrocarbon spillages and leaks from fuels and oils. Surface water, significance level of **Moderate to Significant**. Groundwater, significance level of **Moderate.** Release of horizontal directional drilling material – associated risk from hydrocarbon spills, temporary stockpiling, breakout and drilling fluid (bentonite) returns, drilling fluid disposal. Surface water, significance level of Slight. Groundwater, significance level of **Moderate.** Release of wastewater sanitation contaminants – accidental release of wastewater. Surface water and groundwater, significance level of Slight. Release of construction or cementitious material – accidental spillage or deposition of construction waste into the surrounding soil environment. Highest risk of impacting on water quality from 'wet' cementitious materials, chemical reactions dramatically reduced when concrete is

Project Phase	Potential Direct, Indirect and Cumulative Effects
	set. Surface water, significance level of **Moderate**. Groundwater, significance level of Slight. Drainage networks – construction, diversion and enhancement. Surface water, significance level of Not Significant. Watercourse crossings – culverts over small streams/drainage channels on the site accommodating for adequate hydraulic capacity, peak discharge events and freeboard (Appendix 9.4 and 9.5). No works to existing water crossings along GCR, works within probable flood extents poses similar risks and effects as summarised in terms of potential releases above. No widening of crossings along TDR. Surface water, significance level of Slight. Local surface water supplies – potential effects from wind farm associated with downstream (c. 35km) drinking water river (Blackwater Munster_150). Significance level of Slight. HDD location at N72/Blackwater Munster along GCR, 5km to drinking water rivers. Significance level of **Very Significant**. Local groundwater supplies – The risk of lowering groundwater levels is not considered likely, Not Significant. Dewatering activities effect on the availability of groundwater for use, Slight. Introductions of contaminates, Slight. Private wells, Slight.
Operation	Increased runoff – Net increase of surface water runoff of approximately 0.17m3/second, or 0.83% relative to the site area during a 1 in 100-year storm event including 20% increase due to climate change. Increase in hardstanding and impact on groundwater, hydrogeological flow regimes including capacity for recharge at a local scale. Not significant.
Decommissioning	• Works to a lesser extent than construction in terms of excavation, movement of vehicles and plant. Drainage system will remain, likely to revert over time to a more natural drainage regime. Anticipated effects are similar in nature to those during construction phase, but to a lesser extent. Slight.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Cumulative	• Presuming all projects constructed at the same time, reference to solar farm, extension of Limestone quarry, N/M20 Cork to Limerick Improvement Scheme, Dublin to Cork Railway Line, housing developments and wind farms. • Taking account of mitigations, the proposed development is not considered likely to significantly contribute to cumulative surface water or groundwater effects. Likely cumulative effect of the proposed development on water quality or flood risk is considered to be Not Significant.

8.10.5. **Mitigation**

Mitigation measures are outlined in Section 9.6 of the EIAR, and in addition to mitigation by avoidance (e.g. surface water and groundwater buffer zones, Figures 17.a and 17.b), includes among others:

- Mitigation by design include nature based solutions (includes SuDS), constructed drainage (include integration with existing drainage), check dams (in line with best practice of SuDS), stilling ponds and consideration of constraints and how these measures will be applied are set out in the Surface Water Management Plan (SWMP) (EIAR Appendix 5.1 CEMP).
- Spoil Management Plan (EIAR Appendix 5.1 CEMP).
- Emergency response system (EIAR Appendix 5.1 CEMP).
- Establish drainage infrastructure prior to excavation works commencing and during meteorologically dry ground conditions.
- Establish clean water and dirty water interception ditches both passive and active management treatment trains, emergency response and intervention. Treatment trains include buffer zones, constructed drainage, check dams, two-stage stilling ponds design for attenuation and buffered outfalls.
- The quality of the water being discharged will be monitored.

- Vehicular movements will be restricted to the footprint of the development.
- Silt fences will be established along the perimeter of source areas and double silt fences / screens at outfalls within surface water buffer areas.
- Refuelling and fuel storage management and the availability of oil absorbent booms and spill kits. Spill Response Plan in CEMP (Appendix 5.1).
- HDD drilling fluid management and disposal protocols.
- Wastewater/sewerage will be collected and held in a sealed storage holding tank, fitted with a high-level alarm and inspected and emptied periodically.
- Precast concrete will be used wherever possible, where not possible (e.g. turbine foundations), concrete pouring will be planned and controlled to minimise concrete on site, contained in an enclosed, excavated area, designated wash out station for transporting vehicles, and chutes washed within bunded areas.
- Infrastructure such as culverts/pipes over natural or artificial drainage channels will require instream works. Designed in accordance with relevant guidance and reference documents e.g. requirements of OPW and Inland Fisheries Ireland (IFI) protocols. Draft method statements and risk assessments in line with mitigations for instream works.
- Monitoring of the wind farm site and GCR will be carried out by an EnvCoW.
- The due duty of implementing measures will be held by the developer/contracted construction operator.
- Design measures at turbine hardstand locations include collector drains, check dams, buffered outfalls and clear water interception drains. Final drainage design for operational phase aims to result in attaining net beneficial effects through nature based solution.

8.10.6. **Residual Effects**

- Residual construction effect on hydrology and hydrogeology, slight to neutral and Not Significant.

- No adverse residual operational effects, a neutral to beneficial residual effect, Not Significant.
- Decommissioning will be managed similar to construction, residual effects Not Significant.

8.10.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Onsite water features

Observers have raised concerns that ponds located close to T2, T7 and T8 and a stream going through the site have been omitted from the EIAR. I have reviewed Figure 6.a (tile 01 to 06), and note this shows two areas of standing water south of T8 which corresponds with pond, wet grassland and scrub habitats detailed on EIAR Figure 7.5. There is no pond shown on Figure 6a in proximity to T7 and I observed none during my site visit. There is a depression, noted as archaeological on Figure 9.9 to the southwest of T7 which I observed during my site visit and which location corresponds with enclosure and burnt mound shown on EIAR Figure 15.9 (SMRs CO024-033---- & CO024-034----, EIAR Map ID 60 & 61), disturbed ground, shrub and dense bracken habitats shown on Figure 7.5 and an area for wet grassland enhancement on Figure 7.6. I have reviewed the surface water and drainage survey results presented in Figure 6a (tile 01 to 06) and Constraint Map in Figure 17a (tile 01 to 06) and I have visited the site, and I am satisfied that that the EIAR has comprehensively identified the existing non-mapped waterbodies and drains within the wind farm site including historically mapped features and that there are no EPA mapped rivers or streams within the site.

Water Framework Directive

Submissions have raised concerns relating to deterioration in water quality and the WFD including phosphorous runoff, the use of benoite fluid, and that the site qualifies as a Corrin site under EU Nitrates Directive.

I note the 3rd cycle (2019-2024) status of surface water bodies is now available on EPA Maps and that this provides an updated on the 2nd cycle (2016-2021) as reported on within the applicant's EIAR. In this regard, the status of Awbeg (Buttevant)_020 is now Moderate rather than Poor and the Lisduggan_North_010 is

Moderate decrease from Good and whilst recorded as Not at Risk in the 2nd Cycle it is now under “Review”. Blackwater (Munster)_90 has a High status objective. The GCR crosses the Blackwater(Munster) 140 and the status of this is “Good” and Not at Risk. The status of all other surface water bodies, noted above, remain unchanged from the 2nd cycle. The status of the groundwater bodies remains unchanged from the 2nd cycle as noted above.

All these rivers drain to the Blackwater (Munster)_120, and the status is “Moderate” and At Risk and form part of catchment 18: Blackwater (Munster), and all water eventually flows to the Upper and Lower Blackwater Estuary, the Youngal Estuary to Youngal Bay. I note from the catchment report that the significant pressures within the catchment are mainly nutrient pollution, altered morphological condition (habitat) and organic pollution impacts for surface water and nutrient pollution and chemical quality diminution for surface water impact for groundwaters. Awbeg (Buttevant) and Ballyclough Stream have both been identified for restoration action in Cycle 3. The five river subbasins have been identified for agricultural measures to restore water quality in relation to high nitrate and Blackwater (Munster)_090 have also been identified for phosphorus/sediment losses. As noted above, the EIAR water quality monitoring confirmed moderate quality and detected elevated concentrations of Ammoniacal Nitrogen and Phosphorous compounds, indicative of current agricultural land use.

EIAR Figure 9.7 details microcatchments where runoff from the wind farm site is captured and these are described in detail in Section 9.4.14 of the EIAR. There is no direct connectivity from the wind farm to nearby mapped watercourses and I note runoff from the site is via site drain through tertiary, secondary and primary and/or historic drains before entering mapped rivers. There is no works proposed within the river subbasin Blackwater (Munster)_090. The EIAR outlines that the drains within the site requiring culverting do not have significant ecological value. The EIAR does not identify any direct connections to hydrogeological receptors. Downstream connections to Blackwater River (Cork/Waterford) SAC are noted, including c. 4.5km on Awbeg (Buttevant) to the east and c. 7.5km on Ballyclough Stream to the south. Any potential deterioration in surface water quality has the potential to affect the SAC. The Blackwater (Munster) river is Designated Salmonid Waters (Salmonoid River Regulations S.I. 293 / 1988).

The EIAR outlines that top soil and subsoil within the site is considered likely to retain phosphorus, however nitrogen is noted to reduce rapidly in onsite drainage features and high levels are not likely in the subsoils. The release of nutrients from displaced/disturbed soils is connected with the release of solids entrained in run off within the context of the proposed development. As noted above, the EIAR identifies other potential pollutants which could impact on water quality including hydrocarbon, cement based products and drilling fluid and other works including instream works at culvert crossings within the site and increased water runoff if not attenuated for. There are no works to water crossings along the GCR or the TDR, however, as noted previously, parts of the GCR is within the flood zone and HDD crossings are proposed.

Mitigation and control measures to manage surface water runoff from the site and to prevent any negative impact on the water quality have been included and I have assessed these as reasonable to prevent any significant effects on water quality. I further note the applicant's proposal for discharge at greenfield run-off, which has regard to the proposed mitigation and buffered volume flow and concludes there will be no deterioration in the status of surface waters during construction phase, and when the proposed development is operational through incorporating nature based solutions aims to achieve a net reduction in runoff rates from the site and beneficial effects to water quality.

Therefore, having regard to the construction works and those mitigation measures which protect the water quality, I am satisfied the proposed development will not cause deterioration of water quality, will ensure that the sensitive receptors in the catchment of the proposed development do not suffer any deterioration in water quality, and will not impede the objective of achieving good or high status of any surface water or ground water body.

Karst Environment

The AGS Report appended to the Tullacondra TAC appeal submits that there are key data gaps in the EIAR as it does not provide sufficiently site-specific groundwater levels, flow direction and hydrochemical baseline data, and that this information is necessary to identify and evaluate the potential risks to groundwater receptors, particularly within the highly vulnerable karstified Waulsortian Limestone

aquifer. The Commission will note a number of Submissions have referenced the AGS Report. I have considered submissions relating to private wells separately below.

The EIAR as outlined in the applicant's response to the appeal identified a potential connectivity to groundwater receptors to the southwest of the wind farm site via linear feature to the west of T3 and T4 and crossing between T1 and T2, and that all other pathways to hydrogeological receptors were determined to be upslope of proposed turbines. I note the low risk of runoff drainage to suspected upslope located karst features near T1 and T5 was noted in the OCM Report, commissioned by the Planning Authority. The OCM report found that the only issue with the potential to have an impact downstream and hydraulic gradient receptors were the below ground potential karst features at T1 and T5 idented during geophysical site surveys. These features were confirmed in the response to RFI Item 2, to be non-karst features.

Considering the potential for percolation of water through soils and bedrock, I note the applicant's response to the appeal reconfirms the findings of the EIAR of low/moderate permeability of soils and moderate recharge rates within the site. I further note the site geophysical site survey identified the presence of thicker subsoil within the site and updated aquifer vulnerability ratings are presented in Table 9.15 of the EIAR, and I have summarised these above are summarised above. I note excavations will be shallow, <3m at turbine locations and that dewatering associated with excavations will be small scale. I note the AGS Report does not raised any concerns with the remainder of the baseline presented within the EIAR and does not raise any specific concerns in relation to the applicant's consideration of pathways to hydrogeological receptors as presented within the EIAR.

Having regard to site and project characteristics, and considering the potential connections to hydrogeological receptors from the proposed development, I am satisfied that site-specific information pertaining to groundwater levels, flow direction and hydrochemical baseline as requested in the AGS Report, is not necessary to inform the assessment of likely significant effects on groundwater receptors, or to inform mitigation measures to mitigate effects, as a result of the proposed development in relation to the EIAR. I note the applicant proposes to manage surface water associated with proposed infrastructure within the varied surface water

buffer zones. Drainage networks for the management of surface water runoff and water quality mitigation measures proposed are to be implemented before excavation works commences. The applicant surface water runoff will be released at greenfield rate, and interception of surface water, treatment trains and buffered drainage outfalls, applying both passive and active treatment processes with active water quality monitoring, emergency response and interventions proposed. As stated above, the CEMP including the SWMP and Spoil Management Plan include a list of mitigation measures proposed. The applicant response to the appeal reconfirms the findings of the EIAR of potential neutral to slight residual effect taking account of mitigation measures.

The Commission will note that the OCM report outlines that the risk posed by the proposed development has been comprehensively addressed in the EIAR, concluding that the risk has been addressed as much as feasible in terms of identified karst features, and that the risk posed to groundwater is likely to be localised and can be managed having regard to mitigation measures included in the EIAR. I note the AGS Report found mitigation measures in the EIAR to align with industry good practice.

I am, therefore, satisfied the proposed development will not result in a significant effect on hydrology and hydrogeology, and concur with the applicant's EIAR findings of a potential neutral to slight residual effect taking account of mitigation measures.

Local Groundwater Supplies

Submissions have raised concerns regarding potential impact on private wells and springs for drinking water including negative impact on volume and purity of water supply. The lack of targeted well survey in the vicinity of turbines, substation, haul roads and cable routes have also been raised in the AGS Report appended to the Tullacondra TAC appeal.

GSI mapped wells with a 250m buffer of the proposed development are shown on Figure 9.14a and Figure 9.14b. In addition, the EIAR identifies springs located in Kilmaclennie to the east of L1200. The GCR which follows the public road passes through two PWS source protection areas.

I note four of the mapped wells identified are located approximately 600m to 800m from the proposed wind farm site, and these appear to be associated with dwellings and/or farmyards at Ardskeagh (east), Ballycushen (west) and Groin (south). I am satisfied that there are no dwellings located within the 700m setback to residential properties from proposed turbines. I further note that there are no farmyards and/or buildings, excluding those associated with the proposed development, located within a 250m buffer of the proposed turbines.

I find that Section 9.4.10 of the EIAR having considered GSI mapped wells also recognises the potential for additional private wells to be located within the surrounding area. Furthermore, I note the assessment in Section 9.5.2.11 of the EIAR considers effects on local groundwater supplies and is not necessarily limited to the effects on mapped wells in proximity to the wind farm site or the GCR.

I am satisfied that mitigation and control measures to manage surface water runoff from the site and to prevent any negative impact on the water quality have been included in the EIAR. The EIAR also noted the underlying moderately productive aquifer and significant attenuation of potential groundwater effects across distance to nearest dwelling.

Having regard to this, I am satisfied that the baseline in the EIAR for private wells is sufficiently comprehensive, that a targeted well survey is no required and that the potential effects on local groundwater supplies have been assessment. As outlined previously, impact on groundwater levels is not considered likely having regard to site and project characteristics and dewatering will be localised within excavations and small in scale. I refer here to my assessments above in relation to karst environment and water quality, where I conclude that the proposed development, taking account of mitigations measures, will not result in significant effects on hydrology and hydrogeology and will not cause a deterioration of water quality.

Microplastic pollution

A number of submissions have raised concerns regarding microplastic pollution from the erosion of wind turbines. Whilst the concerns and the reference to a publication on the matter are noted, I am not aware of any peer reviewed scientific evidence base quantifying the release of microplastic from the erosion of wind turbines or

demonstrating any emissions likely to result in a significant effect on the environment. The routine preventative maintenance programme of the turbines proposed by the applicant during the operational phase as per Chapter 5 of the EIAR is noted.

8.10.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that potential effects on water would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures. I am therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on water.

8.11. **Land and Soil**

Chapter 10 of the applicant's EIAR deals with Land, Soil and Geology and the following appendices:

- Appendix 10.1 Geophysical Survey
- Appendix 10.2a Grid Connection Route Assessment Database – Option 1
- Appendix 10.2b Grid Connection Route Assessment Database – Option 2
- Appendix 10.3a Turbine Delivery Route 1 Assessment Database – Foynes
- Appendix 10.3b Turbine Delivery Route 2 Assessment Database – Cork
- Appendix 10.4 Guidance Documents.
- Appendix 10.5 Assessment of Likely Effects and Mitigated residual Effects.

Hydrology and hydrogeology are assessed in Chapter 9 of the EIAR and the CEMP is included in Appendix 5.1.

The applicant's response to RFI Item 2 on the karst environment is also of relevance and include RFI Appendix 2.1 Ground Investigation Factual Report and Appendix 2.2 Karst Risk Assessment Report.

8.11.1. **Issues Raised**

Submission have raised a number of concerns relating to impact on the karst environment, ground investigations and geological instability. As noted previously The AGS report included in the Tullacondra TAC appeal includes an expert opinion relating to hydrological information.

Relevant conditions by planning authority and prescribed bodies are considered in Section 7.7 above.

8.11.2. **Context**

- The study area for the wind farm site extends to 2km and 250m for the GCR as per Institute of Geologist Ireland Guidelines (2013) and National Roads Authority Guidance (2008).
- Desktop study has been carried out along with scoping exercise, field inspections, and geophysical 2D resistivity (ERT) surveys (Appendix 10.1, September 2022). Noted in the EIAR under limitations that the location of T02, T06, T08 and substation have been moved since the geophysical survey and that baseline data has been extrapolated to the proposed locations.

8.11.3. **Baseline**

Baseline is provided in Section 10.3 of the EIAR.

Wind farm site:

- Mapped landcover is predominately “agricultural pastures” and “non-irrigated arable lands” for wind farm site and GCR.
- The predominant mapped soil type cover is ‘Acid Brown Earths, Brown Podzolics’, described as ‘Acid Deep Well Drained Mineral Drained Mineral’.
- Shales and sandstones tills (Namurian) (TNSSs) subsoils with a clay texture underlain the site and there are small areas of bedrock at or close to surface.
- Underlying bedrock includes Carboniferous Waulsortian Limestone Formation (WA)) at T1, T2 and T3, karstified limestone (Carboniferous Ballysteen Formation (BA) at T4, T5 and T6, and Devonian-Carboniferous Old Red Sandstone (ORS) at T7, T8, T9 and substation.

- There are mapped karst features in the vicinity of the site. Site surveys identified potential karst features which have been included in the GSI database: a swallow hole recorded 200m northeast of T1, and an enclosed depression (corresponds with historic quarry location) 100m east of T5.
- A number of mapped faults are located within the site.
- Geophysical surveys interpretations (summary) with mapped rock types:
    - T1 and T5 are potentially underlain by karst features which are likely weathered or infilled limestone. Depth to limestone interpreted as 10m at T1 and 3.5-7.0m at T5.
    - T2 interpreted as underlain by sandy, gravelly clay and silt. Depth to limestone interpreted as 9m.
    - T3, T4, T6 and T8 interpreted as being underlain by sandy, gravelly clay and silt over 15m thick over limestone (T3, T4 and T6) and sandstone (T8).
    - T7, T9 and substation interpreted as being underlain by sandy, gravelly clay and silt and the depth to sandstone as 2-3m at T7, 10m at T9 and 2-6m at substation.

GCR (both options):

- The dominant soil types underlying GCR (both options) are deep well drained mineral (mainly acidic), AminDW made up of Acid Brown Earths and Brown Podzolics and mineral poorly drained (mainly acidic), AminPD made up of Surface water Gleys and Ground water Gleys.
- Shales and sandstones tills also underlain the GCR and bedrock occur at or close to surface along the routes.
- Underlying geology is similar to the wind farm site. No karst features or 25m karst buffers intersect the GCR options.

8.11.4. **Likely Potential Effects**

Table 8.6: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Existing baseline conditions will remain.
Construction	No significant effects for the GCR and TDR options predicted. Land take: • Temporary and permanent footprint of the wind farm site is c. 15.42ha. Likely effects are direct, short to long-term, moderate adverse. Moderate. Ground or soil sealing: • Use of impermeable and semi permeable material, direct localised effect on soil quality. Slight. Compaction, erosion and degradation of soils: • Compaction from depositing infill material, direct localised effect on soil quality. Slight to Moderate. • Erosion effect considered Slight to Moderate. Subsoil and bedrock removal: • The expected total volume of excavated topsoil is 43,291 m^3, subsoil is 32,649 m^3 and bedrock is 331m^3 (excludes bulking factor) from the wind farm site. Likely effects are considered localised, direct, short to long-term, temporary/permanent, moderate adverse. **Moderate to Significant**. • Effect on bedrock is considered Slight. Stockpiles: • Temporary storage locations (10 no.) with a total footprint of 34,032m^2 and a storage capacity of 45,072m^3. Unmitigated storage effects are considered direct, short-term, small adverse. Slight to Moderate. Soil Contamination:

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Accidental hydrocarbon spillage effect to soil quality considered localised, direct, long term, small to moderate. **Slight to Significant**. • Import of unsuitable soils/aggregate considered an unlikely effect, would be direct, short to long-term, small adverse. Slight to Moderate. • Two isolated invasive species areas (Japanese Knotweed) within the wind farm site. Japanese knotweed also recorded at two TDR locations. Likely effects from spread of soils contaminated with an invasive species considered direct/indirect, short to long-term, small to moderate adverse, reversible. **Slight to Significant**. Material and waste management: • Unmitigated wastes and poor waste management, likely effects considered localised, direct, short-term, small adverse and reversible. Slight. Ground Stability: • Risk of slope, ground and geological stability issues arising is very low. There is a risk of localised stability issues from excavations and heavy machinery. Unlikely worst-case stability issues could affect attributes of high to very high sensitivity and effects considered direct/indirect, potentially permanent, moderate adverse. **Moderate to Very Significant**.
Operation	• Reinstatement works following construction will reduce the operational land take for the wind farm site to approximately 3.49ha. No significant effects predicted in terms of land take, soil compaction & subsidence or soil contamination. Significance level of Slight and Slight to Moderate. • GCR/TDR land take to be reinstated.
Decommissioning	• Effects similar to effects during construction phase but of reduced magnitude. No new effect anticipated. Likely effects to the land,

Project Phase	Potential Direct, Indirect and Cumulative Effects
	soils and geology are considered direct, localised, short-term, moderate adverse. Slight to Moderate.
Cumulative	• No potential for cumulative effects identified for the proposed wind farm site. • TDR options cross the N/M20 corridor, and no significant cumulative effects are predicted. The GCR (Option 1) is in proximity to housing developments in Mallow, and cumulative effects considered slight and Not significant.

