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Illaunbaun Wind Farm – Environmental Impact Assessment Report

Chapter 22: Mitigation and Monitoring Measures

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22 INTRODUCTION

This chapter of the EIAR contains a summary of the mitigation which will be implemented during the pre-commencement, construction, operational and decommissioning phases of the Proposed Development. All mitigation and monitoring measures relating to the construction, operational and decommissioning phases of the Proposed Development are also set out in the relevant chapters of this EIAR. The mitigation measures have been grouped together according to their environmental field/topic and are presented under the following headings:

- Population and Human Health;
- Biodiversity and Ornithology;
- Land, Soils, Geology and Hydrogeology;
- Hydrology, Water and Flood Risk;
- Air Quality;
- Climate;
- Noise and Vibration;
- Shadow Flicker;
- Landscape and Visual Impact;
- Archaeological and Culture Heritage;
- Material Assets;
- Major Accidents and Disasters;
- Traffic and Transport; and
- Forestry

As stated in Chapter 5: Project Description, an outline Construction Environmental Management Plan (CEMP) has been prepared for the Proposed Development and is included in Volume V this EIAR. The CEMP sets out the key environmental management measures associated with the construction, operation and decommissioning of the Proposed Development, to ensure that during these phases of the project, the environment is protected, and any potential effects are minimised. The CEMP includes an Emergency Response Plan, Spoil Management Plan, Surface Water Management Plan, Water Quality Management Plan, Waste Management Plan, and Decommissioning Plan. An Environmental Manager / Ecological Clerk of Works (ECoW) with appropriate experience will be appointed for the duration of the construction phase to oversee the implementation of the CEMP. The following sections describe key activities which, if unmitigated against, may cause harm or nuisance to the public.

It is intended that the CEMP will be updated where required prior to the commencement of construction to include all mitigations and monitoring measures, conditions and or alterations to the

EIAR and application documents, should they emerge during the course of the planning process and will be submitted to the Planning Authority for written approval

22.1 SUMMARY TABLE

Table 22-1 displays a list of the mitigation measures proposed in the EIAR chapters and forms part of the Proposed Development.

Table 22-1: Summary of mitigation measures

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
07	Population and Human Health	Construction	**Transport nature and flow rates** The CTMP will identify measures to reduce the number of construction vehicles as well as identifying measures to mitigate the impact of vehicles. The CTMP will identify the programme of works, the agreed routes to Site and details of a Site Liaison Officer who would have responsibilities for managing traffic and transport impacts and effects. The CTMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. Prior to construction and once the Contractors have confirmed their suppliers, the CTMP will be updated in consultation with Clare County Council and An Garda Síochána as necessary. Potential measures could include (but are not limited to): • Immediately upon commencement, all deliveries, operatives and visitors to the Proposed Development Site will report to the security gate and be required to sign in and out. All Site visitors will undergo a Site induction covering Health and Safety issues at the Contractor's temporary compound and will be required to wear appropriate Personal Protective Equipment (PPE) while onsite. This will be communicated to all early works contractors at their pre-start meeting;

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• The main contractor will develop a logistics plan highlighting the access point for the project, loading bay, pedestrian / vehicular segregation, welfare, storage, security and material handling that will be enforced following full site establishment; • Approved haul routes will be identified to the Proposed Development Site and protocols put in place to ensure that HGVs adhere to these routes; • Prior to delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána and Clare County Council Roads Departments to discuss the requirement for a Garda escort; • Abnormal loads are likely to travel at night and outside the normal construction times as may be required by An Garda Síochána. Local residents along the affected route will be notified of the timescale for abnormal load deliveries; • Works on public roads on the turbine delivery road and grid connection will be strictly in accordance with "Guidance for the Control and Management of Traffic at Road Works – 2nd Edition 2010" as well as "Traffic Signs Manual 2010-Chapter 8- Temporary Traffic Measures and Signs at Roadworks". • All contractors will be provided with a site induction pack containing information on delivery routes and any restrictions on routes; • Temporary construction site signage will be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles; • A construction traffic speed limit (for example, 25 kph) will be imposed through sensitive areas and on the wind farm site;