8.11.5. **Mitigation**

Mitigation measures are detailed in Section 10.5. In addition to mitigation by avoidance including engineered cut and fill extents and utilising existing tracks during the layout design process, specific measures to mitigate risks during construction (and decommissioning) includes (in summary):

- All construction works will be managed and carried out in accordance with the CEMP (Appendix 5.1) which includes among others an Emergency Response Plan, a Spoil Management Plan, and a Waste Management Plan. All management plans are considered live documents.
- The contractor's methodology statement and risk assessment will be in line with the CEMP.
- Construction activities including vehicle movement will be restricted to the footprint of the development.
- Confirmatory Geotechnical testing will be carried out to tailor engineering control. A geotechnical engineer / engineering geologist will be employed during the construction phase to monitor excavation activities. A geotechnical risk register will be completed and maintained.

- Reinstatement of temporary construction areas and covering hardstand, crane pads and other suitable areas with topsoil.
- Use of semi permeable gravel access tracks to reduce the use of impermeable material.
- Measures to reduce erosion and degradation of exposed soils.
- Excavated subsoil and bedrock will be reused onsite wherever possible, including as part of reinstatement of temporary works areas. Excavated materials onsite will be reused and recycled according to the Waste Hierarchy. Any surplus excavated material from roadways will be disposed of to a licenced facility.
- Measures to manage temporary stockpiles in accordance with the CEMP.
- Dedicated, bunded storage areas will be used for all fuels or hazardous substances. Any and all contaminants including any contaminated soil will be removed from the site. In the event of a significant contamination or pollution incident, contamination occurrences will be addressed immediately.
- Only verified clean, inert material and locally sourced rock which confirms to relevant standards will be imported and used on site.
- Non-native invasive species areas will be fenced off. The removal, treatment and disposal of any identified invasive non-native plants including contaminated soils will be undertaken in accordance with the latest guidance
- Construction activities will not occur during periods of sustained significant rainfall events, or directly after such events to allow time for work areas to drain.
- Good site practice, management of vehicular movements, and hydrocarbon controls during operational phase.

8.11.6. **Residual Effects**

- A change to ground conditions at the wind farm site will occur. The residual effects after implementation of all mitigation measures on the land, soil and geology are considered Slight and Not Significant.

- The mitigated residual effects from the operational phase are considered Slight and Not Significant.
- The mitigation effects from the decommissioning phase are considered Slight and Not Significant.

8.11.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Karst Environment

A number of submissions have raised concerns regarding impact on the karst environment, scope of site investigation surveys, that large part of the site remains unquantified and the omissions of numerous sluggea and swallow holes in the area. The submitted AGS Report by Tullacondra TAC refers to the presence of karstic features surrounding the wind turbine locations.

The Commission will note that the planning authority requested in RFI Item 2 a more detailed assessment of the risk presented by karst to the development, specifically in relation to unquantified karst features at T1 and T5. As summarised above, 2D-resistivity surveys identified possible karst features underlying T1 and T5 which were identified in the EIAR as likely infilled limestone. The applicant carried out additional site investigation works in December 2024 which is presented in RFI Appendix 2.1 and 2.2. The findings of the two boreholes drilled at T1 and T5 confirmed the baseline presented within the EIAR, and that the features at T1 and T5 were not significant karst feature. I note the lab testing confirmed the bedrock to be strong. The karst risk assessment confirmed the risk of slope, ground or geological stability issues to be low and no additional mitigation measures to those outlined in the EIAR are identified in the RFI response.

Having regard to the above, I am satisfied that the 2D-resistivity surveys which informed the EIAR were carried out at, or in the vicinity of the final turbine locations and that the scope of the site investigation surveys corresponded to the RFI requested by the Planning Authority, and that there are no major survey omissions. Furthermore, I am satisfied that no significant karst features or other subterranean anomalies have been detected. As outlined above, mitigation measures include for prior to construction stage site investigation surveys.

Ground stability

I note concerns raised in submission relating to ground stability referencing karst features and fault lines. The EIA identifies a maximum slope angle on site of 7 degrees, no peat has been encountered on site and that no subterranean anomalies such as cavities, fault and voids were detected. As outlined above, further surveys confirmed no significant karst features at T1 and T5. GSI mapping fault lines within the site have been identified in the EIAR. Excavations within the wind farm site is noted to be shallow for turbine foundations (<3m). The EIAR found the risk of slope, ground or geological issues to be very low and I note the further investigation submitted in response to RFI Item 2 confirmed low risk. I am satisfied that the EIAR has demonstrated an overall low stability risk for the site and that the potential for localised stability risk relating to excavations and excavation works have been assessed in the EIAR and mitigation measures are noted. As outlined above, prior to construction stage site investigation surveys will be carried out.

Metallic reserves

Submissions have raised concerns that the applicant has failed to disclose the significance of copper and silver reserves within the wind farm site. I am satisfied that the EIAR baseline includes the relevant GSI database information of mineral localities within the site including a significant silver and copper mineralisation discovered in 1973 and there is no potential for the proposed development to impact on mineral reserves. I have addressed the cumulative concerns raised relating to prospect licences in Section 7.6.

8.11.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that the applicant provided sufficient survey data to enable assessment of likely effects on the environment. I am satisfied that potential effects on land, soil and geology as a result of the proposed development would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I

am therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the land, soil and geology.

8.12. **Shadow Flicker**

Chapter 12 of the applicant's EIAR deals with shadow flicker. The chapter is supported by Appendix 12.1 Input Receptors, Appendix 12.2 Theoretical Shadow Times per Turbine and Appendix 12.3 Theoretical Shadow Times per Sensitive Receptor.

Appellant and observations have raised concerns regarding shadow flicker effects on residential receptors. Relevant conditions recommended by the planning authority are addressed in Section 7.7 and are not repeated herein.

I have examined **Chapter 12** of the EIAR which deals with this topic. Shadow flicker can only occur when the turbines are operating and the sun is shining. The study area for potential shadow flicker effects is defined in the EIAR as 1,500m (10 x 150m rotor diameter) around the proposed turbines and based on the methodology set out in Appendix 2.1 includes 87 sensitive receptors, with the addition of one receptor (ID 88) located at 1,507.5m (EIAR Figure 12.1). Of relevance, no additional sensitive receptors are identified in RFI Item 9 and a map illustrating the sensitive receptors considered for assessment in the EIAR and Table 1 which lists these receptors in sequential order by distance from proposed turbines are included in RFI Appendix 9.1. I have addressed uninhabitable and derelict properties in Section 7.3 above, and I am satisfied that there are no additional sensitive residential receptors within the shadow flicker study area.

The methodology for establishing significant effect references the 2006 Guidelines and that shadow flicker within 500m should not exceed 30 hours per year or 30 minutes per day. The EIAR confirms there are no sensitive residential receptors located within 500m and applies the 2006 Guidelines' thresholds to the full study area. In a worst case scenario (theoretical), 63 receptors within the study area are predicted to experience shadow flicker effects and 49 of these will experience shadow flicker that exceeds the 2006 Guidelines' thresholds. The greatest effects are predicted on properties to the east and the west of the turbines (Figure 12.2 and Table 12.2). Taking account of an annual average sunshine correction factor of 32%

(based on monthly sunshine and daylight data) to identify likely hours per year, albeit still noted to be a conservation estimate, the EIAR predicts that 11 receptors will experience shadow flicker exceeding the 30 hours per year. Without mitigation, shadow flicker effects as result of the proposed development are predicted to be significant and adverse. The applicant proposes to install a shadow flicker control system where light sensors and specialist software measures the conditions when shadow flicker is likely to occur and facilitates automatic shutdown of the responsible turbines. This is noted to eliminate shadow flicker apart from a short period where shadow flicker occurring conditions are confirmed and for the turbine to come to a stop (included as MM60, Chapter 20), and the worst case scenario shadow flicker events to be curtailed are listed in Appendix 12.2. The EIAR finds that there is no potential for cumulative shadow flicker effects and that residual shadow flicker effects would be not significant.

Having regard to the installation of shadow flicker control system to curtail shadow flicker and which I consider has been clearly detailed within the EIAR, and in the absence of any cumulative shadow flicker effects, I am satisfied that shadow flicker effects as a result of the proposed development on sensitive receptors will, as far as reasonably possible, be eliminated and aligns with the stricter shadow flicker requirements of the Draft 2019 Guidelines. In regard CDP Objective ET-7, I am, therefore, satisfied that adverse impacts on residential amenity in respect of shadow flicker would be avoided.

8.13. Noise and Vibration

Chapter 13 of the applicant's EIAR deals with noise and vibration and Appendix 13.1 Receptors Co-Ordinates, Appendix 13.2 Potential Special Characteristics of Turbine Noise, and Appendix 13.3 Assessment of predicted 'downwind' turbine noise levels against criteria.

RFI Response Report Items 9, 10, 11, 12 and Appendix 9.1 are of relevance

8.13.1. Issues Raised

A number of noise concerns have been raised by appellants and observers relating to noise limits, modular amplification, low frequency noise and infrared sounds and I

have addressed these below. The Commission will note that a number of submissions references the planning application observations made by local resident William McSweeney and the observation has been appended to the Tullacondra TAC appeal. William McSweeney has submitted an observation to the appeal. The Tullacondra TAC appeal also appends a number of publications relating to wind turbine noise which are not specific to the proposed development and a technical expert submission by Sarah Large on AM and in response to a different wind farm scheme in Co. Cork.

I have addressed the matter of sensitive receptors and setback to same in Section 7.3 above and not repeated it herein.

Relevant conditions recommended by the planning authority, in the commissioned report by MOR and Environmental Health Officer are addressed in Section 7.7 above and not repeated herein.

8.13.2. **Context**

As noted previously, the methodology for identification of sensitive receptors is set out in Chapter 2 EIA Methodology and Appendix 2.1 Methodology for Identification of Sensitive Receptors. RFI Item 9 and RFI Appendix 9.1 do not identify any additional sensitive receptors, however, includes a map illustrating the sensitive receptors considered for assessment in the EIAR and Table 1 which lists these receptors in sequential order by distance from proposed turbines.

Noise and vibration criteria and assessment methodology is presented in the following sections of Chapter 13:

- Construction (decommission) phase: Sections 13.4.1 and 13.5.3
- Operational phase: Sections 13.4.2 and 13.5.5.

The following noise limits are proposed at nearby sensitive receptors for the operational phase in Section 13.4.2:

- Daytime (07:00 – 23:00hrs):
    - 37.5dB LA90,10min for quiet daytime environments of less than 30dB LA90,10min.

    - 45dB LA90,10min for daytime environments greater than 30dB LA90,10min, or a maximum increase of 5dB(A) above background noise (whichever is higher).
- Night-time (23:00 – 07:00hrs):
    - 43dB LA90,10min.
- For participating properties (landowner), a fixed limits of 45dB $L_{A90,10min}$ or 5dB(A) above background noise (whichever is higher) for both day and night time periods.

8.13.3. **Baseline**

Baseline of set out in EIAR Section 13.6.

Background noise measurements were carried out for an approximate 4 week period between 28th June and 27th July 2022 at 4 noise monitoring locations (BN1 to BN4, Figure 13.2 and Table 13.8). Lidar wind monitoring is noted to have been carried out by the applicant at various heights including the hub height during this period. Background sound levels at monitoring locations are summarised in Table 13.9. Baseline noise levels are noted to be relatively low. Typical background sound sources being those associated with distant traffic, birdsong, distant farming activities, livestock and wind noise in nearby foliage.

157 sensitive receptors were identified within the noise assessment study area i.e. the area where the noise levels from the proposed development may exceed 35dB LA90 at the wind speed where the turbines reach their maximum output (Figure 13.16). Additional receptors identified in the sensitive receptors survey but located outside the noise study area were also included (Appendix 2.1). Appendix 13.1 lists all sensitive receptors and the corresponding baseline group (proxy locations) based on noise monitoring location (BN1, BN2, BN3, and BN4). As above, the applicant's response to RFI 9 does not identify any additional sensitive receptors.

8.13.4. **Likely Potential Effects**

Table 8.7: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Neutral in terms of noise and vibration.
Construction	• Wind Farm site: Calculated noise levels are below the daytime construction noise threshold of 65dB $_{LAeq,T,}$ and Not Significant. • GCR: Calculated noise levels approximately 71dB $_{LAeq,T}$ at the nearest sensitive receptor (10-20m from trenching locations), and exceeds 65dB $_{LAeq,T}$ threshold. 100m section of excavation, installation and reinstatement completed in one day. Taking account of the short duration of exposure, effects are Not Significant. • Vibration: Considering vibration sources (including potentially rotary piling) and distances to sensitive receptors, vibration will be below criteria and effects are temporary and Not Significant.
Operation	• A 0.5 exceedance of the 37.5dB criteria at 6m/s wind speed is calculated at receptor H17 (BN3 proxy location). Directional modelling calculated the exceedance to occur when winds are blowing 220 to 340 degrees from north. Potential **Significant**, adverse, long term effect. • Compliance with assessment noise criteria at all other receptors calculated in downwind conditions (greatest potential effect for each receptor). Adverse, Not Significant, long term effect. • Substation, calculated noise level to be 35dB LAeq,T at the nearest receptor H23, and within applicable thresholds. Not considered to contribute significantly to the overall operational noise levels. Adverse, Not significant and long term. • Vibration emission, not perceptible, neutral and not significant and long term.
Decommissioning	• Less than construction. Not significant and temporary.
Cumulative	• Construction: No potential significant cumulative effects identified. • Operation: No cumulative operational wind farm noise effects.

8.13.5. **Mitigation**

- Construction/decommissioning (Section 13.10.1): Best Practicable Means as defined in BS 5228-1 which will be briefed via site induction, toolbox talks and start of shift briefings.
- Pre-commencement community engagement.
- Operation (Section 13.10.2): Implementation of curtailment strategy design to reduce noise levels at receptors H17. Turbines T6, T8 and T9 to operate in the reduced power ("Mode LO2") at 6m/s (V10), during daytime periods (07:00 – 23:00hrs), and under wind directions 220 to 340 degrees. The calculated curtailed downwind noise level at H17 is 37.4dB LA90,T, at 6m/s (v10).

8.13.6. **Residual Effects**

- Residual construction/decommissioning noise and/or vibration effects as a result of the proposed development are predicted to be adverse Not Significant and brief or temporary.
- Taking account of the turbine curtailment at H17, predicted downwind noise level at H17 is 37.4dB LA90,T, at 6m/s (v10) and not in exceedance of threshold (37.5dB). Residual operational effects as a result of the proposed development are predicted to be adverse Not Significant and long term.

8.13.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

I have examined, analysed, and evaluated Chapter 13 of the EIAR, all of the associated documentation and submissions on file in respect of noise and vibration. I have inspected the application site and the surrounding area. I am satisfied that the applicant understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on noise and vibration receptors, because of the proposed development have been identified. Submissions to the application have raise a number of issues in respect of noise which I have address below:

- Background Noise Monitoring
- Wind Turbine Noise Limits Standards and Guidance
- Operational Noise Limits
- Low Frequency and Infrasound
- Tonal Audibility
- Amplitude Modulation

Background Noise monitoring

The appeal by Tullacondra TAC and observations have raised concerns relating to monitoring locations, set up and equipment noise level floors. I have reviewed the grid references for the four monitoring locations provided in Table 13.8 and consider these to reflect siting advice as per A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (IoA GPG). The lack of picture for BN3 is noted in observations, however, I note this picture has been redacted on request of landowner and is not an indication of the monitoring location not being unsuitable or incorrect monitoring set up. As above, the grid reference clarifies siting and there is no reason to consider the set up would vary from the methodology applied to BN1, BN2 and BN4. I note the concerns raised relating to the location of the noise monitoring locations relative to other dwellings, however, I am satisfied that these are sufficiently representative of the non-surveyed locations and suitable proxy locations as per the IoA GPG.

Baseline noise levels are noted in the EIAR to be relatively low, with typical background sound sources being those associated with distant traffic, birdsong, distant farming activities, livestock and wind noise in nearby foliage. This matches my general observations during visits to site and surrounding area. From review of Table 13.9, I note the background sound levels at BN1, BN2, and BN3 are broadly similar with small variations likely a reflection of locational differences, whilst BN4 is located closer to the public road, and the background sound levels are more elevated. The applicant's response confirms that noise monitoring was carried out by acoustics experts Enfonic Limited, all equipment met relevant standards and that variation in floor levels is proof that the field calibration procedure was conducted

correctly and ensures validity of result. The Commission will note that no concerns have been raised by the Council's Environment Department or by the planning authority's appointed external technical consultant Malone O'Regan Environmental. Having regard to the above, I am satisfied that the noise background monitoring is in accordance with applicable best practice standards.

Wind Turbine Noise Limits Standards and Guidance

Appellants and observers have raised concerns regarding noise limits and assessment approach noting that the 2006 Guidelines are outdated, relying on these is unsafe and in doing so the EIAR is both misguided and misleading. Submissions outlines that ETSU-R-97 and IoA Good Practice Guide, 2013 are under review and not fit for purpose and consider guidance including the Draft 2019 Guidelines, the WHO Guidance and British Noise Standard BS 4142:2014+A1:2019 to be applicable.

Planning guidance for wind turbine noise assessment in Ireland and the approach for setting noise limits at receptors in the 2006 Guidelines are based on ETSU-R-97 (DoTI, 1996). This was confirmed in the review of wind turbine noise assessment in the Draft 2019 Guidelines. The Draft 2019 Guidelines are still subject to review, and the Commission will note that one of the key aspects being reviewed is the approach to noise within these draft guidelines and that this matter has been noted by the applicant. As noted previously, there are no timelines for a future revised draft publication or for finalising the revised guidelines.

ETSU-97-R which is a UK Guidance for assessing wind turbine noise, is noted to remain unchanged since its publication in 1996. Whilst the 2006 Guidelines precede the supplementary guidance on predictions and cumulative provided in the IoA GPG (2013), the IoA GPG is recognised as a tool to inform wind turbine assessment in Ireland. Reviews of ETSU-97-R are currently being carried out by the UK Government with the publication of the "Report for UK Government: A review of Noise Guidance for Onshore Wind Turbines" (WSP, 2023), and the subsequent publication in July 2025 for consultation, a "Draft updated guidance: Assessment rating of wind turbines noise" (Department for Energy Security & Net Zero). Until such time as a final review position is published, the Commission will note that

ETSU-R-97 remains the applicable guidelines for assessing wind turbine noise in the UK.

At a local level, I note the CDP Wind Energy Strategy, ET13-7 refers to noise in the context of residential amenity and Objective ET13-9 sets out that wind farm developments "should be designed and developed in line with the 'Planning Guidelines for Wind Farm Development 2006' and 'Draft Wind Energy Development Guidelines 2019" and any relevant update of these guidelines." Objective ET13-10 "ensures that wind energy developments in County Cork are undertaken in observance with best industry practices…" Furthermore, Objective BE15-13 Noise and Light Emissions, criterion a) sets out that development should seek to minimise and control of noise pollution, "having regard to relevant standards, published guidance and the receiving environment."

The WHO Guidelines (2018), as referred to in a number of submissions, use noise indicator L_{den} (day and night time), an annual averaged index parameter commonly used for transport which allow for direct comparison of data from studies employing differing methods, but as described within the WHO Guidelines, this offered "a poor characterization of wind turbine noise." The WSP review (2023), which I note is appended to the Tullacondra TAC appeal, advises that the WHO Guidelines (2018) "have limited relevance and are not considered to offer a robust platform for developing a framework of wind turbine noise effects thresholds" and recommends that these "should not be used as a basis for developing a framework of effects thresholds for wind turbine sound." The conversion informing noise limits within the Draft 2019 Guidelines is noted to have been underpinned by the WHO Guidance and as noted above, is subject to review.

Submissions have suggested the application of the British Noise Standard BS 4142:2014+A1:2019 to wind farm development. I concur with the applicant who in their appeal response outlines that BS 4142:2014+A1:2019 "Methods for rating and assessing industrial and commercial sound" is note suitable for assessing wind farm noise. I further note BS 4142 is an impact based approach which does not correspond with the limit based approach to wind turbine noise assessment.

Having regard to the above, the 2006 Guidelines remain in force and as such, I consider the methodology and noise limits within ETSU-R-97 to be generally

supported by national and local planning policy. I am also satisfied that the limitations and inconsistencies of the Draft 2019 Guidelines, specifically in relation to noise are well understood and I concur with the applicant that compliance with the Draft 2019 Guidelines noise limits would not be applicable. I am, therefore, satisfied that the assessment methodology in the EIAR Chapter 13 to assess and rate noise from the proposed development has had regard to industry standards and publish guidance and that this approach is in accordance with the requirements of CDP Objectives ET 13-9, ET 13-10 and BE 15-13. The Commission will note that the Council's Environment Division and the planning authority's appointed external technical consultant Malone O'Regan Environmental have not queried the noise assessment methodology.

Operational Noise limits

Appellants and observers have raised concerns that the noise limits are too high for an exceptionally quiet area and that the noise threshold for wind turbines is 37dB LAeq (external) and that 45dB as conditioned by Cork County Council is a severe deviation. Concerns have also been raised relating to cumulative night time impact from the operation of the 9 turbines and that the assessment has not considered turbines operating in prevailing wind conditions.

As established above, existing planning guidance for operational wind turbine noise is set out in the 2006 Guidelines and this should be had regard to. I have also addressed the noise limits within the Draft 2019 Guidelines which were derived from the WHO Guidelines (2018) in the previous section.

The lower fixed limit for daytime within the 2006 Guidelines is 45dB or background plus 5dB, whichever is the greatest, except in a low background noise environment where a fixed minimum limit in the range 35-40 dB is recommended. For night time, the 2006 Guidelines set a fixed limit of 43dB(A). For daytime, the applicant has adopted a noise limit of 37.5dB(A) where background noise levels are below 30dB; a limit of 45dB(A) or background plus 5dB, whichever is the greater, where background noise levels are greater than 30dB; and a night time fixed limit of 43dB(A). I consider these limits to be within the relevant limits set out in the 2006 Guidelines.

For financially involved properties, the applicant proposes a fixed limit for day and night of 45dB which I note accords with the approach set out in ETSU-R-97. I note finically involved properties are identified as H2, H3 and H21 and H21A on Figures 13.18 to 13.23 which corresponds with the assessment in Appendix 13.3. The reference to H35, H36, H63 and H71 in Table 13.10 appears to be a typographical error and does not affect the assessment.

The EIAR outlines that the operation of the proposed wind farm will introduce a change in the background soundscape and background noise levels will increase at nearby noise sensitive receptors. The effect will be variable depending on receptors being located downwind or upwind of the turbines and I am satisfied that the assessment has assumed a worst case scenario of all receptors located downwind e.g. prevailing wind conditions of all turbines at the same time. In response to concerns raised, I note the calculated turbine noise levels are based on the cumulative operation of the proposed 9 turbines and refer here to Table 13.15 and Figures 13.18 to 13.23 of the EIAR.

I have reviewed the assessment and note the variance between predicted turbine noise and background noise levels is the greatest at 6m/s for both day and night time. The applicant predicts a minor exceedance of 0.5dB of the 37.5dB(A) daytime noise limit at H17 at 6m/s wind speed and under downwind conditions. From directional noise modelling, the result indicates the exceedance are when winds are blowing 220 to 340 degrees from north (i.e., broadly westerly winds). The EIAR finds that noise levels at all other sensitive noise receptors will comply with applicable daytime and night time noise limits. The EIAR finds that the predicted levels will remain low and notes that the highest calculated ‘downwind’ turbine noise level of 41.2dB LA90,T (excluding financially involved receptor). Whilst I note concerns raised regarding the significance methodology applied in Chapter 13 and the reference to appeal ref. ABP 315656-23 in relation to amplitude modulation (AM), I am satisfied that the methodology accords with current established practice for a limit based assessment. I have addressed AM in a separate section below.

The applicant has proposed mode management i.e. operating the turbines in low noise mode, to be applied to mitigate the exceedance at H17. Reduced mode sound power level for the candidate turbine is presented in Table 13.19 and the curtailment strategy is provided in Table 13.20 and applicable to T06, T08 and T09. The

proposed mitigation measures are standard in nature, and I am, therefore, satisfied that it can be effectively implemented. I note there are no cumulative operational noise effects.

The Commission will note that the planning authority, in consultation with Council's Environmental Department and appointed external acoustic consultant, have not raised any concerns with the assessment and recommends that compliance with the daytime and night time criterion values as per Table 13.16 and 13.22 of the EIAR be conditioned.

Having regard to the above, I am satisfied that the applicant has satisfactorily demonstrated that the proposed development, subject to mitigations, can operate within the daytime and nighttime noise limits of the 2006 Guidelines for all identified sensitive noise receptors (excludes financially involved properties). I am, therefore, satisfied that the proposed development will not result in significant effects on noise sensitive receptors. In the event the Commission is minded to grant permission, it is recommended that a condition specifying operational noise limits in accordance with the EIAR.

Low frequency and infrasound

Observations have raised concerns regarding impacts from low frequency and infrasound noise. Of note, I have addressed appellants reference to recent High Court judgements under amplitude modulation below.

I note Appendix 13-2 of the EIAR includes relevant research. The applicant outlines that low frequency refers to sound occurring in range of 20-200 Hz and that infrasound refers to sound at frequencies below 20 Hz. The applicant refers to EPA document NG 3 Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (2011) which outlines that there is no significant infrasound from wind turbines. In this regard, I note the Draft 2019 Guidelines states that there is no evidence that wind turbines generate perceptible infrasound. The more recent WSP review (2023), also appended to the Tullacondra TAC appeal, concluded that "the findings from the existing evidence base indicate that infrasound from wind turbines at typical exposure levels has no direct adverse effects on physical or mental health." I note this conclusion is also referenced in the UK Draft updated guidance (2025)

which identifies infrasound as not requiring assessment outlining that for modern upwind turbines the levels of infrasound at typical receptor distances are well below the threshold of perception.

In terms of low frequency noise, the applicant references an article in the UK Institute of Acoustics Bulletin (March, 2009) and a 2006 report for the UK Department of Trade and Industry by Hayes McKenzie which “concluded neither infrasound nor low frequency noise was a significant factor at the separation distances at which people lived.” I note the findings of the WSP review (2023) “evidence currently suggests that, due to the inherent characteristics of wind turbine sound, suitable controls on A-weighted sound levels are expected to also provide sufficient control for the potential impact of low frequency noise.” Furthermore, the recently published UK Draft updated guidance (2025) outlines that no specific low frequency limits are necessary to control wind turbine noise and that sensitive receptors are considered to be suitably protected from low frequency sound by the noise A-weighted level control measures.

The applicant recommends an appropriate detailed investigation be undertaken in the unlikely event there is an issue with low frequency noise and that this should have regard to Appendix VI of the EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (EPA, 2016).

Having regard to the above, I am satisfied that infrasound and low frequency noise is adequately considered within the EIAR and that a planning condition to control noise limits cover all noise generated from the proposed wind farm.

Tonal Audibility

Observation has raised concerns regarding tonal risk and that tonal penalties should be included.

Tonality is discussed in Appendix 13-2 of the EIAR and in the applicant’s response to RFI Item 12. Tonality for wind turbines is described by the applicant as “a concentration of acoustic energy into a very narrow frequency range, sometimes describes as a whine or humm.” The applicant references the IoA GPG which outlines that “specific information on tonality at representative receptor separation

distances" is highly unlikely to be available at planning application stage and the standard practice is to control tones by planning conditions. In RFI Item 12 the applicant outlines that tonality is not expected to be an issue in regard to a modern well insulated substation located at a distance of c. 235m from the nearest sensitive receptor. The applicant in Appendix 13.2 proposes to carry out tonal analysis at commissioning stage and if audible tones are found at noise sensitive receptors, and references procedures outlined in IoA GPG, Special Guidance Note 3.

I note the recently published UK Draft updated guidance (2025) outlines that it is generally not possible to predict the occurrence of tonal noise at planning stage given it is not a general characteristic of wind turbines but usually associated with design or component malfunction. The draft guidance recommends that tonal character corrections should be applied during compliance measurements and not at planning assessment stage. The Commission will note that the planning authority proposes a similar approach.

Having regard to the above, I am satisfied that tonal noise is adequately considered within the EIAR and that a planning condition to control noise limits cover all noise generated from the proposed wind farm including tonal. The Commission will note mitigation measures within the EIAR do not outline a noise compliant monitoring programme or specify the appointment of a community liaison officer. In the event the commission is minded to grant permission, I recommend a noise compliance monitoring programme (NCMP) and the appointment of a Community Liaison Officer (CLO) are conditioned.

Amplitude Modulation

A number of submissions have raised concerns regarding amplitude modulation (AM), noting that this is not covered by the 2006 Guidelines and that this has been confirmed in recent high court judgements. Concerns outline that AM is not considered a rare occurrence, that the proposed layout will lead to noise issues including AM related intrusion, and that the proposed noise condition by the planning authority does not control AM and is not enforceable.

Amplitude Modulation is discussed in Appendix 13-2 of the EIAR, and it notes that relevant research distinguishes between 'normal' AM (NAM) and 'other' AM (OAM).

NAM is described as an inherent characteristic of wind turbine noise, and refers to the experience of ‘blade swish’ at ground level close to turbines which reduces at distance. OAM is described as more occasional and occurring at larger distances, a periodic ‘thumping’ or ‘whoomphing’ at lower frequencies occurring as the blades rotate and influenced by atmospheric factors, including wind speed and direction. In referencing research, the applicant concludes that the occurrence of OAM is not possible to predict at planning stage, finding its occurrence to be infrequent or rare given it is not experienced at every site and “when it does occur, does so under very specific wind conditions.” The applicant outlines that the IoA’s A Method for Rating Amplitude Modulation in Wind Turbine Noise (2016) provides an objective method for measuring and rating AM. The applicant in reference to standard practice recommends for “OAM to be investigated, only in the event of complaint, and, where the investigation verifies its presence, mitigation measures put in place to address the identified turbine OAM noise characteristics.”

Having regard to the above, I note the WSP review (2023) outlines that NAM is well understood and corresponds with the guidance on AM provided in ETSU-R-97, whilst AM referred to as ‘other’, ‘enhanced’ or ‘abnormal’ is less well understood, and “more widely reported as being associated with noise disturbances, and does not correspond with the guidance on AM provided in ETSU-R-97.” The WSP review identified several potential mechanisms, all noted to be influenced by atmospheric factors, contributing to OAM including transient blade stall, inflow turbulence variation, wake effects, and partial refractive rotor shading. It states that the evidence base indicates that wind turbine AM is more prevalent at night time, evening and early morning, and this is believed to reflect atmospheric conditions although reference to lower residual sound levels is also noted. The review suggests the influence of wind direction on AM prevalence is more site dependent. The difficulties in predicting AM within the context of development planning and noise assessment guidance is recognised within the WSP review. The IOA’s reference method (2016), referred to by the applicant and in the Draft 2019 Guidelines, was found to be appropriate and recent updates as part of the IEC 61400-11-2 was noted in the WSP review (2023). I note the IOA reference method also informed the method of quantifying AM in the Draft 2019 Guidelines.

I note that the recommendation in the IOA GPG is not to assign a planning condition to deal with AM. The complexity of a penalty scheme in addressing wind turbine sound measurements was noted in the WSP review (2023). The recently published Draft updated guidance (2025) for the UK outlines that it is generally not possible to predict the occurrence of tones and elevated AM characteristics at planning stage given these are not an expected general characteristic of wind turbines, outlining that "the current consensus is that AM cannot be predicted." Usually, such noise is noted to be associated with a specific design or component malfunction and combined with operational characteristics. The draft UK guidance also references the IOA's reference method (2016), and proposes to convert the value of tonal audibility and/or AM rating to a character correction in decibels during compliance measures and within the permitted noise limits. In terms of the appeal, the Commission will note that the planning authority proposes a similar approach, although I note the reference to IoA Wind Turbine Guidance Notes within the condition is not sufficiently specific in this regard as noted in observation.

Tullacondra TAC in their response to the appeal outlines that the High Court has found that the 2006 Guidelines do not assess nuisance risk or AM and do not assess or control for other characteristics likely to cause nuisance such as low frequency noise. I concur that the 2006 Guidelines does not make reference to potential wind turbine noise characteristics such as AM. I am, however, satisfied that the operational noise limits for wind turbines are applicable to all noise generated by wind turbines including characteristics such as tonal and AM and low frequency as outlined above. The standard method to address such noise characters if found to impact on the noise through increased audibility and potential disturbance have been considered above.

Having regard to the above, I am satisfied that AM within the EIAR is adequately addressed and that there is currently no requirement in applicable guidelines for a penalty scheme to account for OAM. I, therefore, concur with the applicant that current research outlines that these are potential operational noise characteristics that can only be confirmed, if applicable, and addressed during operation of the proposed development. Furthermore, I am satisfied that a planning condition to control noise limits cover all noise generated from the proposed wind farm whether tonal and/or AM. Whilst I note the concern raised by submissions that that OAM

cannot be mitigated, I am satisfied that mode management or curtailment strategy of wind turbines are standard methods for reducing wind turbine noise levels. Furthermore, as outlined above, there are recognised methods for rating wind turbine noise by adding a character correction, or penalty, for AM, should this be required at operational stage to ensure compliance with noise limits which as set out above have been derived from the 2006 Guidelines.

As above, if the Commission is minded to grant permission, I recommend NCMP and a CLO are conditioned.

8.13.8. Conclusion: Direct and Indirect Effects

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observation received in relation to the appeal. I am satisfied that the main significant direct and indirect effects on noise and vibration that arise during the construction phase of the proposed development can be mitigated by the application of standard good construction practices. During operation, the noise environment in which the proposed development is situated will change, however, I am satisfied that noise levels, individual and cumulatively, subject to mitigation measures, will not be significant and noise limits can be controlled by condition. In reaching this conclusion I have had regard to the cumulative impact of the proposed development and other renewable energy projects in the study area.

8.14. Landscape and Visual

Chapter 14 of the applicant's EIAR deals with Landscape and Visual and supplemented by Figures 14.1 to 14.11, Volume IV Viewpoints 1 – 21, and technical appendices in Volume III:

- Appendix 14.1: Methodology
- Appendix 14.2: Photomontages Methodology
- Appendix 14.3: Viewpoint Analysis
- Appendix 14.4: Landscape Sensitivity Assessment

Chapter 15 addresses Archaeology and Cultural Heritage and Chapter 6 Population and Human Health. Description of the Proposed Project is set out in Chapter 5.

RFI Response Report Item 21 is of relevance and include:

- RFI Appendix 21.1 Overall Map Illustrating Viewpoints Associated with Photomontages.

8.14.1. **Issues Raised**

A number of submissions and observations have raised landscape and visual including cumulative concerns in relation to the proposed wind farm, and I have addressed them below.

I have addressed setback to residential receptors in Section 7.3 above and I have not repeated it herein.

8.14.2. **Context**

The LVIA included an initial 30km study area and a detailed 20km study area. The study area for recreational facilities and heritage sites is 10km as per Chapter 6 Population and Human Health.

The LVIA have been informed by desk study, visualisations and ZTV studies and a number of site visits.

Viewpoints (VPs) from publicly accessible locations representing settlement, community, motorist and recreational receptors within the 20km study area have been selected, 21 in total (EIAR Table 14.8).

8.14.3. **Baseline**

Baseline is set out in Section 14.5.

Landscape character and designations (within study area and scoped in):

- Landscape Character Type (LCT) 5 Fertile Plain with Moorland Ridge (Mallow-Mitchelstown-Fermoy) covers the site and a large proportion of the study area, includes Landscape Character Areas (LCAs) 62 and 69 within the study area.

- LCT 10b Fissured Fertile Middleground (Rylane East to Waterford) (LCA 41), coincides with the southern part of the study area.
- LCT 11 Broad Marginal Middleground Valleys (LCAs 29 and 75), coincides with the western part of the study area (VP20)
- LCT5 c. 4km east of the proposed wind farm site is designated as High Value Landscape (HVL), VP17/VP18/VP19 are located within the HVL.

Visual Receptors:

- Settlements/communities:
    - Turbines have been setback 4 x tip height or 700m from the nearest residential properties.
    - Within 2km, a number of dispersed and low-density communities of scattered dwellings and farmstead with occasional small villages and groups of dwellings situated along the minor roads to the east and south and the R580 to the north and including the village of Lisgriffin. Viewpoints within 2km of the nearest turbine include VP1/VP2/VP3/VP4/VP5/VP7/VP8.
    - Within 2-5km, similar pattern of settlement as within 2km. Villages include Ballyclogh (VP9), Kilbrin (VP11) and New Twopothouse. Viewpoints within 2km – 5km of the nearest turbine include VP6/VP9/VP11.
    - Within 5-10km, similar pattern of settlement as within 5km. Larger settlements include Buttevant, Mallow and Kanturk and smaller villages include Liscarroll and Churchtown. Viewpoints within 2km – 5km of the nearest turbine include VP10/VP12/VP13/VP14/VP16/VP17.
- **Key routes**:
    - N72 runs between Killarney and Mallow passing within 7km of the site to the south. Part of the N72 is identified by Cork County Council as a Scenic Route (S14), VP21.
    - N20 runs between Mallow and Charleville passing within 4.5km of the site to the east.

- Regional road including R580 and local road network considered as part of settlements and communities.

- **Recreational receptors**:
  - Ballyhoura Way (7km north, VP13/VP14/VP18) and Blackwater Way Trail (11.5km southeast).

- **Recreational facilities and heritage sites (with theoretical visibility):**
  - Closest ones include Kilguilkey House Equestrian Centre (1.8km) and Ballyhass Adventure Sports Centre (4.5km) to the northeast and Ballybeg Augustinian Priory, 5.1km to the west.
  - Other receptors include Mallow Castle (c. 9.5km), Mount Hillary Loop Walks (c. 10.5km, VP15) and Mallow Golf Course (c. 10.5km).

Operational, consented and proposed wind farms within the 20km study area are listed in Table 14.6 and shown on Figure 14.8.

8.14.4. Likely Potential Effects

Table 8.8: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• The proposed development would not be constructed. No new features would be introduced into the landscape and no new features would be visible.
Construction	• Landscape fabric: Mainly occur within the wind farm site. Alteration or removal of landscape features e.g. loss of hedges, loss of part of open fields, terrain alterations. Moderate adverse effect, Not Significant. • Landscape character: Largely confined to the site. Visibility of construction activities within the wider study area during the final phases of construction with turbines etc. Moderate/minor adverse, and Not Significant.
Operation	Landscape receptors:

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Site landscape fabric: No further loss or alteration. • LCT 5: High/medium sensitivity to the proposed development. Introduce movement into the landscape and alter its relatively undeveloped nature. Within 2km, Medium scale of change to LCT, Moderate/slight magnitude of change, Moderate adverse effects and Not Significant. Effects diminishing with distance. • LCT10b & LCT 10: Both evaluated as Medium sensitivity to the proposed development. Given distance and intermittent nature of visibility, scale of change to LCTs would be Small/Negligible or Small, Slight magnitude of change, Moderate/minor adverse effects and Not Significant. Effects diminishing with distance. • HLV (VP17/VP18/VP19): Small to negligible change to HLV, Slight magnitude of change, Moderate/minor adverse effects and Not Significant. Visual receptors: • Settlements/communities within 2km: Varied visibility from no view to intermittent to more open views. The proposed development would not be the sole focal point in views from communities and would not be overly dominant. Visual effects range from Moderate/minor (intermittent/glimpsed views) to Moderate (Uninterrupted elevated views) and Not Significant. • Settlements/communities within 2-5km (VP9/VP11): Largely intermittent visibility in views and occasion clearly visible in views from elevated areas. The wider visual amenity of communities would not be affected. Visual effects range from Moderate/minor (intermittent/glimpsed views) to Moderate (Uninterrupted elevated views) and Not Significant. • Settlements/communities within 5-10km: Largely intermittent visibility in views with screening provided by landform, vegetation and buildings. Where visible in views, this would be seen in the context of the large scale, expansive, working farmland landscape

Project Phase	Potential Direct, Indirect and Cumulative Effects
	and it would not result in widespread or intensive effects. Minor effect and Not Significant. • Settlements/communities within 10-20km: Minor/negligible effect and Not Significant. • Key routes: Negligible effects on N72 (S14) and Minor effects on the N20, Not Significant. • Recreational receptors: Moderate effects on Ballyhoura Way and Moderate/minor effects Blackwater Way Trail, and Not Significant. • Recreational facilities and heritage sites: Moderate/minor effects on Kilguilkey House Equestrian Centre and Balyhass Adventure Sports Centre, Moderate effects on Ballybeg Augustinian Priory and Mount Hillary Loop Walks, Negligible effects on Mallow Castle and Minor effects on Mallow Golf Course, and Not Significant.
Decommissioning	• Substantively the same as construction phase effects.
Cumulative	Other wind farm developments: • Cumulative ZTV studies are shown in Figures 14.9 – 14.11. • Operational and consented cumulative wind farm developments are in considered part of the landscape and visual baseline and forms part of the main LVIA (Scenario 1). The additional effects of proposed wind farms are assessed in Scenarios 2A, 2B and 3. • Cumulative landscape effects: No difference in effect on the LTCs and HLV when comparing Scenario 1 with the addition of the proposed development in combination with operational, consented and other proposed cumulative wind farms (Scenarios 2A/2B/3). Not Significant. • Cumulative visual effects: No difference in effect or greater effect than those assessed for Scenario 1, Not Significant.

Project Phase	Potential Direct, Indirect and Cumulative Effects
	Other developments (Figure 14.8): Cumulative effects would be no greater than the effects of the proposed development alone or cumulatively with other wind farm developments, Not Significant.

8.14.5. **Mitigation**

- Apart from embedded design mitigations, no specific landscape and visual mitigation referenced.

8.14.6. **Residual Effects**

- No change to the main LVIA which concludes no significant landscape and visual effects and no significant cumulative effects.

8.14.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

I have examined, analysed, and evaluated Chapter 14 of the EIAR, all of the associated documentation and submissions on file in respect of landscape and visual. I have inspected the application site, the surrounding area, the viewpoints referred to in the Visual Impact Assessment (Appendix 14.2) and the associated photomontages (EIAR Volume IV). I have also had regard to landscape character and sensitivity as set out in the policy framework in the Cork CDP and the sensitive receptors identified in these.

I am satisfied that the applicant understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on landscape and visual receptors, because of the proposed development have been identified.

Submissions to the application have raise a number of issues in respect of landscape and visual which I address below:

- Photomontages
- Operational Landscape Effects
- Operational Visual Effects

- Light Pollution
- Cumulative impact

Photomontages

Observations have queried the accuracy of photomontages in terms of turbine scale. I have reviewed the methodology in Section 14.3.6 and Appendix 14.2 of the EIAR, which is noted to have been informed by visual representation guidance published by the Landscape Institute (2019) and Nature Scot (2017), and I consider it to be consistent with standard practice. I have inspected the submitted photography, wirelines and photomontages (EIAR Volume IV) and I am satisfied that these are consistent with the methodology and that the photomontages give a reasonable impression of the scale of the turbines and the distance to the turbines in line with applicable standards.