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• The construction material 'lay down' areas will allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 6 am and after 10 pm); • An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors will be required to give details of proposed timing of material deliveries to the Site. At this stage, they will be given a specific area for delivery; • The CTMP and the control measures therein will be included within all trade contractor tender enquiries to ensure early understanding and acceptance / compliance with the rules that will be enforced on this project; • Under no circumstances will HGVs be allowed to lay-up in surrounding roads. All personnel in the team will be in contact with each other and with Site management, who in turn will have mobile and telephone contact with the subcontractors; • All vehicles accessing the wind farm site shall either have roof mounted flashing beacons or will use their hazard lights; • Roads will be maintained in a clean and safe condition; • A wheel cleaning facility will be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network; • In addition, any dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise the creation of dust. Where conditions exist for dust to become friable, techniques such as damping down of the potentially affected areas will be employed; and

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• To reduce dust emissions, vehicle containers/loads of crushed stone will be covered during both entrance and egress to the Site. **Visual Amenity** Outside of those landscape and visual mitigation measures that formed part of the iterative design process of this Development over a number of years, and which are embedded in the assessed Project, other specific landscape and visual mitigation measures are not considered necessary / likely to be effective. Thus, the impacts assessed in Section 13.4 of the EIAR are the equivalent of residual impacts in this instance. **Local Air Quality** In terms of mitigation, only potential impacts associated with dust emissions on site require mitigation measures to be implemented. The proposed development has been assessed as having a medium risk of dust soiling impacts and a low risk of dust related human health impacts during the construction phase as a result of earthworks, construction and trackout activities (see Section 10.5.2.1 of this EIAR). Therefore, the following dust mitigation measures shall be implemented during the construction phase of the proposed development. These measures are appropriate for sites with a medium risk of dust impacts and aim to ensure that no significant nuisance occurs at nearby sensitive receptors. The mitigation measures draw on best practice guidance from Ireland (DCC, 2018), the UK (IAQM (2024), BRE (2003), The Scottish Office (1996), UK ODPM (2002)) and the USA (USEPA, 1997). These measures will be incorporated into the overall Construction Environmental Management Plan (CEMP) prepared for the site. The mitigation measures proposed regarding air quality during the construction phase of the Proposed Development are described in Chapter 11: Air Quality, Section 11.6.1, of the EIAR.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			The following monitoring measures are proposed to ensure the dust mitigation measures are working satisfactorily: • Undertake regular on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results in the site inspection log. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary. • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. **Noise and vibration** No significant construction noise effects have been identified. Therefore, no specific mitigation measures are required. However, general guidance for controlling construction noise through the use of good practice given in BS 5228 will be followed. Construction and Decommissioning of the Proposed Development shall be limited to working times given and any controls incorporated in any planning permission.
07	Population and Human Health	Operational	**Air quality** During the operational phase of the proposed development, the works onsite will be limited to maintenance associated with the wind farm components. Although the intensity of activity will be only a small fraction of the construction phase, all employees and contractors that are on site will