Operational Landscape Effects

A number of submissions and observations have raised concerns in relation to landscape impacts including disproportionately overbearing effect on the landscape, dominating the rolling lowland landscape, failing to protect the rural character of the landscape and significant visual impact on a CPD designated important landscape.

As noted previously, the proposed wind farm site is not subject to any landscape designation and the nearest High Value Landscape as per the CDP is east of the N22, approximately 4km from the site. The proposed wind farm site is located within LCT 5 Fertile Plain with Moorland Ridge, an LCT of County importance and of Very High landscape value and Very High landscape sensitivity as per CDP Appendix F and the Cork County Draft Landscape Strategy (2007). LCT5 covers a substantial proportion of northeast Cork including the designated High Value Landscape to the east of N22 and is identified as an Important Landscape (Medium) the CDP Wind Energy Strategy. Landscape Type (LT) 62 The Golden Vale overlaps with the site. LCT 5 is described as a “low lying landscape, which comprises an extensive area of predominantly flat or gently undulating topography along the River Blackwater, and which is contained in its periphery by low ridges” and it is noted for its flatness and

as a working agricultural landscape. Human influences such as formal field patterns are more noticeable in LT 62.

I concur with the findings of the LVIA that the landscape context is large in scale reflecting its openness, leading to a Medium scale of landscape change **within 2km**. However, I consider the magnitude of change on the LCT5 within the localised area to be Moderate rather than Moderate/slight as per the EIAR, which leads to a localised Moderate to Major/Moderate effect and Significant. I concur with the LVIA that effects on the landscape character diminishes with distance and are Not Significant beyond 2km. I concur with the findings of the LVIA that the significance of the landscape effects on the High Value Landscape, east of the N22 would be Moderate/minor and Not Significant.

Having regard to the large and open landscape context and the key characteristics of the LCT5, it is my view, that the proposed development would not adversely impact on the visual quality of the landscape in relation to CDP Objective ET 13-7. Furthermore, I do not consider the effects on the landscape as a result of the proposed development would be disproportionately overbearing or dominating as suggested in submissions and observations.

Operational Visual Effects

A number of the appellants and observers have raised concerns relating to visual impact and that the proposed development would dominate every view and visible for miles with tangled spinning blades, loom over homes and farms, loss of scenic views and result in light pollution.

Local residential receptors: The LVIA includes a detailed viewpoint analysis of 21 viewpoints (VPs) representing the main landscape and visual receptors as presented in Appendix 14.3 of the EIAR. I have inspected these and considered the methodology in Appendix 14.1. The methodology states that “those living within view of the scheme are usually regarded as the highest susceptibility group as well as those engaged in outdoor pursuits for whom landscape experience is the primary objective” and goes on to identify residents in dispersed rural community as Medium susceptibility whilst users of outdoor recreation focussed on the appreciation of views as High susceptibility. The methodology references GLVIA3 and the focus on

the value of public views and sensitivity in terms of community value. Whilst this is noted, it is not clear from the methodology how the susceptibility for people living in the area is reduced from highest to Medium. Having regard to the methodology of the LVIA and GLVIA3, it is my view that residential receptors in the area of the proposed development should be afforded High susceptibility, leading to a High/Medium sensitivity.

As outlined above, I concur with the LIVA in terms of the scale of landscape effects and note that these largely aligns with the scale of visual effects in considering the 21 no. VPs as per Table 14.9. The LVIA outlines that **within 2km** the residential visual receptors consist predominately of dispersed properties along the public road network or the village of Lisgriffin. Views are noted to vary depending on the position within the local topography and natural screening and range from no views to intermittent views to open views. I note the potential for elevated views from locations along the R580 to the north (VP7/VP8) and from parts of the L1200 to the northeast (VP1/VP2). The LVIA found the magnitude of change within 2km to range from Moderate/slight where views are intermittent or glimpsed to Moderate where views are uninterrupted or elevated and I largely concur with these findings. Applying an increased sensitivity of High/medium to local residents, the significance of effect is Moderate and Not Significant were there are intermittent views increasing to Major/Moderate and **Significant** were there are uninterrupted views.

I consider the significance of visual effects on residential receptors including individual properties, small groupings of properties and settlements diminish with distance, and I concur with the LVIA that visual effects beyond 2km would, as summarised above, range from Moderate to Minor/Negligible and Not Significant. Whilst I note observations concerns regarding views of tangled turbine blades, overall, I consider the composition of the turbines achieves a largely evenly spaced and balanced array with minimal overlapping in the majority of the selected viewpoints. I further note that in instances were overlapping of turbines occurs, the overall array of the wind turbines within the view are reduced. I have had regard to the advice with the 2006 Guidelines and the Draft 2019 Guidelines.

Scenic Routes & Views: Submissions have raised concerns regarding interference with scenic views, impacts on the scenic quality of the region and the lack of visual backdrop. The CDP GI14-12 seeks to “preserve the character of all important views

and prospects, particularly sea views, river or lake views, views of unspoilt mountains, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty as recognized in the Draft Landscape Strategy." The CDP in Section 14.9 Landscape Views and Prospects outlines that views and prospects of great natural beauty are protected through the identified Scenic Routes and scenic routes as referred to in Objective GI14-13 and listed in CDP, Volume 2. Figure 14.7 of the EIAR identifies scenic routes, recreational routes or other recreational receptors located within the LVIA study area.

The nearest scenic route is S14, a section of the N72 between Mallow and Roskeen bridge, located 7km to the south of the wind farm site and within LCT5 as per the Draft Landscape Strategy. S14 is predominately located outside the ZTV of the proposed turbines and having reviewed the LVIA and VP 21, I concur with the findings of the LVIA that the significance of visual effects would be Negligible and Not Significant. Other scenic routes are located over 12km from the wind farm site with no or limited views. Ballyhoura Way is a 90km long recreational route to the north (7km), and large sections of the route is located outside the ZTV of the proposed turbines. Having regard to the LVIA and VP13/VP14/VP18, I concur with the findings of the LVIA that views would be intermittent and that the visual effects would at most be Moderate, and Not Significant. Additional recreational views are presented in VP15 Mount Hillary (11.3km southwest), VP18 Caroline Mountain (12km northeast), VP19 Rahan Mountain (14.3km southeast) and VP20 Rathcool area (17.9km southwest), these are elevated distant views within a vast landscape context and the visual effects are not significant.

Having regard to the 2006 Guidelines and the Draft 2019 Guidelines, and taking account of the above, I do not consider the positioning of the wind turbines within a relatively flat farmland landscape within a panoramic setting will result in spatial dominance or in visual clutter or confusion. I note a visual backdrop is not necessarily a requirement for a flat farmland landscape. Having regard to this, I am satisfied that the proposed development will not result in significant effects on scenic views or the scenic quality of the region.

Light Pollution

A number of submissions have raised concerns regarding light pollution as a result of aviation lighting to be fitted to the proposed wind turbines and references CDP Objective BE 15-13 Noise and Light Emissions and dark sky principles. Reference to a paper titled “Quantifying the visual impact of wind farm lights on the nocturnal landscape” is noted, however I note this does not present an established assessment model for aviation lighting and as such, have not considered it further.

As set out in the EIAR Chapter 11, aviation warning lights are a requirement on obstacles of 150m or more in height and have been requested by both the IAA and Department of Defence (see Section 3.3 above). CDP Objective BE 15-13, specifically criterion d) “seek the minimisation and control of light pollution associated with activities of development, having regard to relevant standards, published guidance and the receiving environment and Dark Sky principles” and is noted to be applicable to artificial night time light. No assessment has been carried out by the applicant and there are no relevant Irish’s guidelines on assessing the effects from aviation lighting. In this regard, I note the Scottish guidelines “Guidance on Aviation Lighting Impact Assessment” by NatureScot (2024) which applies the GLVIA 3 assessment methodology and differentiate the assessment from the more quantitative lighting assessment carried out by lighting engineers. The NatureScot guidance notes that aviation lights are not a new feature in the landscape and does “not cause sky glow, but can contrast with natural darkness, and can draw attention” and “are generally seen as points of red light, especially where there is a high degree of contrast in the view.” The guidelines notes that red lights are among the most noticeable colour but are “not perceived as being as bright as other colours at the same intensity” and that visual receptors “perceive and experience light in different ways, particularly at night.” Local residents are identified as having a lower sensitivity at night compared to day time given the influence of lighting at home, settlements and other nearby light sources, and that activities in the rural landscape at night often involve some form of personal light for safety. Drivers using roads are also identified as of lower susceptibility at night time as their focus would be on the road illuminated by headlights.

Having regard to the above, there are no Dark Sky Reserve or Park within the study area of the LVIA and I have not identified any recognised dark sky places in proximity to the wind farm site. As set out above, the closest designated landscape is

the CDP High Value Landscape area east of Buttevant and the N22, c. 4km from the site, however from review of the CDP, I am not aware of any special qualities of this landscape that are likely to be enhanced after dark. The site and surrounding area are located within LCT 5 Fertile Plain with Moorland Ridge which is noted for its flatness, a working agricultural landscape shaped by human influences including scattered residential properties, farms and smaller settlements.

Having regard to the above, I am satisfied that the susceptibility of the identified landscape and visual receptors would be low and that the proposed development is unlikely to result in significant landscape or visual effects as a result of aviation warning lighting. Considering the above, and taking account of the aviation safety requirements, the type of lights and their location at the nacelle of the wind turbines, it is my view, that the proposed development satisfies relevant light emissions criteria of CDP Objective BE 15-13.

Cumulative Impact

Appellants and observers raise concerns that cumulative impacts have not been adequately addressed and that the cumulative visual impact is excessive and oppressive. As noted previously, I am satisfied that the cumulative baseline within the EIAR is up to date and sufficiently comprehensive. The location of other operational and consented wind farms within the 20km study area forms part of the landscape and visual baseline and therefore, I am satisfied that the assessment of landscape and visual effects within the LIVA is cumulative.

The addition of the proposed development in combination with operational, permitted and proposed (in planning) are assessed in cumulative assessment Scenarios 2A/2B/3, and include proposed Annagh wind farm (10.9km north) and proposed Ballinagree wind farm (20.6km southwest). Annagh wind farm is within the LCT5, however it is located more than 7km away from the proposed development. Given separation distance, the CLVIA finds that there would not be a perception of wind energy development becoming a prominent new characteristic of the landscape and the addition of the proposed development in combination with operational, permitted and the proposed Annagh wind farm would not alter the significance of the cumulative landscape effects (Scenario 2A). No change to the significance of the cumulative landscape effect is predicted by the added effect of the proposed

development in combination with operational, permitted and the proposed Annagh wind farm and Ballinagree wind farm (Scenario 3).

I am satisfied that on account of separation distances, the added effect of the proposed development in combination with operational, permitted and the proposed Annagh wind farm and/or Ballinagree wind farm would not alter the significance of cumulative visual effects on communities or recreational facilities. There would be limited cumulative combined and sequential visibility from recreational routes and on key routes, and no increased effect on account of the proposed development in addition to operational and consented wind farm and the proposed Annagh wind farm and/or the proposed Ballinagree wind farm. I am satisfied that cumulative landscape and visual effects of the addition of the proposed development in combination with operational, consented and proposed (in planning) wind farms have been comprehensively assessed and I concur with the findings of the cumulative assessment. The Cumulative effects with other developments are noted to be not significant in the LVIA.

8.14.8. **Conclusion: Direct and Indirect Effects**

Having regard to the examination of environmental information in Chapter 14 and the accompanying documentation within Volume IV the EIAR and the LVIA, I consider the landscape effects as a result of proposed development on the landscape character within 2km of the site to be significant and reducing to not significant beyond 2km. I consider significant visual effects as a result of the proposed development will be experienced by a small number of residential receptors within 2km of the proposed wind turbines, where these will experience uninterrupted primary views of the proposed turbines. I am satisfied that residential receptors within 2km of the proposed wind turbines where there are no views or intermittent or limited views will not experience significant visual effects, and that visual effects reduce to not significant beyond 2km. Other visual receptors will not experience significant views on the basis of, or a combination of, intermittent, limited or no views, visual extent, distance and the context of the landscape. In reaching this conclusion, I have had regard to the cumulative impact of other wind farms located within the LVIA study area.

On balance, based on National Policy supporting renewable energy (see Section 6.0), I consider that the potential benefits associated with renewable energy generation including wind energy within the context of a climate emergency, outweigh the potential adverse localised landscape character effect and potential perceived adverse localised visual effect for a small number of residential receptors. I am therefore satisfied, that the proposed development would be consistent with the Climate Act and National Policy in support of renewable energy and a refusal of permission would not be warranted on the basis of residual landscape and visual effects.

8.15. Cultural Heritage

Chapter 15 of the applicant's EIAR deals with Archaeology and Cultural Heritage with supporting information provided in:

- Appendix 15.1 Recorded Monuments.
- Appendix 15.2 Impact Assessment and the Cultural Heritage Resource.
- Appendix 15.3 Mitigation Measures and the Cultural Heritage Resource.
- Appendix 15.4 Photographs.

Chapter 14 addresses landscape and visual.

8.15.1. Issues Raised

Parties to the appeal have raised a number of concerns relating to the omission of and direct effects on Site and Monuments Records, NIAH structures and historic walls, archaeological area of significance and lack of archaeological study, and the assessment in terms of methodology, setting and cumulative.

Council's Archaeologist has recommended conditions which I have considered in Section 7.7 and referred to in my assessment below.

8.15.2. Context

Direct effects: The study area for the assessment of direct effects is within the redline boundary and within 1km of the wind farm site, within 100m of the GCR, and

to the edge of the existing public road for the TDR except between the N20 turn off for each option and the site entrance where a 100m study area is considered.

Indirect effects: The study area for the assessment of indirect effects from the wind farm is 20km for UNESCO World Heritage Sites, 10km for National Monuments, 5km for Record of Protected Structures and Architectural Conservation Areas, 1km for Recorded monuments and NIAH sites, and within 100m for unregistered sites. The study area for GCR and TDR is the same as for direct effects.

8.15.3. **Baseline**

The baseline is set out in Section 15.6 of the EIAR.

Land cover: Predominantly “agricultural pastures” and “non-irrigated arable lands” as per Corine Land Cover maps. The wind farm site is depicted as a series of large agricultural fields on 1st Edition 6 Inch Ordnance Survey (OS) map (1829-1942).

UNESCO World Heritage Site: There are none (including tentative list) recorded within the study area of the proposed development.

National monuments: There are 8 located within the study area of the wind farm site (EIAR Table 15.8). The nearest are Blossomfort ringfort (no. 549 and SMR CO024129----), located c. 3.3km south-west of the wind farm site and Ballybeg with associated tower and dovecote (nos. 103-105) located c. 4.9km to the east. Within 5 to 10km, Franciscan Friary at Buttevant (no. 202), Liscarrol Castle (no. 333), Dromaneen Castle (no. 339) and Mallow Castle (no. 281). There are no national monuments within the study area of the GCR or the TDR options.

Site and Monuments Records (SMRs): There are none within the wind farm site, and 54 recorded monuments within the 1km study area of the wind farm site (EIAR Figure 15.3 and Table 15.9, and Appendix 15.1).

- There are 7 and 5 recorded monuments within the study areas of GCR Option 1 and 2, respectively, and 3 of these SMRs overlap both study areas including Ballyviniter Railway Bridge (CO033-134----). Knockaunavaddre ringfort (CO024-099---) is located adjacent to L1333 (GCR Option 2).
- There are 14 and 4 SMRs within the study areas of TDR Option 1 and 2, respectively.

Protected structures: There are none within the wind farm site, and 21 Protected Structures within the 5km study area (EIAR Figure 15.4 and Table 15.10). The nearest being Kilmaclenine Castle (RPS 186 and RMP CO024-05202), located c. 1km to the east of the wind farm site. There is one Protected Structure within the study area of TDR Option 1 (Abbey at Moigh South, RPS 912).

NIAH structures: There are 40 recorded within the wind farm site study area, the nearest being a gate lodge at Lisleagh (NIAH 20902413).

- NIAH structures overlapping with the GCR/TDRs include Grange Bridge at Ballybeg (20902411) (GCR Option 2 and TDR Option 1) and Railway Bridge at Ashgrove (20903320) (TDR Option 2).

Architectural Conservation Areas (ACAs): There are three ACAs within the study area of TDR Option 1.

Lidar data review: No currently unknown buried archaeological enclosures or former field systems are within the wind farm site boundary, and Ardskeagh ringforth-rath is shown to be located entirely outside the wind farm site.

8.15.4. Likely Potential Effects

Table 8.9: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Potential effects to subsurface archaeology (if present) and historic structures could continue to occur as a result of groundworks associated with the management of farmland and/or public roads. Indirect effects in the wider landscape would not occur.
Construction	• No indirect effects. • No potential for direct effects on National Monuments, World Heritage Sites, Protected structures or ACAs. Recorded Monuments and NIAH Structures: • <u>Wind Farm:</u> Implements buffer zones around recorded monuments closest to the site boundary. No direct effects predicted. Neutral and Not Significant.

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• GCR: The potential for direct effects from the trenching groundworks within the public road over the Ballyviniter Railway Bridge (CO033-134---), Low effect and Not Significant. The SMR Zone for Knockaunavaddre ringfort (SMR CO024-099---) extends into public road (Option 2), potential for imperceptible to significant effects, Not Significant to **Significant**. GCR Option 2 crosses underneath Grange Bridge (NIAH 20902411), no direct effects on the NIAH structure predicted, Not Significant. • TDR: No accommodation works are proposed at any of the locations of the heritage assets along the routes, Not Significant. If off road accommodating works are required, potential to directly affect Knockaunavaddre ringfort (SMR CO024-099---) and Grange Bridge (NIAH 20902411), potential effects ranging from neutral to profound adverse, Not Significant to **Significant**. Unrecorded sites: • Wind Farm: 19th centuries remain identified in the vicinity of the site, near T1, T7 and T9. Depending on the type of below ground archaeological feature or above ground structures, significance of the effect ranges from imperceptible to profound, Not Significant to **Significant**. Removal of field boundaries, likely imperceptible to Not Significant effect. • GCR/TDR: Potential direct effects from off-road ground works range from neutral to profound, Not Significant to **Significant**.
Operation	• National Monuments: Visual change affecting the setting, taking account of distance, direction and screening, predicted to be indirect (long term reversible) and range from Neutral (Liscarrol Castle and Dromaneen Castle) to imperceptible adverse (Ballybeg) to slight adverse (Blossomfort Ringfort, Franciscan Friary at Buttevant and Mallow Castle), Not Significant. • Protected Structures: Visual change affecting the settings are predicted to be completely blocked or extremely restricted views for

Project Phase	Potential Direct, Indirect and Cumulative Effects
	17 protected structures and for the remaining five structures within the study area, indirect adverse (long term reversible) and range from imperceptible (Lohort Castle, RPS 196 and Ballygiblin House, RPS 188) to not significant (Lisgriffin Castle, RPS 41) to slight (Kilmaclenine Castle, RPS 186) to moderate (St Mary's Catholic Church, RPS 42), and Not Significant. • NIAH Structures: Potential views of the proposed turbines from 38 of the NIAH structures within the study area. Visual change affecting the setting of the NIAH structures predicted to be indirect adverse (long term reversible) and range from imperceptible to not significant, and Not Significant.
Decommissioning	• The potential direct effects will be no change (neutral). The established site access tracks will be used for the removal of the built features of the wind farm. • Reversal of any negative visual effects on setting.
Cumulative	• Construction: Potential for localised direct cumulative groundworks effects with the Dublin to Cork Railway line upgrades and very short sections of the GCR and TDR, predicted to be negligible. No additional direct cumulative effects predicted. Not Significant. • Operational: Overall potential cumulative effects on the settings of archaeology and cultural heritage assets as a result of the proposed development in combination with other operational, permitted and proposed wind farms would be range from neutral to moderate adverse, Not Significant.

8.15.5. **Mitigation**

In addition to embedded design mitigation measures, the following construction mitigation measures are proposed:

- Recorded monuments and unregistered 19th century-built heritage structures will be preserved in situ and identified buffer zones fenced off.

- Advance archaeological test trenching within the areas of major groundworks or site track closest to areas of highest archaeological potential within the wind farm, site.
- Archaeological monitoring of all major sub-surface groundworks, as identified, within the wind farm site and along GCR and TDR.
- Appointment of suitably qualified archaeologist under licence.
- Where possible, every reasonable effort will be made to preserve in situ or reduce the impact on any identified archaeological material. If significant archaeological material is encountered, resolution will be agreed with Cork County Council and the NMS.
- Upstanding historic field boundaries will be preserved in situ wherever possible. If removal required then this will be investigated and recorded by a suitably qualified archaeologist.

8.15.6. **Residual Effects**

- Construction phase: Residual direct and indirect effects will be neutral to not significant adverse, and Not Significant.
- Operational Phase: Residual indirect effects will be neutral to moderate adverse, and Not Significant.

8.15.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Assessment methodology

Concerns have been raised which relates to the EIAR methodology, specifically observations notes that the sensitivity terminology is confusing, that the setting assessment is not informed by field survey or considers visibility linkages, there is no archaeological study or cumulative assessment.

EIAR Table 15.2 identifies the sensitivity of the various cultural heritage assets, ranged from Negligible to Very High, and I note this has informed the determination of baseline value of the identified site of cultural heritage within Section 15.6 of the EIAR. The methodology outlines that in relation to the historic environment,

professional judgement is exercised in the determination of the sensitivity of a heritage asset and considers the potential for a heritage asset to absorb change or its susceptibility to an effect whether direct or indirect. I have reviewed the application of sensitivity within the assessment sections (Section 15.8 and 15.9) and find it consistent with the methodology.