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			ensure that machinery used is properly maintained and is switched off when not in use to avoid unnecessary exhaust emissions from maintenance traffic. **Noise and vibration** As no significant noise and vibration effects have been identified during the operational phase of the Proposed Development, no mitigation measures are necessary to be implemented. **Shadow flicker** It is proposed that a shadow control system be installed to eliminate the potential for shadow flicker from the Proposed Development. Such systems are common in many wind farm developments and the technology has been well established. A case study in Scotland found that the use of turbine shut-down control modules for turbines which were causing shadow flicker at nearby offices was successful (Parsons Brinckerhoff, 2011).
08	Biodiversity and Ornithology	Construction	The assessment of effects undertaken in Section 8.5.3, Chapter 8 of the EIAR, identified the following significant effects on ecological features during the construction of the Proposed Development: • Direct loss and fragmentation of habitats, including habitats used (or potentially used) by hen harrier, bats and marsh fritillary, including cumulative effects on hen harrier; • Disturbance and displacement of hen harrier, including cumulative effects. The following supplementary and/or additional measures are proposed to avoid residual significant effects on the identified IEFs.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			Sensitive habitats will be enhanced and managed in direct proportion with the scope and extent of habitat loss during construction (Table 1-12 and 1-13, Chapter 8 of the EIAR). The design and management of this habitat will take into consideration the suitability of this habitat for the IEFs identified as potentially subject to significant construction effects in this EIAR chapter. The locations of habitat reinstatement and enhancement measures will account for the risk of introducing additional operational effects (e.g., turbine collisions), with creation of features which could bring sensitive species (e.g., raptors, bats) into proximity with wind turbines avoided. Detailed habitat re-instatement and creation is described in the SHMP for the Proposed Development, including management approaches such as livestock management, rush management, nutrient management, expanding areas of scrub and hedgerows, prevention of gorse/willow scrub encroachment onto valuable open habitats such as grassland, and avoidance of potential deleterious management such as burning and herbicide use. This includes the creation and/or enhancement of the following habitats identified as being important in the context of the Proposed Development: wet heath and bog, grassland, scrub and hedgerows. The total study area in which habitats will be managed comprises 13.64 ha of managed habitats. This significantly exceeds the habitat loss anticipated within the Proposed Development, providing a 20% increase in habitat extent for hen harrier. Details of habitat management regimes are specified in the SHMP. In particular, habitat creation and enhancement will focus on delivering suitable foraging habitats for wintering and breeding season habitats for foraging hen harrier. Habitat management will also be sympathetic to other IEFs identified as potentially being subject to significant effects during construction; namely marsh fritillary and bats.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
08	Biodiversity and Ornithology	Operation	The assessment of effects undertaken in Section 8.5.4, Chapter 8 of the EIAR, identified the following potentially significant effects on ecological features during the operation of the Proposed Development: • Disturbance and displacement of hen harrier and kestrel, including cumulative effects on hen harrier; • Kestrel collision fatalities. As described in Section 8.6.1, Chapter 8 of the EIAR, habitats will be created in direct proportion with the type and extent of habitat loss during construction (Table 1-12 and 1-13, Chapter 8 of the EIAR). These habitats will also be suitable for hen harrier and kestrel during the operation of the Proposed Development, providing a larger area of more suitable foraging habitat than that present pre-development. Managed areas will, due to their increased suitability, have a significantly higher carrying capacity for hen harrier and kestrel compared with pre-development levels, making them suitable to support birds displaced by turbine operation. Habitats will be subject to management throughout the operation of the Proposed Development, in line with the measures summarised in Section 8.6.1, Chapter 8 of the EIAR, and detailed in the SHMP, to ensure they continue to be suitable for hen harrier and kestrel. Considering the relatively low levels of anticipated kestrel collision fatalities due to operational turbines (as assessed in Section 8.5.4, Chapter 8 of the EIAR, estimated as 8.53 kestrels over the operational lifespan of the Proposed Development), this increased breeding productivity of managed habitats is expected to be sufficient to offset collision fatalities. As an additional secondary mitigation measure on a precautionary basis, given the apparent scarcity of suitable kestrel nesting sites within the Proposed Development, five artificial kestrel nest boxes will be