In order to determine the extent and nature of archaeological and historical remains, both recorded and unrecorded, desk study and field inspections including topographical review were carried out for the proposed development as per Sections 15.5.2 to 15.5.13 of the EIAR. The methodology for the setting assessment under Section 15.5 of the EIAR confirms a combination of desk-based analysis including review of Zone of Theoretical Visibility (ZTV) followed by site visits where likely setting effects were identified and public access allowed. Sites with public access restrictions were viewed from the public road where possible and draft wireframes were also used to inform assessment. I note the setting methodology extends beyond the immediate and, where applicable, the assessment takes account of surrounding landscape setting, physical relationship or a more distant visual relationship. Taking account of the baseline, the EIAR sets out that indirect effects for the proposed development are mainly concerned with impacts on setting of cultural heritage assets.

A cumulative assessment is provided in Section 15.12 of the EIAR which I note reflects the cumulative scope for the EIAR. The findings of the cumulative assessment are noted above.

I have reviewed methodology as set out in Section 15.5 in the EIAR, I consider this to be comprehensive and in accordance with applicable guidance. The Commission will note that the Council's Archaeologist have raised no concerns with the cultural heritage assessment methodology in the EIAR.

Direct Effects – Proposed Wind Farm

Observations have raised concerns that the proposed development will interfere, injure or destroy monuments, structures and sites of archaeological interests located within the site or along the GCR/TDR routes. There are also concerns that recorded monuments that have been omitted from the assessment.

The Tullacondra TAC make reference to archaeological sites, specifically under or near turbines T02, T06, T03 and T07. I have reviewed the baseline data and I note there are no recorded monuments within the proposed wind farm site as outlined within the EIAR. Having reviewed Figure 15.9 of the EIAR, it appears that these sites referred to by the appellant corresponds with SMRs Fulacht Fia (CO024-034---) (map ref. 61) south of turbine T02, Fulacht Fia (CO024-037---) (map ref. 64) north of turbine T06, Ringforth (CO024-091002-) (map ref. 70) southwest of T07 and a possible lime kiln (map ref. 138) north of T07. With the exception of the unrecorded possible limekiln site (map ref. 138), all sites are noted to be located outside the planning application boundary. No potential moated sites near T03 have been identified in the EIAR, and I found no reference to it from my review of the Historic Environment Viewer including 6 Inch First Edition Maps or from review of EIAR Figure 15.11 presenting LiDAR data of the site. Of note, the LiDAR analysis within the EIAR did not indicate any currently unknown buried archaeological enclosures or former field systems within the proposed site.

I have also accessed the Historic Environment Viewer to review the location of Megalithic tomb (CO24-05602-) as referred to in appeal submission (Donal & Shelia Gayer) as being omitted from the EIAR, and note that this is located outside the EIAR study areas as noted above (Figure 15.3 to Figure 15.7 of the EIAR).

As noted above, the EIAR outlines that buffer zones are to be implemented as shown on Figure 15.9 (50m for refs. 83 and 60, 30m for ref. 89 and 20m for ref. 61) and that no direct effects on recorded monument are predicted. The Council's Archaeologist as per Section 7.7 above, have requested that the EIAR specified buffer zones are to be conditioned, observing that the redline boundary is not a buffer zone and that the scale of Figure 15.9 makes it difficult to ascertain the adequacy of the buffer zones and their outer extent. In the event the Commission if minded to grant permission, I recommend location and buffer zones these recorded monuments adjacent are specified in the CEMP.

Direct Effects – GCR/TDR

As summarised above, the Knockaunavaddre Ringfort (CO024-099----) as raised in in appeal submission is included within the EIAR (map ref. 128, EIAR) and located within the study area of both the GCR Option 2 and TDR Option 1 (see Figure 15.5,

Figure 15.6 and Appendix 15.1). The SMR zone for Knockaunavaddreen ringfort (map ref. 128) includes sections of the L5523 and not the L1333 as referenced in section 15.8.2.3 of the EIAR. I am satisfied that this is a typographical error and does not affect the assessment. The EIAR outlines that the construction of the existing public road is highly likely to have affected any buried archaeological sites and that no works outside the public road within the SMR zone is anticipated for the GCR. Taking account of mitigation measures including archaeological monitoring of groundworks along the public road adjacent to Knockaunavaddre ringfort applies, I am satisfied that no significant effects will occur.

The Tullacondra TAC appeal has raised concerns regarding likely adverse effects or complete destruction of many monuments and structures within the study area of the GCR/TDR routes. A number of submissions have raised concerns regarding the impact on Grange Bridge. I have checked the monuments/structures specifically listed in the Tullacondra TAC appeal and note that these appear to be a copy of the relevant tables within the EIAR. With the exception of the two bridges as noted above, all other identified recorded monuments and structures identified along the GRC routes are located outside the public road and no direct effects are predicted.

No works are proposed to Grange Bridge at Ballybeg (NIAH 20902411, EIAR map ref. 35.). The proposed construction methodology for the GCR (Option 2) crossing of the Grange Bridge including the railway line and gas transmission line is by HDD from the public road as per Table 5.5 (Crossing point 1B) and shown on Figure 4.10 of the EIAR (Crossing No. 1B). No groundworks have been identified at the location of Grange Bridge for the TDR (Node 11, Table 16.5 and Appendix 16.1). The GCR (Option 1 & 2) will be placed within the existing public road over the Ballyviniter Railway Bridge (CO033-134---) (map ref. 131) and limited trenching groundworks proposed. I note Appendix 5 of the Planning Report Bridge Inspection Report Ballyviniter Bridge confirms the width of the structure can facilitate the GCR in a raised verge similar to existing watermains.

Whilst accommodations works have not been identified at the locations of the heritage assets along the TDR, I note the EIAR then goes on to assess an unlikely scenario of should off-road accommodation works be required along the L5523 or L1200 then these could potentially result in direct effect on heritage assets located adjacent to or within the road, and proceeds in the mitigation section to confirm that

these works are no anticipated. I consider this assessment of an unlikely scenario to be somewhat confusing and unnecessary, however overall, I am satisfied that no accommodation works for the TDR are proposed at the location of any heritage assets.

Submission has raised with regard to the removal of historic walls along the GCR. As outlined previously, the proposed GCR is located within the public road and verge with the exception of the latter section approaching the 110kV substation. The embedded mitigation measures as per Section 15.10.2 outlines that upstanding historic field boundaries along the GCR and TDR are to be preserved in situ.

The Commission will note as per Sections 2.7 and 2.8 above, planning permission has not been sought for the sections of GCR Option 2 that do not overlap within GCR Option 1 and that planning permission have not been sought for any accommodation works outside the public road verge.

Archaeological Landscape

Submissions have noted the archaeological and historical interest of the area and that the proposed development is located within an archaeological area of significance. Having reviewed the EIAR and had regard to the Council's Archaeologist Reports to the planning application, I am satisfied that the site is not located within an area assessed as an archaeological landscape within the context of the CDP Objective HE 16-11. Furthermore, I am satisfied that the applicant has carried out a comprehensive review of the archaeological and cultural heritage baseline of the study area, and that the embedded design measures have avoided recorded monuments and that the buffer zones will ensure these monuments are protected from any direct effects.

8.15.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observations received in relation to the appeal. I am satisfied that potential direct effects on known and unknown archaeological and cultural heritage receptors would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied that

there is no potential for significant indirect effects on the setting of archaeological and cultural heritage receptors. In reaching this conclusion, I have had regard to the cumulative impact of the proposed development and other renewable energy projects in the study area.

8.16. Material Assets

I have examined **Chapter 11** of the EIAR which deals with material assets, specifically waste, utilities, telecommunications and aviation (excluding Traffic and transport which is assessed in Chapter 16). Chapter 11 includes Appendix 11.1 Ai Bridges Telecommunications Impact Study and Appendix 11.2 Ai Bridges Aviation Review Statement.

Of relevance are the applicant's response to RFI Item 13 including Appendix 13.1 Vodafone Ireland Mitigation Measure Agreement and Appendix 13.2 Letter of Reliance from Ai Bridges, and RFI Item 23 including Appendix 23.1 Technical Report in Response to RFI Item 23.

Submissions have raised concerns relating to impacts on tv and telecommunication receptions, aviation interests, utilities and the lack of recycling options for turbines, and are addressed below.

Relevant conditions recommended by Uisce Éireann, IAA and Department of Defence are addressed in Section 7.7 above and not repeated herein.

8.16.1. Waste

Excavation material is anticipated to be reused where possible, and any excavation material removed from the wind farm site or the GCR site is deemed waste. The construction phase will generate hazardous and non-hazardous waste which will be required to be temporary stored before being taken to appropriate facilities for reuse, recovery and/or disposal. Limited waste will be generated during the operational phase and similar waste to the construction phase will be generated during the decommissioning phase and will include turbine components. Whilst the concerns raised in submissions regarding the lack of recycling options for wind turbine are noted, I am satisfied that the majority of a wind turbine can be recycled using standard waste management practices and that circular solutions for repurposing

decommissioned turbine blades are being advanced within Ireland and across Europe. All aspects of waste management will be covered by the Resource and Waste Management Plan (RWMP) as included in the CEMP, Appendix D (EIAR, Appendix 5.1).

8.16.2. **Utilities**

There are no existing utilities within the red line boundary. The GCR will cross existing gas and water utilities, and the TDR may require temporary removal of overhead utilities. Temporary power supply for construction phase will be via generators, and no waste water or water connections are required for the proposed development. Mitigation measure MM56 (Chapter 20) outlines ongoing consultation with relevant utilities providers in order to comply with requirements and guidelines and to ensure no service interruptions, and MM69 deals with route proofing of the GCR and road opening license. Appellants concerns relating to disruption from potential temporary disconnections of overhead utilities along the TDR routes are noted, however, I am satisfied that such work would be temporary and not result in significant effects and will be mitigated to minimise service disruptions.

The applicant's response to RFI Item 23 confirms that the proposed GRC could achieve appropriate separation distance to Uisce Éireann utilities (illustrated on drawings 20910-BFA-XX-XX-DR-C-8301 to 20910-BFA-XX-XX-DR-C-8312).

8.16.3. **Telecommunications**

Five telecommunications mast-sites and three microwave links which could potentially be impacted by the proposed development were identified. The Telecommunications Impact Study (Appendix 11.2) confirmed no impact on the Enet and Virgin Media microwave links, and obstruction of the Vodafone link (Mt Hillary to Shinanagh) by T02. A mitigation to re-route the link into Shinanagh via an alternative existing telecommunication mast (Mt Hillary to Ballycoskery to Shinanagh) has been identified and agreed with the operator's representative. The rerouted link is noted to overshoot T05, as such no impact anticipated. The applicant's response to RFI 13 reconfirms both the findings of the EIAR and the proposed mitigation strategy.

Submissions have raised concerns regarding Saorview reception. I note the applicant consulted with 2rn (a subsidiary of RTÉ), the operator of the infrastructure

required to transmit Saorview, who confirmed no issues. The Commission will note there are no mitigations identified by the applicant.

8.16.4. **Aviation**

Cork Airport is located approximately 42km southeast of the proposed wind farm site and the proposed wind farm is located outside the defined Outer Horizontal Surface of the Cork Airport Runway Obstacle Limitation Surfaces (International Civil Aviation Organization, Annex 14). Whilst I note concerns raised by appellants regarding the lack of information relating to a potential impact on a number of airports, I note no concerns have been raised by the IAA in response to the planning application and that Aviation warning lighting scheme is to be implemented which aligns with the requirements of the IAA and Department of Defence as summarised in Section 3.3 above.

A number of submissions have raised concern regarding impact on Rathcoole Aerodrome and interference with the maximum flight height and flight path of the Air Ambulance Service. The Commission will note that the Rathcoole Flying Club's, of Rathcoole Aerodrome, observation to the planning application requested that the proposed development does not interfere with the operation of the Air Ambulance Service. I note that Rathcoole Aerodrome is located approximately 19km to the southwest of the site and that no further submission has been received from the Rathcoole Flying Club in response to the appeal. The aerodrome operates under license by the IAA, as stated above, the IAA raised no concerns in response to the planning application. Whilst I note the flight height concerns raised in submissions, I have reviewed EU REG 923/2012 and note the minimum flight heights for Visual Flight Rules (VFR) as specified in SERA.5005(f) are applicable. Applicable to the proposed site, is a minimum VFR flight height of "150 m (500 ft) above the ground or water, or 150 m (500 ft) above the highest obstacle within a radius of 150 m (500 ft) from the aircraft". Corresponding to this, is the requirement for an obstacle exceeding 150m (~500ft) in height to be lit and as noted above, this has been requested by both IAA and Department of Defence. Furthermore, wind turbines when operational are added to IAA published VFR Charts.

Having regard to responses to the planning application by both IAA and Department of Defence, I am satisfied that the proposed development will not result in adverse

effects on aviation interests subject to conditions which include aeronautical warning lights and as-constructed turbine coordinates.

8.16.5. **Conclusion: Direct and Indirect Effects**

Having regard to the above, and taking account of best practice construction mitigation measures and identified operational mitigation measures, I am satisfied that there is no potential for significant adverse residual or cumulative effects on waste infrastructure, utilities, telecommunications and aviation as a result of the proposed development. In the event the Commission is minded to grant permission, I have recommended conditions to address aviation requirements and interference with telecommunication and television reception.

8.17. **Material Assets (Traffic and Transport)**

Chapter 16 of the applicant's EIAR deals with traffic and transport. Other material assets are addressed in EIAR Chapter 11. Chapter 16 includes Appendix 16.1 Turbines Delivery Route Assessment Report, and Appendix 16.2 Traffic Count Survey, whilst the CEMP is contained in Appendix 5.1 and CTMP in Appendix 5.2.

Of relevance, is the Planning Report (RSK, 2024) which includes in Appendix 5, Bridge Inspection Report Ballyvinter Bridge (Jennings O'Donovan & Partners Ltd, August 2024).

The loss of hedgerows and trees along the site entrance is addressed in Chapter 7 Biodiversity of the applicant's EIAR and the Habitat Management Plan (HMP) is included in Appendix 7.3.

The applicant's responses to RFI Items 1, 14 (site entrance), 15 (site entrance), 16 (delivery route) and 17 (bridges) are also of relevance and incorporates:

- RFI Appendix 1.1 Proposed Relocation of Joint Bays Accepted by Cork NRO.
- RFI Appendix 1.2 Correspondence between the Applicant and Cork NRO.
- RFI Appendix 16.1 Haul Route Map.

- RFI Appendix 17.1 Bridge Survey Assessment Report (Jennings O'Donovan & Partners Ltd, March 2025).
- RFI Appendix 17.2 Response to TII and Irish Rail Comments (Pinnacle Consulting Engineers, February 2025).

8.17.1. **Issues Raised**

Submissions and observations have raised concerns in relation to the capacity of the road network, obstruction and congestion and traffic safety.

Concerns raised in submissions regarding the grid connection route and the N/M20 and the N72/73 Mallow Relief Road have been addressed in Section 7.2.2 above and not repeated herein. I have addressed the potential effects from the GCR and TDR on heritage assets in Section 8.15 above and not repeated those herein.

Conditions recommended by Council's Roads Area Engineer, Cork National Roads Office, the TII and Iarnród Éireann are addressed in Section 7.7 above and not repeated herein.

8.17.2. **Context**

The zone of influence (ZOI) is identified as a 200m corridor of the TDR options, GCR options and construction haul routes.

Traffic counts surveys were carried out for L5523/L52302, L1200 and L1200 (north). TII traffic data used for the motorway and national road network.

8.17.3. **Baseline**

Baseline is set out in Section 16.3 of the EIAR.

The road network associated with the GCR is summarised in Section 2.7 of this report and Section 2.8 summarises the TDR and construction haul routes.

The permanent and temporary site entrance and access proposals off local road L5302 are summarised in Section 2.3 above. The L5302 is noted to be a narrow single track road providing access to agricultural lands and a number of standalone houses/farmyards.

In terms of the strategic road network, the closest national primary route is N20, located 5km to the east of the site and R580 is located approximately 2.5km to the north of the site and connects the R576 to the N20 at Buttevant. Surrounding local roads identified in the EIAR and connecting the site to/from the N20 include:

- From the south (included in TDR Option 2): L1200 and then east on the L5302 to the site entrance.
- From the east (included in TDR Option 1 and construction haul route): L5523 from the N20 to Kilmaclenine, and then L5302 to the site entrance.
- From the north (included in construction haul route): L1200 (Lisgriffin Road) from the R580 and then east on the L5302 to the site entrance.
- L5302 (c. 1km) forms part of the GCR Options 1 and 2.
- L1200 (Lisgriffin Road) forms part of GCR Option 1.
- L5523 forms part of GCR Option 2.
- No access to/from the site is proposed via the L5302 from the west.

Of note, EIAR Figure 16.8 Haul Route Map is reproduced in RFI Appendix 16.1.

The EIAR identifies quarries and waste management facilities in proximity to the site and relative to the construction haul routes in Section 16.4.2.

8.17.4. **Likely Potential Effects**

Vehicles required for each phase of the proposed development has been estimated. HGV vehicles are assumed to generate two trips, a single trip in and corresponding trip out. LGV vehicles have been assumed to generate 2.5 trip to account for potential additional LGV movements. All deliveries are assumed to be made via one route.

- Proposed development - Construction traffic: Estimated 8,017 additional HGV trips (two-way) across 18 months with an average daily increase of 18 HGV trips per day increasing to 34 HGV trips per day in month 2 (peak month). An average daily increase of 10 LGV trips per day increasing to 20 in month 2.
- Wind farm – construction traffic: Estimated 7,768 additional HGV trips (two-way) across 18 months with an average daily increase of 17 HGV trips per day

increasing to 34 in month 2 (peak month). An average daily increase of 10 LGV trips per day increasing to 20 in month 2.

- GCR – construction traffic: Estimated 249 additional HGV trips (two-way) over the duration of the construction works with average 2 HGVs per day.

Table 8.10: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• No change to the current road network and existing traffic patterns to increase as forecasted.
Construction	• Haul routes (TDR 1): +10.7% predicted for L5523, L5302, increasing to +19.9% during peak month (month 2). • Haul Route (TDR 2): +4.1% predicted for L1200, and +10.7% predicted for L5523, L5302. Increasing to +7.7% for L1200 and +19.9% L5523, L5302 during peak month (month 2). • L5302, L5523: high sensitivity, magnitude low (increase in traffic flow less than 30%), effect considered temporary, slight and not significant. • Pedestrian Severance, Delay, Amenity, Fear and Intimidation, and Driver Delay: effects considered temporary, slight and adverse. • Accidents and Safety: effects considered temporary, moderate and adverse, and **Significant**. • GCR: Expected driver delays are considered short term, slight to moderate • TDR: Limited to specific temporary works locations and during delivery of turbine components, effects considered slight to moderate adverse, and temporary.
Operation	• Operated remotely. Occasional traffic associated with visiting personnel, maintenance and environmental monitoring/compliance. Neutral, long term and Not Significant effects.

Project Phase	Potential Direct, Indirect and Cumulative Effects
	• Unforeseen or unplanned events including turbine repair works could generate construction plant and personnel traffic. Negative/adverse, temporary, slight and Not Significant effects.
Decommissioning	• Considerably lower vehicle movement than construction phase.
Cumulative	• Taking account of CTMP, cumulative effects unlikely to arise.

8.17.5. **Mitigation**

Construction measures include:

- Construction Traffic Management Plan (CTMP) (Appendix 5.2), includes as follows: traffic management coordinator, one-way systems, road closures, road condition surveys, site inductions, 24hr-emergency contact, traffic management guidance, letter drops, signage, road sweeper, wheel wash, site entrances, abnormal load deliveries.
- GCR measures as follows: road opening licence, route proofing, road cleanliness, temporary trench reinstatement, haul route interference, and TDR interference.
- TDR measures as follows: programme of deliveries (off-peak and night-time), Garda escort, reinstatement, consultation.

Operational measures include maintenance of site entrance and hedgerow.

8.17.6. **Residual Effects**

- Construction: short-term/temporary, slight and not significant.
- Operation: neutral, long term and not significant, and temporary, slight and not significant during unforeseen works.

8.17.7. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

Turbine foundations Concrete Pours

As summarised above, the estimated HGV trips in the EIAR including concrete trips provides a daily average with a peak identified in month 2. I note Chapter 16 estimates 3000 two-way HGV trips for the turbine and met mast foundations over 10 months based on the assumptions that an average ready mix concrete truck carries a load of approximately 8m^3 of concrete. The 10 months' time frame corresponds with the overall estimated construction programme in the CTMP for turbine / met mast foundation activities which are identified to take place between month 4 to 13. Both the CTMP and the CEMP set out that 6,472m^3 of imported concrete is required for the proposed wind farm site including 5,569m^3 for the 9 wind turbine foundations, 1,013m^3 for the substation and 160m^3 for the met mast foundations. Furthermore, the CTMP sets out that large concrete pours such as the turbine foundations will require a continuous stream of concrete trucks to/from the development.

Having regard to the above, I note that by estimating daily average HGV trips for concrete HGV traffic across a 10 month period, the assessment in the EIAR does not identify the likely short term peak in daily HGV trips occurring on the days of concrete pours. Considering, as outlined above, the volume of concrete to be imported for turbine foundations, truck load carrying capacity, I estimate that concrete pours for the 9 turbine foundations taking place over nine days is likely to generate 78 concrete loads per foundation per day (156 two-ways). I further note this estimate is comparable to concrete pour trip generation estimates in the EIARs for other proposed wind farms with turbine foundations of a similar scale. Considering Table 16.12 to 16.15 in the EIAR and based on a peak 156 (two-way) HGVs trips generated by the proposed development on turbine foundation concrete pouring days, I find that the predicted percentage increase on those nine days is approximately 25.2% on the L1200 and approximately 64.8% on the L5523, L5302. On the remaining sections of the haul routes, the percentage increase is less than 3% on the N69 (between Askeaton and Foynes, Clondrinagh) and 1% or less on the other sections of roads. I note concrete pours are unlikely to occur on consecutive days and will be spread across the 10 months programme as the site progresses from on turbine location to the next.

I have driven the construction haul route sections of L1200 and L5302, L5523 and the low level of background traffic as per Appendix 16.2 is noted. Having regard to the methodology in Chapter 16, I find the scale of effects on the L1200 and L5302,

L5523 during the days of turbine foundation concrete pours would be short term, temporary, adverse, slight to moderate-significant and significant. I note the CTMP outlines that concrete deliveries will be programmed in advance of works commencing and that the site is large enough to avoid HGVs queuing on L5302. Furthermore, I note GCR works are to be planned to avoid conflict with concrete foundations pours.

Having regard to the above, I am satisfied that adverse effects on pedestrian severance, delay, amenity, fear and intimidation, driver delay and accidents and safety effects as a result of concrete pours would be short term in duration, temporary, slight to moderate following mitigation and not significant. Furthermore, I am satisfied, taking account of mitigation measures, that the applicant has satisfactorily demonstrated adequate capacity in the local road network to accommodate the volume and the frequency of construction traffic generated by the proposed development.

Road Network Capacity and Obstruction

Both appellants and observers have raised concerns regarding existing deficiencies in the road network and consider it unsuitable to carry increased road traffic, noting access concerns and road widening, damage to roads, capacity of bridges and the loss of recreational country roads. Key concerns raised relate to serious congestion, delays, obstruction of road users including pedestrians, cyclist and horse riders and traffic hazard. Concerns regarding major disruption of the national roads due to abnormal loads have also been raised.

I note the proposed development will not result in the loss of any public or recreational roads. Having regard to the identified construction haul routes and abnormal load routes, I am satisfied that the capacity of the existing local road network and the wider national road network to accommodate estimated construction trip generation have been adequately demonstrated within the EIAR and I have addressed the turbine concrete pours days in the previous section. Furthermore, I am satisfied that construction traffic will comprise of standard HGVs, trucks and cement mixers which are all vehicles currently in use on the local road network and the anticipated vehicles and loads including abnormal loads are all within the acceptable national limits.

I note swept path analysis has been carried out for two TDRs and temporary accommodating works have been identified consisting mainly of minor works within the public road and road verge, and locations of localised road widening/enabling works as per Table 16.9 and 16.10 and Appendix 16.1. The Commission will note that planning permission has not been sought for accommodation works. I note the applicant's mitigation measures include for road condition surveys and that the Council's Area engineer has not raised any concerns regarding capacity of the local road network and have recommended a bond to account for any damage to local roads. Abnormal turbine delivery loads will be carried out during off-peak and/or night time hours and under Garda escort

As noted above, given the length of internal access road for the wind farm site, it is not anticipated that the proposed development will lead to queuing and tailbacks onto L5203. I note that the construction haul route overlap with the proposed GCR along L5302 and mitigation measures include for the management of GCR works to avoid conflict with construction traffic associated with the proposed wind farm site and abnormal loads deliveries. The estimated overall construction programme is 18 months and incorporates 5 months of GCR works (off site section) Figure 2.3, CEMP. I note that the GCR works will be progressed in short sections at the time, approximately 100m of trenching, ducting laid and temporary surface reinstatement as per the EIAR. Background levels of traffic along the local roads associated with the GCR works are noted to be very low in the EIAR, and I noted the same when driving the immediate local roads on two separate occasions.

I note the GCR works, depending on the width of the roads, will incorporate temporary lane closure, partial road closures and stop/go systems and full road closure in agreement with Cork County Council and An Garda Siochána and include for letter drops to local residents to inform of any upcoming traffic related matters. The minimum road width for two-lane traffic is noted to be 6m and sections of the L5302 has been identified as requiring lane closure during the GCR works. The proposed GCR along L1205 passes Baltydaniel school, and the CTMP stipulates that works will be carried out outside school term. As per the EIAR and the CTMP, unobstructed access will be provided to all emergency vehicles along all routes and site accesses, and local access will be maintained at all times for residents, farms and businesses. Whilst I note the concerns in submissions, I do consider the

proposed works infringes Article 2 Right to life of the European Convention on Human Rights.

I note the immediate local road network mainly facilitates local access to farms, residential properties and businesses with very low background traffic levels. There are no facilities for pedestrians or cyclists on the L5302 or on the local roads in the vicinity of the proposed wind farm site. CTMP sets out measures to ensure that local pedestrian activity can continue uninterrupted, and sets specific speed limits for construction traffic and outlines that HGV deliveries, where reasonably practicable, are to avoid peak traffic and specifically avoid passing schools at drop-off and collection times. As set out above, the EIAR predicts temporary, slight and adverse and not significant effects on pedestrian severance, delay, amenity, fear and intimidation.

Therefore, I am satisfied, taking account of mitigation measures, that the applicant has satisfactorily demonstrated adequate capacity in the local road network to accommodate the construction traffic associated with the proposed development. As per mitigation measures proposed, the applicant will be carrying out both pre- and post-road condition surveys which will provide a degree of condition oversight and a mechanism for roads repair/resurfacing works where required. Furthermore, I am satisfied that road safety matters have been addressed in the EIAR and that the proposed development, take account of mitigation measures detailed in the CTMP, will not result in any undue obstruction of road users.

Site entrance

Observations have raised concerns in relation to the location of site entrance and setbacks. I have reviewed the revised design for the temporary entrance along the L5302 as submitted by the applicant in response to RFI Item 14, and note that a 4.5 m setback and sightlines of 80m have been demonstrated (dwg. ref. 23010-BFA-TC-XX-DR-C-1701-PA). I have also reviewed the auto track drawing of the temporary entrance submitted in response to RFI Item 15 (dwg. ref. 23010-BFA-TC-TDR-DR-C-1605-P3). I further note the consideration of site access alternatives as set out in Chapter 4 of the EIAR. For the permanent entrance, I note the applicant's response to RFI Item 4 regarding the proposed 3m setback with 80m sightlines which was considered acceptable to the Council's Area Engineer. I am, therefore, satisfied that

the applicant has clearly demonstrated required setbacks and sightlines for both permanent and temporary site entrances and that abnormal loads can access the site.

Cumulative Assessment

Observations have raised concerns regarding the cumulative impact on infrastructure and that this has not been adequately assessed. I have reviewed the cumulative assessment in Section 16.9 of the EIAR. This confirms that any operational development is accounted for in the traffic background levels on the road network. I have reviewed the list of projects listed in Chapter 2 and I am satisfied with the findings of the EIAR that cumulative traffic and transport effects, taking account of the applicant's mitigation measures, are unlikely to arise as a result of the proposed development.

8.17.8. **Conclusion: Direct and Indirect Effects**

I have considered the application details and all other documentation on file including the EIAR, and all of the submissions and observations received in relation to the appeal. I am satisfied that potential effects on traffic and transport as a result of the proposed development would be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. The main significant direct effects on traffic and transport are, and will be mitigated as follows:

- Short term, temporary HGV traffic increase on the L5302, L5523 during turbine foundation concrete pours which will be mitigated by traffic management measures outlined in the CTMP.
- Accidents and safety effects to transport and access which will be mitigated by maintaining local access, communication and traffic management measures outlined in the CTMP.

In reaching this conclusion, I have had regard to the cumulative impact of the wind farms and other relevant projects in the study area.

8.18. **Air**

Submissions have raised concerns regarding prolonged exposure to exhaust emissions during construction phase and release of microplastics from wind turbines. Relevant conditions recommended by Environment Officer are addressed in Section 7.7 above and not repeated herein.

I have examined **Chapter 17** of the EIAR which deals with Air Quality. Chapter 17 is supported by Appendix 17.1 Air Quality Standards and Appendix 17.2 Construction Dust Assessment Methodology. Of note, Chapter 18 of the EIAR deals with Climate. The EIAR Appendix 5.1 includes the Construction Environment Management Plan (CEMP) and Appendix 5.2 includes the Construction Transport Management Plan (CTMP).

Dust and particular matter will be generated from earthworks, construction and trackout activities during construction and decommissioning phases, and relevant buffers for sensitive receptors are shown on EIAR Figure 17.1 to 17.5. Exhaust emissions will arise from construction and decommissioning vehicles used to access the proposed development and from the use of construction plant and machinery. Limited trip generation is anticipated during the operational phase. Without mitigation measures, the dust risk impacts as a result of the proposed development are predicted to be slight to moderate, and not significant, and exhaust emissions will lead to short-term increases which are not significant. Measures to control all emissions from the proposed development are detailed within the CEMP (Appendix 5.1) including dust control, management and monitoring measures, and the CTMP (Appendix 5.2). The predicted residual effects on air quality during construction and decommissioning phases are not significant. The generation of renewable electricity as a result of the proposed development will assist towards reducing the reliance on fossil fuels and as such, it is predicted to have a major beneficial effect on national air quality.

Having regard to best practice and site specific mitigation measures to control fugitive dust emissions and exhaust emissions as outlined in section 17.6 of the EIAR, I am satisfied that there is no potential for any significant residual direct, indirect or cumulative construction (and decommissioning) effects on air quality as a result of the proposed development. As per my assessment in Section 8.17, I am

satisfied that construction traffic can be accommodated within the site and as such, will not result in increased exhaust emissions from potential tailback onto the local road. Furthermore, I note the positive effect on air quality from the operational phase by the increased provision of electricity from renewable energy sources and the likely long term resultant reduction in emissions to air and decrease in baseline air pollutant concentrations.

8.19. **Climate**

I have examined **Chapter 18** of the EIAR which deals with Climate. Chapter 18 is supported by Appendix 18.1 Emission Factors and Appendix 18.2 Input and output data for the calculation of emissions. Chapter 17 of the EIAR deals with Air Quality.

Observations have raised concerns regarding embodied carbon in concrete, carbon neutral expectancy and the release of greenhouse gas sulphur hexafluoride (SP_6) and I have addressed these below. The Commission will note that the HSE recommends a Climate Change Risk Assessment and examination of potential hazards, exposure levels and vulnerability. In this regard, I am satisfied that the applicant has addressed the carbon balance of the proposed development in Chapter 18 and that the vulnerability of the proposed development to the risk of major accidents and/or natural disasters is addressed in Chapter 5 of the EIAR.

Key greenhouse gas emission sources identified are embodied emissions from the production of material used for the construction, emissions associated with the construction phase including transport, construction activities and waste, and emissions associated with decommissioning. A very limited amount of emissions are associated with the operational phase. The carbon storage and sequestration potential of the habitat within the site is noted to be variable, and scrub habitat and wet grassland noted to be important carbon stores. There are no peat or forestry within the site. The estimated average annual emission for the construction phase (18 months) is 69,145tCO_2e (equate to 0.02% of Ireland's 2021-2025 carbon budget) and total greenhouse gas emissions from decommissioning is 3,773tCO2e. Taking account of best practice mitigation measures and the monitoring of same, a direct, long term minor, not significant adverse effect is predicted. This is however, outweighed by the operation of the proposed development which is estimated to

displace c. 125,947Mwhs per annum (equal to more than 47,495tCO_2e of fossil fuel-base electricity each year), and the greenhouse gas emission effects of the proposed development will be below zero. Greenhouse gas emissions are noted to be inherently cumulative given the receptor is the global climate, and together with other renewable energy projects in the wider area the EIAR predicts a likely significant beneficial effect. Whilst the concerns raised relating to embodied carbon in concrete are noted, I am satisfied that this is accounted for in the estimated greenhouse gas emissions from the construction phase as per Appendix 18.2. Whilst I note submissions concerns that it will take 20 years for the wind farm to become carbon neutral, I am satisfied that the estimated payback time for the combined construction and decommissioning phases of approximately 1.5 years have been demonstrated in the EIAR.

In regard to fluorinated greenhouse gases including SP_6, I note EU Regulation 2024/573 (F-gas Regulation) came into effect 11th March 2024. Article 13, Part 9 of EU Regulation 2024/573 (F-gas Regulation) and is phasing out the use of F-gas in electrical switchgear in primary and secondary distribution, both publicly and privately owned and include prohibition dates (FAQ on switchgear as regulated by the F-gas Regulation (EU) 2024/573, Version 3, 19/11/2025). In relation to the proposed development, the F-gas Regulations are applicable to switchgear used in the substation and wind turbines. In the event, Gas Insulated Switchgear (GIS) equipment is being used then Article 4(10) and 4(3) set out obligations to prevent emissions of F-gas and operator and manufacturers “shall take all measures that are technically and economically feasible to minimise leakage of the gases.” In response to the F-gas Regulations, ESB has confirmed that it will not be in a position to commission or connect contestably built switchgear which does not comply with the legislation. Taking account of the requirements of the F-gas Regulations, standard operational requirements of GIS equipment and the lengthy pre-construction timescales associated with wind farm developments, I am satisfised that potential negative effects on climate from electrical switchgear equipment can be avoided and mitigated and would be not significant.

As part of its functions the Commission must, in so far as practicable, perform its functions in a manner that is consistent with a) the most recent approved climate action plan, b) most recent approved national long term climate action strategy, c)

national adaptation framework, sectoral plans, d) furtherance of the national climate objective and e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State[1]. The long term positive effect from the carbon savings will support the objectives of these plans and the national transition towards a low carbon, climate resilient and sustainable nation.

Having regard to mitigation, biodiversity enhancement and monitoring measures described in section 18.7 and 18.8 of the EIAR, I am satisfied that potential negative effects on climate would be avoided, managed and mitigated. The greenhouses gas emissions as a result of the proposed development will be offset by the operation of the proposed development. I am satisfied that there will be a long term significant positive residual cumulative effect on climate as a result of the proposed development due to the displacement of CO_2 from the atmosphere arising from fossil fuel energy production.

8.20. **Major Accidents and Natural Disasters**

Chapter 5, Section 5.6 of the applicant's EIAR deals with the vulnerability of the proposed development to the risk of major accidents and/or natural disasters.

Concerns regarding fire, ice throw, blade throw, mechanical failure and turbines collapsing have been raised. As stated previously, a large number of submissions make reference to obsolete turbine manuals (dated 2005 and 2006) appended to the Tullacondra TAC appeal and which are not relevant to the appeal (see Section 7.5 above).

Section 5.6 of the applicant's EIAR outlines that the vulnerability of the proposed development to risk of major accidents caused by sites designated under the Seveso-III-Directive (2012/18/EU) is low. Mitigations measures to avoid potential negative effects in respect of flooding and pollution risks are set out in Chapter 9 Hydrology and hydrogeology. The risk of fire is considered low, outlining that the proposed development will be subject to an Emergency Response Plan (CEMP, Appendix F), turbines will be fitted with fire detection system and electrical grounding system, and substation will confirm with relevant fire safety regulation. I further note as set out in EIAR Section 6.6.5 that the turbine blades are manufactured of non-

[1] Section 15 (1) of the Climate Action and Low Carbon Development Act 2015 (as amended)

conducting materials, preventing any likelihood of an increase in lightning strikes within the site. The risk of catastrophic events such as turbine toppling over and rotational failure is considered low, taking account careful siting, distance to receptors, maintenance and remote monitoring. The Commission will note concerns regarding ice throw, taking account of distance to receptors, no public access proposed, remote monitoring, climate and the 2006 Guidelines and the Draft 2019 Guidelines which outlines that the build-up of ice on turbine blades is unlikely to present problems, I am satisfied that the potential hazard is low.

Having regard to the foregoing, I am satisfied that the potential risks to the proposed development should a major accident or natural disaster occur have been clearly identified, and I consider based on the risk assessment undertaken and the mitigation proposed that the proposed development has a low potential to cause natural or major accidents.

8.21. **Interactions**

Chapter 19 of the applicant's EIAR provides a summary of the impact of interactions (Section 19.4) as assessed where relevant within the specific environmental factor chapters of the EIAR and provides no additional assessment. A matrix of the interactions is provided in EIAR Table 19.1. I note the potential adverse effect on the population in terms of current land use, however taking account of mitigation measures within the EIAR combined with positive effects in terms of employment, climate and air quality, I am satisfied interaction effects would not be significant. I have considered the interactions and interrelationships between environmental effects and am satisfied that significant effects in relation to interactions can be avoided, managed and mitigated by the measures contained within the EIAR and any recommended planning conditions.

Chapter 19 provides a summary of the cumulative assessment (section 19.5) carried out within the environmental factor chapters. I have assessed the cumulative effects as a result of the proposed development in combination with other projects in Sections 8.7 to 8.20 above, and I am satisfied there is no potential for significant cumulative adverse effects as a result of the proposed development and that there is likely to be a long term significant cumulative positive effect on climate due to the

increased provision of renewable electricity reducing the reliance on fossil fuel generated electricity.

8.22. **Reasoned Conclusions**

Having regard to the examination of environmental information contained above, to the EIAR and the submissions received, the contents of which I have noted, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows.

Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the developer, reports by the planning authority and prescribed bodies, and the submissions from appellants and observers in the course of the appeal, it is considered that the main significant direct and indirect effects of the proposed development on the environment, with the implementation of proposed mitigation measures, are:

- **Biodiversity:** Loss of hedgerow habitat will result in a local significant effect which will be offset by additional hedgerow planting providing long term benefit.
- **Landscape and visual:** Negative landscape and visual impacts arise during the operational phase of the proposed development given the placement of significant structures within the local landscape thereby changing the existing visual context. This will result in significant landscape effects within 2km of the proposed turbines, and will result in significant visual effects on a small number of residential receptors within 2km of the proposed turbines, where primary and open views towards the wind farm will be experienced.
- **Material Assets**: Negative traffic effects on the local road network during the days of turbine foundation concrete pours, measures to plan and manage the cement mixers will be mitigated through the implementation of a construction traffic management plan.

Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the biodiversity, landscape and visual and traffic and transport effects, it is considered that the environmental effects would not justify a

refusal of planning permission having regard to overall benefits of the proposed development.

9.0 Appropriate Assessment

9.1. Introduction

9.1.1. The requirements of Article 6(3) as related to Appropriate Assessment (AA) of a project under part XAB, section 177U of the Planning and Development Act 2000 (as amended) are considered fully in this section and Appendix B: Stage 1 Appropriate Assessment Screening and Appendix C: Stage 2 Appropriate Assessment.

9.1.2. Please refer to Section 1.0 to 2.0 of this report for Site Location and description and Proposed Development.

9.2. Issues Raised in relation to the Appropriate Assessment

9.2.1. As outlined above, the Appropriate Assessment by the planning authority concluded that:

- Satisfied that, due to the distance and limited use of the site by whooper swans, the proposed development will not significantly impact the Kilcolman Bog SPA or its SCIs in terms of their conservation objectives.
- The proposed development will not lead to adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC (site code: 2170), in view of its conservation objectives, provided that the mitigations in the submitted revised Natura Impact Statement and the proposed surface water management design are adhered to.

9.2.2. Appropriate Assessment related submissions made to the appeal include consideration of pathway and impact on the Blackwater River catchment and qualifying interests such as freshwater pearl mussels, salmon, and other protected species and Annex I habitat, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]. Impact on Kilcolman Bog SPA and direct migratory path between NHA Banteer ponds and the SPA.

9.3. Screening Determination

9.3.1. My Appropriate Assessment Stage 1 Screening Determination is set out in Appendix 1, where I conclude as follows:

In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in the AA screening, it is not possible to exclude the possibility that the proposed development alone would result significant effects on European sites, Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the sites conservation objectives.

An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in combination with other plans and projects is not required at screening stage.

9.4. Appropriate Assessment Conclusion

9.4.1. My Appropriate Assessment (Stage 2) is set out in Appendix 2, where I conclude as follows:

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the conservation objectives of those sites and that Appropriate Assessment under the provisions of S177U was required.

Following an examination, analysis and evaluation of the NIS all associated material submitted with application, and taking into account submissions on nature conservation, I consider that adverse effects on site integrity of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects.

My conclusion is based on the following:

- Detailed assessment of construction, operational and decommissioning impacts.

- A full and detailed assessment, including information presented in the Environmental Impact Assessment Report and supplementary information submitted by the applicant, of the proposed development in relation to the conservation objectives of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095).
- Effectiveness of mitigation measures proposed including supervision and monitoring and integration into CEMP ensuring smooth transition of obligations to eventual contractor.
- Application of planning conditions to ensure application of these measures.
- The proposed development will not affect the attainment of conservation objectives for the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095).

10.0 Recommendation

It is recommended that the Commission grant planning permission for the proposed development for the following reasons and considerations and subject to the conditions set out below.

11.0 Reasons and Considerations

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

And in coming to its decision, the Commission had regard to the following:

- European legislation, including of particular relevance:
    - Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

- EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy and amending Directive EU/2023/2413 which aims to speed up the EU's clean energy transition as implemented by European Union (Planning and Development) (Renewable Energy) Regulations 2025 (S.I. 274 of 2025)
- Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU as implemented by Article 94 and Schedule 6 (paragraphs 1 and 2) of the Planning Regulations as amended.
- Directive 2000/60/EC, the Water Framework Directive and the requirement to exercise its functions in a manner which is consistent with the provisions of the Directive and which achieves or promotes compliance with the requirements of the Directive.

- National and regional planning and related policy, including:
  - National policy with regard to the development of alternative and indigenous energy sources and minimisation of emissions from greenhouse gases, particularly the NPF First Revision 2025 and National Policy Objective 70.
  - Wind Energy Guidelines: Guidelines for Planning Authorities 2006 and the draft guidelines published in 2019.
  - The objectives and targets of the National Biodiversity Action Plan 2023-2030.
- Regional and local planning policy, including:
  - Regional Spatial Economic Strategy for the Southern Region 2020-32;
  - Cork County Development Plan 2022-2028.
- Other relevant national policy and guidance documents.
- The nature, scale and design of the proposed development as set out in the planning application and the pattern of development in the vicinity.
- The likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the

proposed development and the likely significant effects of the proposed development on European sites.

- The reports of the Planning Authority and the further information received from the applicant on 28th March 2025 and submissions received in response to same.
- The submissions made on the planning application to the Planning Authority and to the Commission in connection with the appeals.
- The report and the recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment.

11.1. Appropriate Assessment Stage 1 Screening Determination

The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000, as amended. Having carried out Screening for Appropriate Assessment, and on the basis of the information considered in this AA screening, it is not possible to exclude the possibility that the proposed development alone would result significant effects on European sites, Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the sites conservation objectives. It is therefore determined that Appropriate Assessment of the proposed development is required.