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			installed in appropriate locations near suitable foraging habitat and away from operational turbines and other potential impact sources. This measure is expected to increase local kestrel breeding productivity
09	Land, soils, geology and hydrogeology	Design	**Embedded Mitigation** With reference to the baseline assessments and EIAR Scoping Report, the design of the Proposed Development has followed an iterative process which best accounts for the sensitivity of key geological and hydrogeological receptors. As a result, where possible, sensitive receptors have been avoided during the design of infrastructure components to minimise any potential impact which may arise from works associated with the construction, operational and decommission phases of wind farm development. Specific embedded or designed-in mitigation measures which have dictated infrastructure design, and which the developer has committed to implement in full, are outlined in Chapter 4 of this EIAR. Those activities that still have the potential to cause potential impacts on the sensitive receptors after embedded mitigation has been accounted for are outlined in Section 9.6.2, Chapter 9 of this EIAR. **General** • Infrastructure has been strategically positioned to minimise cut and fill requirements throughout the Proposed Development. This will reduce impact on the geological environment and minimise changes to sensitive receptors such as peat deposits. **Wind Turbines**

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Sizing of hardstanding areas have been minimised to limit the spatial area affected by works at each WTG location. • WTGs are located close to access tracks to minimise the total track length required and therefore limit damage to the geological environment. • Where possible, WTGs have been strategically positioned to target areas of shallow peat. This will avoid areas of deeper peat cover and areas noted to be unstable, as per Technical Appendix A8-01 and Technical Appendix A8-02. **Access Tracks** • Design of proposed access tracks comprise existing Coillte forestry tracks and site entry points, where possible, within the Proposed Development. • Design of proposed access tracks will use floating track, where feasible, to minimise intrusive works on the geological environment. • Where possible, proposed access tracks target areas of shallow peat. This will avoid increasing existing peat instability across the Proposed Development. • Where possible, proposed access tracks have been positioned to maintain a minimum distance of 50m from surface watercourses. • Where possible, proposed access tracks have been positioned to minimise the number of water crossings across the Proposed Development. • Proposed access track lengths between WTGs have been minimised to limit damage to the geological environment.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
09	Land, Soils, Geology and Hydrogeology	Construction	**Turbine Foundations** • All works undertaken at the WTGs location will be undertaken in accordance with the Construction Environmental Management Plan (CEMP) accompanying this EIAR. **Access Tracks** • All works undertaken during construction/extension of access tracks will be undertaken in accordance with the CEMP. • Earthworks will be conducted from designated work corridors to minimise the spatial area impacted during the construction phase. • Erosion and sediment control measures, including silt fences, sediment traps, and buffer zones, will prevent sediment-laden runoff from infiltrating the ground, protecting groundwater quality and maintaining natural recharge conditions. • Restoration and landscape integration will include the decommissioning of temporary access tracks and the re-establishment of vegetation using native species to promote soil stability, reduce erosion, and support natural infiltration, minimising any potential long-term impacts on soils and groundwater. **Borrow Pit Excavations** • All excavation works undertaken at the borrow pit locations will be undertaken in accordance with the Construction Environmental Management Plan (CEMP) accompanying this EIAR. • Dust suppression techniques will be used during excavation works in accordance with the measures outlined in the CEMP.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Temporary pumping of groundwater may be required to facilitate excavation and remove wastewater with high concentrations of suspended soils. This will be carried out in accordance with the measures outlined in the CEMP. • Excavations will not be undertaken during periods of severe weather where there is a risk to either the stability of materials and/or management, transport and storage of said materials. • Excavation works will be monitored by a qualified geotechnical engineer. **Slope Stability** Mitigation measures are proposed to limit the potential for peat stability issues and slope failure at the Proposed Development. These measures are derived from the findings of the Peat Stability Risk Assessment and best-practice guidance outlined within the Peat Management Plan outlined in technical appendices which accompany this Chapter. During the construction stage, the peat stability risk assessment will be updated to account for any variations in the layout that may arise. This reassessment will ensure that peat stability and landslide risks are appropriately managed as construction progresses. A preliminary assessment of peat and spoil material placement and reinstatement has already been conducted, indicating that stability is acceptable. To further mitigate against any potential peat failure, the design also incorporates the use of safety buffer areas and designated peat stockpile restriction zones to manage loading and maintain slope integrity. Furthermore, a detailed stability assessment will be carried out as part of the design process, once specific locations are confirmed, and additional GI data becomes available. The Contractor will be responsible for conducting a confirmatory construction-stage Peat Stability Risk Assessment, which will evaluate the peat stability and landslide risks associated with any

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			layout modifications that may arise during the detailed design and/or construction phase. This will ensure that all necessary mitigation measures are implemented to maintain safe and stable site conditions. The following additional mitigation measures are proposed to reduce, offset and avoid peat disturbance which may incur stability issues: • Proposed peat repositories are in areas with low risk of peat instability, in accordance with *Technical Appendix A8-02: Peat Stability Risk Assessment*. • The application of Safety Buffer Areas. Designated areas where no development or construction activities will be carried out, including plant movements, peat or overburden excavation or reinstatement or placement of peat or any overburden materials. • Further quantitative assessments carried out in the construction PSRA; such as the Factor of Safety (FoS) analysis. The FoS calculations will provide a direct measure of the degree of stability of a slope by the ratio of the shear resistance along a potential surface of failure and the landslide driving forces acting on such a surface. • Peat related works will be subject to additional detailed design and thoroughly checked by a suitably qualified geotechnical engineer, hydrologist, and/or drainage engineer. • Peat generated during construction can be reused or reinstated across the Proposed Development to minimise waste and support environmental restoration. To ensure seamless integration with the surrounding topography, peat should be placed as soon as reasonably practical after construction, contributing to landscape enhancement, reducing visual impacts, and aiding in habitat restoration.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Detailed method statements will be prepared for all elements of the construction phase and will be outlined accordingly in the CEMP. • Risk characterisation for slope stability will be outlined in the CEMP. Any risk identified during the construction phase will be minimised by following the principles of avoidance, prevention and protection. • Transportation distances of excavated peat will be minimised from the point of extraction. For example, initially side cast and then transported to the nearest designated borrow pit or peat storage area. • Excavation works will be monitored by a qualified geotechnical engineer. • Vibration monitoring will be undertaken throughout the construction phase to assess and minimise the disturbance. • Frequent monitoring of slopes will be undertaken during the construction phase, including additional monitoring follow periods of intense or prolonged rainfall. Monitoring will be conducted by a qualified geotechnical engineer. **Tree Felling** • Machine combinations (i.e. handheld or mechanical) will be chosen which are most suitable for ground conditions and which will minimise soils disturbance. • Tree felling will only be undertaken in areas of proposed infrastructure that have low risk of peat instability. Areas of deeper peat will be avoided to minimise risks to slope stability.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Tree felling buffers have been minimised to ensure health and safety concerns are addressed with regards wind-blow during the construction phase. • Where possible, retention of trees will ensure that slope stability is not adversely impacted, and the risk of surface run off is minimised. **Soil Erosion** The following precautionary measures shall be undertaken to minimise the risk of impacting on soil within the receiving environment: • Sound design principles will be followed to adhere to relevant Irish guidelines and recognised international guidelines for best practice. • Whilst a major incident is highly unlikely to occur in circumstances where the mitigation measures are fully implemented, a major incident response plan will be detailed by the contractor in the detailed CEMP. • Excavations will be constructed and backfilled as quickly as possible to minimise risk of soil erosion. • Excavations will be stopped immediately during periods of intense rainfall due to the potential for sediment mobilisation and risk to materials management. • Excavated materials will be stored appropriately in accordance with the measures outlined in the CEMP. • Where possible, silt traps and bunding will be used to minimise the mobilisation of suspended sediments in run off.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• With the exception of designated peat storage areas outlined in the CEMP, no material stockpiles will be left on-Site after the construction phase. **Soil Compaction** • A designated work corridor will be delineated prior to commencement of earthworks. Plant machinery will be required to operate within this boundary to limit the damage to the geological environment. • Where possible, excavations of soils/peat will be conducted from the access tracks to minimise the impacted spatial area during the construction phase. **Oil, Fuel and Chemical Leakages/Spillages and Wastewater** General effects on soil contamination may arise associated with works machinery and the temporary storage of construction materials, oils, fuels and chemicals. As such the potential for spillage or release of fuel oil and other dangerous substances will be mitigated through the following measures: • The risk of soil quality effects associated with works machinery and leakages/spillages of fuels, oils, other chemicals will be controlled through good site management and the adherence to codes and practices outlined by the main contractor in the detailed CEMP. ○ This includes management and auditing procedures such as toolbox talks, and adherence to permits, licences, certificates and planning permissions • All potentially polluting liquids will be sited on an impervious base and stored within containers and/or fully bunded and designated areas which are secured