11.2. Appropriate Assessment Stage 2 Conclusion

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the conservation objectives of those sites and that Appropriate Assessment under the provisions of S177U was required.

Following an examination, analysis and evaluation of the NIS all associated material submitted with application, and taking into account submissions on nature conservation, the Commission consider that adverse effects on site integrity of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA

(Site code: 004095) can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects.

The conclusion is based on the following:

- Detailed assessment of construction, operational and decommissioning impacts.
- A full and detailed assessment, including information presented in the Environmental Impact Assessment Report and supplementary information submitted by the applicant, of the proposed development in relation to the conservation objectives of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095).
- Effectiveness of mitigation measures proposed including supervision and monitoring and integration into CEMP ensuring smooth transition of obligations to eventual contractor.
- Application of planning conditions to ensure application of these measures.
- The proposed development will not affect the attainment of conservation objectives for the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095).

11.3. Environmental Impact Assessment

The Commission completed an environmental impact assessment of the proposed development taking account of:

a) the nature, scale and extent of the proposed development,
b) the Environmental Impact Assessment Reports (EIAR's) and associated documentation submitted in support of the application,
c) the planning authority reports, and the submissions received from the appellants, observers and prescribed bodies, and
d) the Inspector's report.

The Commission considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately considers

alternatives to the proposed development and provided information which is reasonable and sufficient to allow the Commission to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Commission is satisfied that the information contained in the Environmental Impact Assessment Report is up to date and complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU.

The Commission considered, and agreed with the Inspector's reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment, with the implementation of proposed mitigation measures, are:

- **Biodiversity:** Loss of hedgerow habitat will result in a local significant effect which will be offset by additional hedgerow planting providing long term benefit.
- **Landscape and visual:** Negative landscape and visual impacts arise during the operational phase of the proposed development given the placement of significant structures within the local landscape thereby changing the existing visual context. This will result in significant landscape effects within 2km of the proposed turbines, and will result in significant visual effects on a small number of residential receptors within 2km of the proposed turbines, where primary and open views towards the wind farm will be experienced.
- **Material Assets**: Negative traffic effects on the local road network during the days of turbine foundation concrete pours, measures to plan and manage the cement mixers will be mitigated through the implementation of a construction traffic management plan.

Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the biodiversity, landscape and visual and traffic and transport effects, it is considered that the environmental effects would not justify a refusal of planning permission having regard to overall benefits of the proposed development.

12.0 **Conditions**

1.	The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars received by the planning authority on the 28th day of March 2025, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to **Reason:** In the interest of clarity.
2.	The proposed development shall be amended as follows: (a) The new/permanent track shown on dwg ref. 20910-NOD-XX-XX-DR-C-08006, rev. C02, between the substation and existing farm buildings to the north, shall match the alignment of the existing track. Hedgerow habitat on either side of the track shall be retained. (b) The new/permanent track and the new temporary access track shown on dwgs ref. 20910-NOD-XX-XX-DR-C-08008 and 08009, rev. C02, between the met mast and turbine T5 shall be combined into one track, and shall utilise the existing gap in the hedgerow which shall be widened, not exceeding 8m in width, to facilitate access. (c) T5 shall be relocated 20 metres north and away from the hedgerow habitat as outlined in RFI Item 4(b) received by the planning authority on 28th March 2025. Revised drawings showing compliance with these requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. **Reason:** In the interests of protecting biodiversity.
3.	The period during which the development hereby permitted may be carried out shall be ten years from the date of this Order.

	Reason: Having regard to the nature and extent of the proposed development, the Commission considered it appropriate to specify a period of validity of this permission in excess of five years.
4.	This permission shall not be construed as any form of consent for: a) Grid Connection Route Option 2, except for those cable sections that corresponds with Grid Connection Route Option 1; b) temporary accommodation works for turbine delivery route; and c) agreement to a connection to the national grid. **Reason:** In the interest of clarity.
5.	(a) The permission shall be for a period of 35 years from the date of the first commissioning of the windfarm save for the 38kV substation and underground cable connecting to the National Grid. All structures, including foundations, shall then be removed and the site reinstated unless, prior to the end of that period, planning permission shall have been granted for their retention for a further period. (b) Prior to the commencement of development, a detailed Site Restoration Plan providing for the removal of the turbines and all ancillary structures, and a timescale for its implementation, shall be submitted to and agreed in writing with the planning authority. (c) On full or partial decommissioning or if the windfarm ceases operation for a period of more than one year the windfarm, the turbines and all ancillary structures shall be dismantled and removed permanently from the site. The site shall be restored in accordance with the agreed Site Restoration Plan and all decommissioned structures shall be removed from the site within 12 months of decommissioning. **Reason:** To enable the planning authority to review the operation of the windfarm over the stated time period, having regard to the circumstances then prevailing, and in the interest of landscape restoration upon cessation of the project.

6.	The mitigation, monitoring and enhancement measures contained in the submitted Environmental Impact Assessment Report (EIAR) shall be implemented. **Reason:** To protect the environment.
7.	The mitigation and monitoring measures contained in the submitted Natura Impact Statement (NIS) (as updated March 2025) shall be implemented. **Reason:** To protect the environment and the integrity of European sites.
8.	Prior to commencement of development, the applicant/developer shall submit to the planning authority a complete schedule of all mitigation, monitoring and enhancement measures. This shall identify who is responsible for the implementation and monitoring of these measures and timescales for implementation and monitoring (where applicable). **Reason**: To protect the environment and the integrity of European sites.
9.	(a) Appropriate software shall be employed on each of the turbines to ensure that there will be no shadow flicker at existing nearby habitable dwellings. Turbine shutdown shall be undertaken by the wind energy developer or operator in order to eliminate the potential for shadow flicker. (b) A report shall be prepared by a suitably qualified person in accordance with the requirements of the planning authority indicating compliance with the above shadow flicker requirements at existing nearby habitable dwellings. Within 12 months of the commissioning of the wind farm, this report shall be prepared and submitted to, and agreed in writing with, the planning authority. The developer shall outline proposed measures to address any recorded non-compliances, controlling turbine rotation if necessary. A similar report may be requested by the planning authority at reasonable intervals thereafter.

	Reason: In the interest of residential amenity
10.	Noise levels generated by the windfarm following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at existing noise sensitive locations, shall not exceed the lower of, the predicted noise limits as set out in the EIAR (Chapter 13), as received by Planning Authority on 9th August 2024: • For the daytime period 7am to 11pm, in quiet environments, where background noise is less than 30dB(A)L90 T10, a maximum noise level of 37.5dB(A)L90 T10. • For the daytime period 7am to 11pm, where the background noise level exceeds 30dB(A)L90 T10, the greater of 45dB(A)L90 T10, or 5dB(A) above background levels, • For the nighttime period 11pm to 7am, for all noise environments, 43dB(A)L90 T10. • For financially involved properties, a maximum noise level for day and night of 45dB(A)L90 T10. Prior to the commissioning of the windfarm, the developer shall submit and agree in writing with the planning authority a Noise Compliance Monitoring Programme (NCMP) for the operational windfarm. The NCMP shall include a detailed methodology for all sound measurements including Amplitude Modulation (AM) and tonal noises, including frequency of monitoring and recording of results, which shall be made publicly available. The results of the initial noise compliance monitoring to be submitted to and agreed in writing with the planning authority within 12 months of commissioning of the wind farm. The NCMP shall be fully implemented during the operation of the windfarm. **Reason:** In order to protect the amenities of existing noise sensitive properties in the vicinity of the development.
11.	The developer shall appoint a Community Liaison Officer for all stages of the development who shall be the first point of contact for residents

	and be responsible for monitoring and reporting of complaints, maintaining complaints register, addressing complaints and for discharging information in relation to the development to residents. **Reason:** In the interest of amenity and orderly development.
12.	The construction of the development shall be managed in accordance with a complete Construction Environmental Management Plan (CEMP), which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. The CEMP shall provide an implementation tool for the schedule of mitigations (as conditioned) and as applicable to the construction phase and the contractor(s). The CEMP shall provide details of intended construction practice for the development, including, but not limited to, and in line with the methodology and mitigation and monitoring measures detailed within the EIAR and the NIS: (a) Details of the construction methodology for all the components of the development; (b) Details of all services and utilities along the grid connection route and methodology for crossing/diversions; (c) Details of on-site car parking and access arrangements for site workers and deliveries. (d) A construction traffic management plan. Details of abnormal load road routes and management of the abnormal load delivery process, construction haul routes, road closures and diversion, local property access arrangements, and alternative arrangements to be put in place for pedestrians in the case of the closure of any public road or footpath during the course of site development works; (e) Measures to obviate queuing of construction traffic on the adjoining road network;

	(f) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network; (g) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels; (h) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater; (i) Details of marking of hydrological and hydrogeological buffer zones and silt fencing. Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local surface water drains or groundwater; (j) A surface water management plan including details of water quality monitoring; (k) Works to be carried out in accordance with Inland Fisheries Ireland 'Guidelines on protection of fisheries during construction works in and adjacent to waters'; (l) Location and specifications of any temporary storage requirements; (m) A waste management plan for construction waste; (n) Identify the location and buffer zones of all archaeological and cultural heritage constraints relevant to the development as set out in Chapter 15 of the EIAR and as requested by the planning authority; (o) A record of daily checks that the works are being undertaken in accordance with the CEMP shall be available for inspection by the planning authority, with monitoring on a daily basis of all watercourses in or adjacent to works areas; (p) Details of a local community feedback mechanism, where feedback including complaints are received and acted upon by a designated Community Liaison Officer.

	Reason: In the interest of amenities, public health and safety and environmental protection.
13.	Prior to the commencement of the development, the applicant/developer shall liaise with Cork County Council and ESB Networks in relation to the sequencing of the grid connection works along the L-5320 and the Mallow Relief Road, and in the event a future transfer of grid connection cables onto the relief road is required, the developer/operator of the development shall bear the cost associated with the diversions of the grid connection cables. **Reason:** To facilitate the coordinated delivery of infrastructure in the area.
14.	The following design requirements shall be complied with: (a) The hub height of the turbine shall not exceed 100 metres and the rotor diameter shall not exceed 150 metres. The overall tip height shall not exceed 175 metres. Details of the turbine design, hub height, blade length, and tip height shall be submitted to, and agreed in writing with, the planning authority prior to the commencement of development. (b) Cables within the site shall be laid underground and located within the verge of the access track. (c) The wind turbines shall be geared to ensure that the blades rotate in the same direction. (d) Transformers associated with each individual turbine and mast shall be located either within the turbine mast structure or at ground level beside the mast. (d) The wind turbines including tower and blades, and the anemometer mast, shall be finished externally in a light grey colour. (e) No advertising material shall be placed on or otherwise be affixed to any structure on the site without a prior grant of planning permission. Reason: In the interest of clarity and visual amenity.

15.	Prior to the commencement of development, details of external finishes to substation buildings and structures, battery energy storage system, fencing, and for provision of CCTV to the sub-station compound. **Reason**: In the interest of clarity and visual amenity.
16.	Prior to the commissioning of the windfarm, the developer shall submit for the written agreement of the planning authority details of actions to be taken by the developer/operator in the event of the wind turbines causing interference with telecommunication signals or television reception in the area. Such actions shall be completed to minimise interference with telecommunication signals and television reception and shall be carried out to the written satisfaction of the planning authority at the developer's expense. **Reason**: In the interest of protecting telecommunication signals and residential amenity.
17.	Site development and building works shall be carried out between the hours of 07.00 to 19.00 Mondays to Fridays inclusive, between 08.00 to 14.00 on Saturdays and not at all on Sundays and public holidays. Deviation from these times shall only be allowed in exceptional circumstances where prior written agreement has been received from the planning authority and in accordance with measures outlined in the EIAR. **Reason**: To safeguard the amenity of property in the vicinity.
18.	(a) Prior to commencement of development and following consultation with the Department of Defence and Irish Aviation Authority, the applicant/developer shall submit for written agreement of the planning authority, details of an obstacle warning light scheme which can be visible to night vision equipment. (b) The developer shall inform Irish Aviation Authority of its intention to commence crane operations with a minimum of 30 days prior notification of their erection.

	(c) Prior to commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the co-ordinates of the as constructed positions of the turbines and the highest point of the turbines (to the top of the blade spin). **Reason**: In the interest of air traffic safety.
19.	The Community Benefit scheme shall be adhered to for the life of the windfarm. The scheme shall be administered in accordance with the RESS Community Benefit Fund Good Practice Principles, 2021, prepared by the Department of the Environment, Climate and Communications. In the event that the developer does not utilise the government's Renewable Energy Support Scheme (RESS), prior to the commencement of development, a community gain proposal shall be submitted to the planning authority for written agreement. In default of agreement, the matter shall be referred to An Coimisiún Pleanála for determination. **Reason:** To ensure that the community living in proximity to the wind farm, benefits from it.
20.	Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Coimisiún Pleanála for determination. Reason: In the interest of traffic safety and the proper planning and sustainable development of the area.

21.	Prior to commencement of development, the developer shall lodge with the relevant Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Coimisiún Pleanála for determination. **Reason:** To ensure the satisfactory reinstatement of the site.
22.	The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Coimisiún Pleanála to determine the proper application of the terms of the Scheme. **Reason**: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

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

Heidi Thorsdalen
Senior Planning Inspector

27th April 2026

Appendix A: List of Observers to the Appeal

1.	Aherne, Eileen
2.	Baraggia, William & Elizabeth
3.	Bohane, Richard
4.	Brick, Agnes
5.	Broderick, Michael & Elaine
6.	Broderick, Simon
7.	Buckley, Dennis
8.	Buckley, Denis
9.	Buckley, Agnes
10.	Buckley, John
11.	Buckley, John Gerard
12.	Buicke, Catherine & Browne, Conor
13.	Butler, Maurice & Margaret
14.	Byrd, Charlie & Antoinette
15.	Cronin, Clodagh
16.	Cronin, Caroline
17.	Cronin, Lydia
18.	Cronin, Mossie
19.	Cronin, Dolores
20.	Cronin, Tim
21.	Cronin, James
22.	Crowley, Denis & Nuala
23.	Curtis, Tadhg & Fran
24.	Daly, Paul

25.	Daly, Deirdre
26.	Daly, Paudie
27.	Fitzgerald, Fiona & William
28.	Gayer, Hannah
29.	Gayer, Sarah
30.	Healy, Michael & Patrick
31.	Hoade, Eymard & Eliane Hoade
32.	Lombard, Dr John
33.	Long, Reuben
34.	Long, Adam
35.	Long, Conor
36.	McAuliffe, Neil
37.	McCarthy, Michael
38.	McSweeney, William
39.	Murphy, Martin
40.	O Keefe, Daniel P
41.	O Keeffe, Liam & Abina
42.	O Keeffe, Andrew
43.	O Keeffe, Daniel
44.	O'Connell, Ian & Denis
45.	O'Connor, Victoria
46.	O'Driscoll, Bertie
47.	O'Grady, Patricia
48.	O'Leary, Arthur & Nuala
49.	O'Reilly, Niamh Cullen

50.	O'Reilly, Frank
51.	Reidy, Arthur
52.	Relihan, Amy & David
53.	Sheahan, Tom
54.	Sheahan, Jerome & Mary
55.	Sheahan, Lilian
56.	Sheahan, Anne Marie & Clark, Conor
57.	Sheehan, Con
58.	Shine, Jerry & Theresa
59.	Shine, Kay & Andrew
60.	Weathers, Marie
61.	Whelan, Patrick & Claire
62.	Whelan, Mick
63.	Whelan, Sophie
64.	Whelan, Georgina

Appendix B: Stage 1 Appropriate Assessment Screening

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	The proposed development comprises 9 wind turbines, 38kV substation, met mast, access tracks and site entrance, grid connection to the boundary of the Mallow 110kV substation, and all associated works. Third Party Appeal.
Brief description of development site characteristics and potential impact mechanisms	A detailed description of the proposed development is provided in Section 2.0 of the Inspectors report and comprises: • 9 wind turbines, 38kV substation, met mast, access tracks and site entrance, and temporary works located within agriculture fields. Access track crosses a number of drainage channels, and new and upgrades to culvert proposed. • Approximate 13.5km grid connection route via underground 38kV cabling from the proposed 38kV substation along the existing tracks and public road network, two options considered. HDD crossing of the Blackwater (Munster) River_140 adjacent to the N72 and the N20. • Turbine delivery routes options following the existing road network from Foynes and Rignaskiddy, minor temporary accommodating works identified.
Screening report	Yes - Appropriate Assessment Screening Report and Natura Impact Statement (RSK, June 2024)
Natura Impact Statement	Yes - Appropriate Assessment Screening Report and Natura Impact Statement (RSK, June 2024). RFI Response Report, RFI Item 3 includes updated Natura Impact Statement (RSK, March 2025) in Appendix 3.1.
Relevant submissions	Refer to Sections 3.2 and 3.3 of Inspectors Report includes:

	• Planner's Report - refers to reports by Council's Ecologist. • Council's Ecologist Reports: - Kilcolman Bog SPA: Satisfied that, due to the distance and limited use of the site by whooper swans, the proposed development will not significantly impact the SPA or its SCIs in terms of their conservation objectives. - Blackwater River (Cork/Waterford) SAC (site code: 2170): Satisfied, beyond reasonable scientific doubt, that the proposed development will not lead to adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC, in view of its conservation objectives, provided that the mitigations in the submitted revised NIS and the proposed surface water management design are adhered to. • Council's Environment Report (Water Quality): Notes detailed proposals to protect water quality. • Department of Housing, Local Government and Heritage (DAU): - Blackwater River (Cork/Waterford) SAC (Site Code: 002170): Potential adverse impacts on the SAC through water quality should be fully assessed and it should be assessed whether or not the project is compatible with the Conservation Objectives for each of the QI habitats and species including Freshwater Pearl Mussel. • Department of Agriculture, Food and the Marine: Assessment of direct or indirect identified on the environment arising from such felling and replanting of trees. • HSE National Environmental Health Service: water quality mitigation measures to be implemented.

Screening for Appropriate Assessment Test for likely significant effects	
	• Inland Fisheries Ireland (IFI): No physical interference with natural watercourses (without prior approval) and implementation of measures to protect water quality. Submissions: Appropriate Assessment related observations made to the appeal include that the proposed development is located within the catchment of Blackwater River SAC population, but does not guarantee no impact on freshwater pearl mussels, salmon, kingfisher and other protected species and that there is no assessment of Annex I habitat, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]. Submissions have also raised concerns that the site is on the direct migratory path between NHA Banteer ponds and Kilcolman Bog SPA for birds and the proposed development material contravenes objective in the CDP for the conservation and preservation of a European site.

Additional information:

I note the applicant's Appropriate Assessment Screening Report, Table 7 identifies 26 no. European sites within a 20km Zone of Influence (ZoI) of the proposed wind farm site, the proposed GCR and the proposed TDR options. Considering whether a potential source-pathway-receptor chain exists, the applicant's screening report screens out 24 of these sites, as follows:

- The following 2 no. of European sites within the 20km ZoI of the wind farm site and the grid connection route are screened out in the applicant's screening report due to lack of any potential source-pathway-receptor chain: Ballyhoura Mountains SAC and Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA.

Screening for Appropriate Assessment
Test for likely significant effects

- The following 22 no. of European sites within the 20km ZoI of the turbine delivery routes are screened out in the applicant's screening report due to lack of any potential source-pathway-receptor chain: Lower River Shannon SAC, River Shannon and River Fergus SPA, Barrigone SAC, Askeaton Fen Complex SAC, Curraghchase Woods SAC, Tory Hill SAC, Glen Bog SAC, Carrigeenamronety Hill SAC, Slievefelim to Silvermines Mountains SPA, Clare Glen SAC, Danes Hole, Poulnalecka SAC, Glenomra Wood SAC, Glenstal Wood SAC, Kilkishen House SAC, Knockanira House SAC, Lough Gash Turlough SAC, Ratty River Cave SAC, Slieve Bernagh Bog SAC, Cork Harbour SPA, Great Island Channel SAC, Sovereign Islands SPA, and Ballycotton Bay SPA.

I am satisfied that no potential source-pathway-receptor chain exist between these European Sites and the proposed development and that these European sites can be excluded from further consideration.

Only European sites where a potential source-pathway-receptor chain exist between them and the proposed development have been included in Screening for AA below.

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

European Site (code)	**Qualifying interests Link to conservation objectives (NPWS, date)**	**Distance from proposed development (km)**	**Ecological connections**	**Consider further in screening Y/N**
Blackwater River (Cork/Waterford) SAC (Site code: 002170)	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Atlantic Salmon) [1106] Estuaries [1130]	Wind farm site: 5.1km (east), 7.8km (west), 6.3km (south) GCR: 1.1km (west). TDR: adjacent.	No direct pathway. Potential indirect hydrological connections. Wind farm site via onsite drains to Dreenagh East stream.	**Y**

Screening for Appropriate Assessment Test for likely significant effects				
	Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Lutra lutra (Otter) [1355] Mediterranean salt meadows (Juncetalia maritimi) [1410] Trichomanes speciosum (Killarney Fern) [1421] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] *Taxus baccata woods of the British Isles [91J0] Conservation objectives (NPWS, July 2012): CO002170.pdf		(IE_SW_18A050700), 800m from T1. HDD crossing of Blackwater (Munster) River_140 (Caherduggan South) along GCR. TDR accommodation works in proximity to/at Ballyclough Stream or Baltydaniel Stream. Potential groundwater connection.	
Kilcolman Bog SPA (Site code: 004095)	Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Shoveler (Spatula clypeata) [A857] Wetland and Waterbirds [A999] Conservation objectives (NPWS, January 2025): CO004095.pdf	9.4km to wind farm site.	No direct pathway. No indirect hydrological connection. Potential ecological connection: QI species Whooper swans recorded on two occasions. No other QI species were observed during surveys.	**Y**

Screening for Appropriate Assessment Test for likely significant effects				
			GCR/TDR – no direct or indirect pathway.	