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			○ The control measures in Guidance for Pollution Prevention - GPP2: Above Ground Oil Storage Tanks (DEFRA, 2017) and GPP26 "Safe storage – drums and intermediate bulk containers" (DEFRA, 2021), shall be implemented to ensure safe storage of oils and chemicals ○ The base and bund walls must be impermeable to the material stored and of adequate capacity. ○ This will be conducted using the necessary equipment in accordance with the CEMP. • Plant machinery will be confined to allocated areas of the Proposed Development during the construction phase. Safe operation of refuelling activities shall be in accordance with GPP 7 "Safe Storage – The safe operation of refuelling facilities" (DEFRA, 2011). Refuelling of plant machinery will be conducted at designated refuelling points. • Emergency spill kits will be readily available to protect against accidental release, leakage or spillage of potentially polluting substances. • All plant and equipment will be regularly inspected for any signs of damage leaks. A checklist must be present to make sure that the checks have been carried out. • A spillage control procedure and project specific Pollution Incident Response Plan will be in place and all staff should be trained on how to deal with spillages. This procedure is outlined in the CEMP. The following mitigation measures are proposed to reduce or offset potential adverse effects on water quality due to accidental release or leakage of wastewater associated with temporary site facilities:

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Wastewater will be collected in containerised welfare units at designated points and removed off-site by a permitted waste contractor. • Existing and proposed surface water drainage and discharge points will be mapped on a drainage layout. These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants. Such measures will be outlined in greater detail by the main contractor within the detailed CEMP. **Groundwater** • A site-specific CEMP will be prepared and implemented by the appointed contractor. This will include spill response protocols, surface water and groundwater protection measures, pollution control procedures, and emergency response measures. • All fuels, oils, and chemicals will be stored in double-bunded, lockable tanks located in designated, impermeable refuelling and storage areas, away from drainage paths or watercourses. Storage areas will be regularly inspected and maintained to prevent leaks or failures. • Construction plant and vehicles will undergo routine inspection and maintenance to avoid leakage of hydrocarbons. • WTG bases, access roads, and associated infrastructure will be designed to minimise disruption to natural groundwater flow paths. This includes avoiding interception of shallow flow systems and maintaining natural surface and subsurface drainage patterns.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• In areas classified as highly vulnerable, ground disturbance will be minimised, and protective measures such as temporary ground protection, geotextile barriers, and infiltration control will be implemented. • Baseline monitoring of water quality and quantity will be conducted for PWS sources within the zone of influence prior to construction. Monitoring will continue throughout construction and post-completion to detect any changes attributable to site activities. The installation of dedicated groundwater monitoring boreholes may be required near sensitive abstraction zones. **Contaminated Soils** The following precautionary measures shall be undertaken to minimise the risk of impacting on soil contamination at the Proposed Development: • Contamination will be considered as part of the earthworks specification to confirm the material suitability for re-use within the Site, including with respect to marine criteria. This will be outlined within the detailed CEMP. • Any imported soils required for construction purposes will be subject to chemical analysis and assessed against relevant screening values to demonstrate their suitability for use (with respect to risks to both human health and the water environment). • Materials which are temporarily stored on-Site will be stored in accordance with the measures outlined in the CEMP, for example using covers to prevent air-blown transportation and surface run-off.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Concrete wash water handling will be carried out at designated areas and suitably managed in accordance with the CEMP. • In the event of any unexpected contamination, assessment will be undertaken to understand the nature and extent of the contamination. Any soils that subsequently need to be removed from site will be stored, removed, and treated/disposed of in accordance with guidance on managing contamination and waste management legislation. This will include the use of appropriate PPE, and measures to mitigate the generation of dust, such as damping down during dry periods. Classification and assessment of waste materials will be conducted as quickly as possible to ensure minimal exposure time to the receiving environment. Soils which are temporarily stored on-site will be stored appropriately, separate to clean materials, with covers and bunding as necessary. A Waste Management Plan (WMP) will be outlined by the main contractor within the detailed CEMP and will detail the control of all site-generated construction waste and the storage and disposal of the waste. • Soils will be stored, removed, and disposed of in accordance with the relevant waste management legislation. • Classification and assessment of waste materials will be conducted as quickly as possible to ensure minimal exposure time to the receiving environment. • Soils which are temporarily stored on-site will be stored appropriately, separate to clean materials, with covers and bunding as necessary.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
09	Land, Soils, Geology and Hydrogeology	Operation	**Oil, Fuel and Chemical Leakages/Spillages** • The substation will be situated on an area of hardstand in order to minimise the downward migration of contaminants from stored materials into subsoils and groundwater. • Potentially hazardous contaminants, such as hydrocarbons, fuels or oils will be stored in suitable containers and/or fully-bunded designated areas. • Emergency spill kits will be made readily available on-Site to minimise the impact of any accidental releases, leakages or spillages of potentially contaminating materials. **Groundwater** Potential effects on groundwater during the operational period of the Proposed Development will be mitigated through the following measures: • Substations, transformers, and cable joints will be regularly inspected and maintained to prevent leakage of oils or other hazardous substances. Any incidents will be managed under a site-specific environmental response plan. • Infrastructure layout and design will maintain the integrity of identified groundwater flow paths and recharge zones. Should any unforeseen redirection of groundwater be detected post-construction, corrective measures such as local regrading or drainage adjustment will be considered. • Continued monitoring of any identified PWS sources will be carried out to detect any changes in water quality or yield during operation. Results will be reviewed regularly and inform ongoing environmental management.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			Slope Stability • Visual inspections of areas of stored peat and peat slopes adjacent to wind farm components will be undertaken annually. Inspections will be undertaken by a qualified geotechnical engineer. • Photographic surveys will be used to document and track any visual changes to materials. Inspections will be undertaken by a qualified engineering geologist/ geologist/ geotechnical engineer/ civil engineer. • Engineered solutions will be designed and implemented for areas of suspected instability as and when required. Design will be undertaken by a qualified engineering geologist/ geologist/ geotechnical engineer /civil engineer. **Soil Erosion** • Engineered solutions will be designed and implemented for areas of visible erosion, as and when required. Design will be undertaken by a qualified geotechnical engineer.
09	Land, Soils, Geology and Hydrogeology	Decommissioning	The Irish Wind Energy Association (IWEA) states that when decommissioning a wind farm "the concrete bases could be removed, but it may be better to leave them under the ground, as this causes less disturbance". As a result, WTG foundations, hardstanding, access tracks and associated infrastructure may be left in-situ, due to a greater amount of environmental damage being caused during the removal process. Decommissioning also provides an opportunity to either reduce or reverse impacts generated during the construction phase. The following is proposed to best achieve this:

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Rehabilitation of construction areas including WTG bases, hardstanding, substation, and site compounds. This will be achieved by covering areas with topsoil/peat to encourage vegetation growth which will in turn reduce surface water run-off and potential sedimentation processes post-decommissioning. • Access tracks will be retained to aid forestry activities and for legacy monitoring purposes. • All decommissioning works will follow an updated CEMP, including strict controls on fuel storage, machinery operation, and removal of infrastructure. Waste will be disposed of at licensed facilities. • Decommissioning-related plant and equipment will be managed using the same containment and spill prevention protocols employed during construction. Temporary bunding and spill kits will be deployed on-site.
10	Hydrology, Water Quality and Flood Risk	Construction	Mitigation measures during the construction phase are discussed below. These mitigation measures have been developed with the source-pathway-receptor links above in mind and are designed to break this link either by removing the source or disrupting the pathway for pollution. <u>Best Practice Construction Methods</u> A preliminary Construction Environmental Management Plan (CEMP) has been prepared for the proposed development and will be put in place by the appointed contractor. The CEMP will be used by the contractor to prevent and minimise environmental effects during construction. It includes the below to mitigate impacts on water. <u>Surface Water Runoff</u>