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

AA Screening matrix

Site name Qualifying interests	Possibility of significant effects (alone) in view of the conservation objectives of the site	
	Impacts	**Effects**
Site 1: Blackwater River (Cork/Waterford) SAC (002170) • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Perennial vegetation of stony banks [1220] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410]	**Direct:** No pathway for direct effects. **Indirect:** Potential for negative impacts on water quality and on aquatic receptors via surface water runoff including suspended solids, nutrients, hydrocarbons, HDD drilling fluids, wastewater contaminates and cementitious material. Potential impacts from increased runoff.	Potential damage to the habitats and freshwater qualifying interest species dependent on water quality, an impact of sufficient magnitude could undermine the sites conservation objectives. Potential ex-situ effects to otter from disturbance. Introduction and spread of invasive species.

Screening for Appropriate Assessment Test for likely significant effects		
• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Austropotamobius pallipes (White-clawed Crayfish) [1092] • Petromyzon marinus (Sea Lamprey) [1095] • Lampetra planeri (Brook Lamprey) [1096] • Lampetra fluviatilis (River Lamprey) [1099] • Alosa fallax fallax (Twaite Shad) [1103] • Salmo salar (Salmon) [1106]		

Screening for Appropriate Assessment Test for likely significant effects		
• Lutra lutra (Otter) [1355] • Vandenboschia speciosa (Killarney Fern) [6985] Conservation objectives (NPWS, July 2012): CO002170.pdf		
	Likelihood of significant effects from proposed development (alone): **Yes**	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
Site name **Qualifying interests**	**Possibility of significant effects (alone) in view of the conservation objectives of the site***	
	Impacts	**Effects**
Site 2: Kilcolman Bog SPA (Site code: 004095) Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Shoveler (Spatula clypeata) [A857] Wetland and Waterbirds [A999] Conservation objectives (NPWS, January 2025): CO004095.pdf	**Direct:** No pathway for direct effects. **Indirect:** Wind farm site is outside the SNH recorded 5km core foraging distance for Whooper swan (2016). Migratory impacts cannot be ruled out.	Potential for ex-situ effects from disturbance, displacement, barrier and collision risk on QI species, Whooper swan. No other QI species observed during surveys.
	Likelihood of significant effects from proposed development (alone): **Yes**	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
Step 4 Conclude if the proposed development could result in likely significant effects on a European site		

Screening for Appropriate Assessment Test for likely significant effects
Based on the information provided in the screening report, site visit, review of the conservation objectives and supporting documents, I consider that in the absence of mitigation measures beyond best practice construction methods, the proposed development has the potential to result significant effects on the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095). I concur with the applicant's findings that such impacts could be significant in terms of the stated conservation objectives of the SAC and SPA when considered on their own and in combination with other projects and plans in relation to pollution related pressures and disturbance on qualifying interest habitats and species.
In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in the AA screening, it is not possible to exclude the possibility that the proposed development alone would result significant effects on European sites, Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the sites conservation objectives. An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in combination with other plans and projects is not required at screening stage.

Appendix C: Stage 2 Appropriate Assessment

Appropriate Assessment
The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section.
Taking account of the preceding screening determination, the following is an Appropriate Assessment of the implications of the proposed development in view of the relevant conservation objectives of Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) based on scientific information provided by the applicant. The information relied upon includes the following: • Screening for Appropriate Assessment and Natura Impact Statement prepared by RSK (June 2024), and updated Natura Impact Statement prepared by RSK (March 2025). • Environmental Impact Assessment Report prepared by RSK (June 2024). • RFI Response Report by RSK (March 2025). I am satisfied that the information provided is adequate to allow for Appropriate Assessment. This AA have been informed by the updated Conservation Objectives for Kilcolman Bog SPA (Site code: 004095) (January 2025), as included in my AA Screening above.
Submissions/observations Summary of planning authority reports, submission and observations can be located in Sections 3.0 and 6.0 of the Inspectors Report.

Appropriate Assessment

- Planner's Report - refers to reports by Council's Ecologist.
- Council's Ecologist Reports:
    - Kilcolman Bog SPA: Satisfied that, due to the distance and limited use of the site by whooper swans, the proposed development will not significantly impact the SPA or its SCIs in terms of their conservation objectives.
    - Blackwater River (Cork/Waterford) SAC (site code: 2170): Satisfied, beyond reasonable scientific doubt, that the proposed development will not lead to adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC, in view of its conservation objectives, provided that the mitigations in the submitted revised NIS and the proposed surface water management design are adhered to.
- Council's Environment Report (Water Quality): Notes detailed proposals to protect water quality.
- Department of Housing, Local Government and Heritage (DAU):
    - Blackwater River (Cork/Waterford) SAC (Site Code: 002170): Potential adverse impacts on the SAC through water quality should be fully assessed and it should be assessed whether or not the project is compatible with the Conservation Objectives for each of the QI habitats and species including Freshwater Pearl Mussel.
- Department of Agriculture, Food and the Marine: Assessment of direct or indirect identified on the environment arising from such felling and replanting of trees.
- HSE National Environmental Health Service: water quality mitigation measures to be implemented.
- Inland Fisheries Ireland (IFI): No physical interference with natural watercourses (without prior approval) and implementation of measures to protect water quality.

Appropriate Assessment			
Submissions: Appropriate Assessment related observations made to the appeal include that the proposed development is located within the catchment of Blackwater River SAC population, but does not guarantee no impact on freshwater pearl mussels, salmon, kingfisher and other protected species and that there is no assessment of Annex I habitat, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]. Submissions have also raised concerns that the site is on the direct migratory path between NHA Banteer ponds and Kilcolman Bog SPA for birds and the proposed development material contravenes objective in the CDP for the conservation and preservation of a European site.			
Blackwater River (Cork/Waterford) SAC: **Summary of Key issues that could give rise to adverse effects (from screening stage):** **(i) Water quality degradation** **(ii) Surface water flow.** **(iii) Invasive Species** **(iv) Disturbance of Mobile Species**			
Qualifying Interest features likely to be affected	**Conservation Objectives (CO) Targets and attributes (summary-inserted)**	**Potential adverse effects**	**Mitigation measures (summary)**
Freshwater Pearl Mussel (Margaritifera margaritifera) [1029]	Restore the Favourable conservation condition. Relevant Attribute/Target: • Distribution (Nore): Maintain 161km. • Population size: restore to 35,000 adults.	Watercourses within/adjacent to the site deemed unsuitable. Highly susceptible to changes in hydrology. Potential deterioration in water quality downstream due to increase in sediments and other pollutants, which could negatively affect FWPM conditions, habitats,	NIS Section 6. Designed in line with best practice guidance to prevent runoff of silt, nutrients and other pollutants into ground and surface watercourses. EcCoW will approve all sensitive works.

Appropriate Assessment			
	• Population structure: restore juvenile population. • Population structure: Adult mortality, no more than 5% decline. • Habitat Extent: restore suitable habitat (>35km). • Water quality: restore EQR for macroinvertebrates and phytobenthos. • Substratum quality: filamentous algae and macrophytes, <5%. • Substratum quality: no artificially elevated levels of sediment. • Substratum quality: oxygen availability • Hydrological regime: restore appropriate hydrological regime (m/s)	recruitment, reproduction, population structure and distribution. Indirect effects from pollution could impact on the salmonid balance and reduction in available hosts.	

Appropriate Assessment			
	• Host fish: Maintain sufficient juvenile salmonids to host glochidial larvae		
White-clawed Crayfish (Austropotamobius pallipes) [1092]	Maintain Favourable conservation condition. Relevant Attribute/Target: • Distribution: No reduction. • Population structure: recruitment • Negative indicator species: no alien crayfish species. • Disease: no disease • Water Quality: At least Q3-4 at all sites sampled by EPA • Habitat quality: No decline in heterogeneity.	Watercourses within/adjacent to the site deemed unsuitable. Suitable habitat found at a distance, within Awbeg Buttevant catchment, Ballyclough catchment and Awbeg Kanturk Catchment. Water quality degradation, particularly susceptible to pollutants such as industrial oils and chemicals and high PH washout water from concrete pour. Risk of inadvertently spreading the Disease from contact with contaminated water.	As above.
Sea Lamprey (Petromyzon marinus) [1095]	Restore the Favourable conservation condition. Relevant Attribute/Target: • Population structure: Juvenile	No potential to be present within wind farm site. Pollution event causing direct toxic effect or changes to habitat with increased fine sediment inputs,	As above.

Appropriate Assessment			
	• Juvenile density in fine sediment: at least 1/m^2 • Extent and distribution of Spawning habitat: No decline. • Availability of juvenile habitat: More than 50% of sample site positive.	industrial oils, high pH from concrete wash-out or other chemicals.	
Brook Lamprey (Lampetra planeri) [1096]	Maintain the Favourable conservation condition. Relevant Attribute/Target: • Population structure: Juvenile • Juvenile density in fine sediment: at least 2/m^2 • Extent and distribution of Spawning habitat: No decline. • Availability of juvenile habitat: More than 50% of sample site positive.	As above.	As above.
River Lamprey (Lampetra fluviatilis) [1099]	Maintain the Favourable conservation condition. Relevant Attribute/Target: As above for Brook Lamprey.	As above.	As above.

Appropriate Assessment			
Twaite Shad (Alosa fallax fallax) [1103]	Restore the Favourable conservation condition. Relevant Attribute/Target: • Population structure: more than one age class present. • Extent and distribution of Spawning habitat: No decline. • Water Quality: Oxygen levels no lower than 5mg/l • Spawning habitat quality: Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth.	No potential to be present within wind farm site. Regular breeding confirmed in River Blackwater in recent years. Pollution event causing direct toxic effect or changes to habitat with increased fine sediment inputs, industrial oils, high pH from concrete wash-out or other chemicals.	As above.
Salmon (Salmo salar) [1106]	Maintain the Favourable conservation condition. Relevant Attribute/Target:	Not recorded on site. Known to use Awbeg River and Blackwater River. Water quality degradation, particularly from silt laden runoff and a pollution	As above.

Appropriate Assessment			
	• Adult spawning fish: conservation limits exceeded. • Salmon fry abundance: maintain or exceed 0+ fry mean catchment • Out-migrating smolt abundance: no significant decline • Number and distribution of redds: no decline of spawning redds due to anthropogenic causes. • Water quality: At least Q4 at all sites sampled by EPA.	event or accidental release of concrete washwater, oils and fuels.	
Otter (Lutra lutra) [1355]	Restore the Favourable conservation condition. Relevant Attribute/Target: • Distribution: No significant decline. • Extent of terrestrial habitat: No significant decline, 1165ha along river banks / around ponds.	No signs of otter recorded during surveys for the wind farm site and at South Caherduggan Stream. No potential for the proposed development to result in any barrier to the movement of aquatic species. Water quality degradation from silt laden and pollutant runoff could	As above for water quality. Best practice disturbance limitation measures to be put in place for the GCR.

Appropriate Assessment			
	• Extent of freshwater habitat: No significant decline. • Couching sites and holts: No significant decline. • Fish biomass available: No significant decline.	undermine the conservation objective, in particular fish biomass available. Potential for disturbance from increased human activity during construction in proximity to watercourses along GCR.	
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	Maintain the Favourable conservation condition. Relevant Attribute/Target: • Habitat distribution: No decline, subject to natural process. • Habitat area: stable or increasing. • Hydrological regime: river flow regime. • Substratum composition: dominated by large particles, typically sands, gravels and cobbles. • Water quality: Low concentration of nutrients.	Not recorded. Full distribution of habitat within SAC unknown. Water quality degradation, particularly silt laden run off could affect habitat quality and distribution and undermine conservation objectives.	As above for water quality.

Appropriate Assessment			
Other QIs			
Estuaries [1130]	Not at risk.	Rational for exclusion: Costal habitat. No potential to undermine any conservation objective, given nature and scale of the proposed and the attenuating and diluting property of the intervening waterbody.	
Mudflats and sandflats not covered by seawater at low tide [1140]	Not at risk.	As above.	
Perennial vegetation of stony banks [1220]	Not at risk.	As above.	
Salicornia and other annuals colonising mud and sand [1310]	Not at risk.	As above.	
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	Not at risk.	As above.	
Mediterranean salt meadows (Juncetalia maritimi) [1410]	Not at risk.	As above.	
Killarney Fern (Trichomanes speciosum) [1421]	Not at risk.	Terrestrial habitat. No potential to undermine any conservation objective, given nature and scale of the proposed and the attenuating and diluting property of the intervening waterbody.	
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Not at risk.	As above.	
*Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	Not at risk.	As above	
*Taxus baccata woods of the British Isles [91J0]	Not at risk.	As above	

The above table is based on the documentation and information provided on the file. I am satisfied that the submitted NIS (June 2024, March 2025) has identified the relevant attributes and targets of the Qualifying Interests.

Appropriate Assessment

Assessment of issues that could give rise to adverse effects view of conservation objectives

i. Water quality degradation

Water quality of SAC remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species and Annex I habitat listed. Water quality degradation is the main risk from unmanaged construction works, specifically excavation, stock piling, dewatering, watercourse crossings, where silt laden run off and other pollutants reaches the Blackwater River (Cork/Waterford) SAC downstream via upstream indirect hydrological and/or hydrogeological connections. Decrease in water quality downstream could compromise conservation objectives for Annex I habitats and Annex II species listed, such as increase sedimentation and pollution could alter Freshwater Pearl Mussel conditions and habitats. Freshwater Pearl Mussel, White-clawed crayfish, salmonids, lamprey recorded downstream and potential suitability for otters recorded downstream of the site.

Mitigation measures and conditions

The focus of mitigation measures proposed are at preventing release of pollutants, sediments, nutrients and silt into surface water and receiving watercourses during construction, operational and decommissioning phases. Water quality mitigation measures are set out in Section 6 of the NIS and within EIAR Chapter 8 (Land, soils and geology), Chapter 9 (Water) and Construction Environmental Management Plan (CEMP) (EIAR Appendix 5.1).

- Mitigation measures have been designed in line with best practice guidance to prevent runoff of silt, nutrients and other pollutants into ground and surface watercourses.
- EcCoW will approve all sensitive works.
- No direct discharge to any natural watercourse.
- Setback and buffer from hydrological features, drainage diversions and silt fences.

Appropriate Assessment

- Drainage infrastructure and measures to be establish before excavation works.
  - Measures to manage earth works and spoil incl. a spoil management plan. Vehicular movements restricted.
  - Treatment train for control and management of runoff: construction drainage, check dams, stilling ponds, erosion protection, filtration and settlement systems, attenuation and buffered drainage outfalls.
  - Routine inspections, containment and active water quality monitoring.
  - Containment and management of excavation water and construction water.
  - Refuelling and oil management and storage measures.
  - Drilling fluids measures.
  - Wastewater containment, management measures.
  - Cementitious materials (precast and wet) measures.
  - Watercourse crossing and drainage diversion measures.
  - GCR flood events measures.
  - Turbine hardstand drainage measures.

I am satisfied that the preventative measures which are aimed at interrupting the source-pathway-receptor are targeted at the key threats to protected aquatic species and habitats by arresting the surface water pathways or reducing possible effects to a non-significant level, adverse effects can be prevented. Mitigation measures related to water quality are captured in planning conditions of the Inspectors Report.

ii. Surface water flow

Mitigation measures and conditions

- Attenuation measures and greenfield runoff rates as per drainage design

iii. Invasive Species

Invasive species confirmed within the wind farm site and along the turbine delivery route, risk of spreading.

Mitigation measures and conditions

- Best practice prevention measures as set out in CEMP.

iv. Disturbance of mobile species

Aquatic surveys recorded no otter signs, potential foraging suitability of adjacent watercourses noted. Increased human activities during works at watercourse crossings may cause temporary disturbance to otters. There will be no temporary or permanent barriers as a result of the proposed development.

Mitigation measures and conditions

- No instream works proposed for the grid connection route.
- Daytime working hours, noise and lighting measures as set out in CEMP.

In-combination effects

As set out above, the NIS has carried out an assessment of the proposed development. An assessment of cumulative effects with other plans and projects has been carried out in Section 7. of the NIS (June 2024, March 2025), including an assessment of cumulative effects with ecological plans and policies Section 7.2 and other projects Section 7.3 and other wind farms 7.3.1. The NIS concluded that, subject to implementation of

mitigation measures, that the proposed development will not have an adverse effect on the integrity of the Blackwater River (Cork/Waterford) SAC.

I have reviewed the details of these projects, plans and policies which were identified in Chapter 7. of the applicant's NIS (June 2024, March 2025).

I am satisfied that in-combination effects have been assessed adequately in the NIS. The proposed development and no other plans and projects could combine to generate significant effects when mitigation measures are considered. The applicant has demonstrated satisfactorily that no significant residual effects will remain post the application of mitigation measures and there is therefore no potential for in-combination effects.

Findings and conclusions

The applicant determined that following the examination, analysis and evaluation of all relevant information, with the successful implementation of mitigation measures, that the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of the Blackwater River (Cork/Waterford) SAC.

Based on the information provided, I am satisfied that adverse effects arising from aspects of the proposed development can be excluded for the Blackwater River (Cork/Waterford) SAC. No direct impacts are predicted. Indirect impacts would be temporary in nature and mitigation measures are described to prevent ingress of silt laden surface water and other pollutants. Monitoring measures are also proposed to ensure compliance and effective management of measures. I am satisfied that the mitigation measures proposed to prevent such effects have been assessed as effective and can be implemented. No significant in combination effects are predicted.

Reasonable scientific doubt

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

Site Integrity

The proposed development will not affect the attainment of Conservation objectives of the Blackwater River (Cork/Waterford) SAC. Adverse effects on site integrity can be excluded, and no reasonable scientific doubt remains as to the absence of such effects.

Appropriate Assessment			
Kilcolman Bog SPA (Site code: 004095): **Summary of Key issues that could give rise to adverse effects (from screening stage):** **(i) Ex-situ disturbance/barrier/mortality effects**			
Qualifying Interest features likely to be affected	**Conservation Objectives Targets and attributes (summary-inserted)**	**Potential adverse effects**	**Mitigation measures (summary)**
Whooper Swan (Cygnus cygnus) [A038]	Restore the Favourable conservation condition. Relevant Attribute/Target: • Winter population trend: stable or increasing. • Hectares, time and intensity: sufficient to support population. • Barriers to connectivity: Not significantly impact on access to SPA or other important ecological sites.	Ornithology surveys recorded observations of Whooper swan flying over the site on two occasions (November 2021 and January 2023). Five birds in total observed over 5 consecutive survey seasons. No Whooper swans were recorded during the hinterland surveys. Whooper swans were not recorded feeding or roosting within or nearby the site. No regular use by site or its airspace established. Site is located a substantial distance away from SPA, 9.3km, and well beyond the core foraging area of 5km (SNH, 2016). There are known supporting habitats located c. 10-11km	None.

Appropriate Assessment			
	• Forage spatial distribution, extent and abundance: Sufficient locations, area of suitable habitat and available forage biomass to support the population target.	to the north/northeast of the wind farm site, lake at Barryroe Quarry and floodplain grassland in Annagh South. Collision risk modelling, increase in mortality <1% (assuming all observations from SPA population). The proposed development is highly unlikely to have a significant effect on Whooper swans through collision with turbines. Based on published core foraging ranges and low flight activity, there is no evidence to suggest connectivity between the SPA and the wind farm site for whooper swan. No adverse effect on ex-situ foraging and/or support habitat. There is no potential for adverse effect via ex-situ barrier effect, collision risk or disturbance/displacement.	
Other QIs			
Teal (Anas crecca) [A052]	Not at risk.	Rational for exclusion:	

Appropriate Assessment		
		QI species not recorded during surveys. No mechanism identified via which it is considered likely significant effects might occur. No potential to undermine any conservation objectives.
Shoveler (Spatula clypeata) [A857]	Not at risk.	As above.
Wetland and Waterbirds [A999]	Not at risk.	As above.

The above table is based on the documentation and information provided on the file and as noted above, takes account of the updated conservation objectives for the Kilcolman Bog SPA. I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests.

Assessment of issues that could give rise to adverse effects view of conservation objectives

i. Disturbance/barriers/mortality

The proposed development is located 9.4km from the Kilcolman Bog SPA, well beyond core foraging distance for whooper swans and ornithological surveys recorded no regular flights or activity and no feeding or roosting activity. There is no evidence to suggest connectivity between the SPA and the proposed wind farm site for whooper swan. Therefore, there is no potential for adverse effect via ex-situ collision risk or disturbance/displacement.

Mitigation measures and conditions

None.

In-combination effects

Appropriate Assessment
I am satisfied that in-combination effects have been assessed adequately in the NIS. The proposed development and no other plans and projects could combine to generate significant effects. The applicant has demonstrated that there are no significant effects that could act in combination with other plans and projects to generate significant effects on this SPA in view of the conservation objectives.
Findings and conclusions The applicant determined that the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of the Kilcolman Bog SPA. Based on the information provided, I am satisfied that adverse effects arising from aspects of the proposed development can be excluded for the Kilcolman Bog SPA. No direct or ex-situ impacts are predicted. No significant in combination effects are predicted. **Reasonable scientific doubt** I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects. **Site Integrity** The proposed development will not affect the attainment of the conservation objective of the Kilcolman Bog SPA. Adverse effects on site integrity can be excluded, and no reasonable scientific doubt remains as to the absence of such effects.
Appropriate Assessment Conclusion: In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) in view of the conservation objectives of those sites and that Appropriate Assessment under the provisions of S177U was required.

Appropriate Assessment
Following an examination, analysis and evaluation of the NIS all associated material submitted with application, and taking into account submissions on nature conservation, I consider that adverse effects on site integrity of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095) can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects. My conclusion is based on the following: • Detailed assessment of construction, operational and decommissioning impacts. • A full and detailed assessment, including information presented in the Environmental Impact Assessment Report and supplementary information submitted by the applicant, of the proposed development in relation to the conservation objectives of the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095). • Effectiveness of mitigation measures proposed including supervision and monitoring and integration into CEMP ensuring smooth transition of obligations to eventual contractor. • Application of planning conditions to ensure application of these measures. • The proposed development will not affect the attainment of conservation objectives for the Blackwater River (Cork/Waterford) SAC (Site code: 002170) and Kilcolman Bog SPA (Site code: 004095).