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			Surface water generated on site from rainfall will be prevented from flowing across active works areas or materials storage areas. Rainwater that collects in these areas will, prior to being discharged, pass through a settling tank or settlement lagoon. Temporary storage of soil will be carefully managed to prevent any potential negative effects on the receiving hydrological environment. the material will be stored away from any existing drains or flow pathways within the site. Movement of material will be minimised to reduce degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise potential for water ingress into excavations. Weather conditions will be monitored when planning construction activities, to minimise risk of run-off from the site and the suitable distance of topsoil piles from drainage ditches/sewerage systems will be maintained. In the event of an extended period of dry weather, stockpiles will be dampened using a water spray. The level of spraying will be sufficient to just dampen the soil to avoid dust blow and avoid excessive runoff that could arise during this process. Site roads will also be subject to similar mitigation to avoid dust blow. <u>Fine Sediment Pollution</u> Mitigation for the protection of surface water quality from runoff carrying fine sediments and urban pollutants involves silt control measures. These include proper planning of works, site compound construction, storage management and excavation plans, as follows: • The CEMP will include the mitigation measures outlined in this EIAR to address sediment control during construction and the potential risk of sediments and various pollutants release into local watercourse. This includes silt fencing, runoff control and measures to prevent

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			contaminant entering the stormwater by proper storage of hazardous materials and waste management practice. • Planning of works will be conscious of available weather forecasts and avoid working during heavy rain/storm events to minimise the risk of runoff that may be in excess of the capacity of the runoff control measures outlined in this EIAR. If working during precipitation events cannot be avoided, then runoff control measures will be actively monitored during the works to ensure their capacity is not compromised. • Adherence to best practice guidance for pollution prevention and sediment management measures (e.g., use of oil booms, spill kits, and silt fences etc.) will be applied. • The contractor will construct a site compound at a location remote from any drains, at a minimum distance of 10m. • All soil stockpiles will be covered (i.e., with a tarpaulin or vegetated) to minimise the risk of rain/wind erosion. Vegetation will be established as soon as possible on all exposed soils. • In the event of an extended dry period, stockpiles will be dampened using water to minimise the risk of airborne particles entering watercourses. • Excavations will remain open for as little time as possible before the placement of fill to minimise the potential of water ingress into excavations. • Management/Response plans will be implemented to identify mobilisation of soil particles/pollution and initiate the interception and treatment of pollution/silt run-off.

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			• Silt fencing or other appropriate measures will be put in place downstream of exposed soils or soil stockpiles. <u>Accidental Spills and Leaks</u> To avoid and manage accidental spills and leaks a series of measures listed below will be implemented. The main contractor and sub-contractors will be responsible for ensuring their implementation: • An Emergency Plan for the site will be established by the main contractor prior to work commencing at the site. The Emergency Plan will contain contact details for statutory bodies such as the NPWS, Clare County Council and Inland Fisheries Ireland. All site workers will be made aware of the plan and its location in the site offices. • There will be no refuelling of machinery within or near the watercourses located in the study area. Refuelling will take place at designated locations at distances of greater than 30 metres from the watercourse. • No vehicles will be left unattended when refuelling and a spill kit including an oil containment boom and absorbent pads will be on site at all times. • Any fuel needed to be stored on the site will be stored appropriately and at a location that is set back from the river and lake. All other construction materials will be stored in this compound. The compound will also house the site offices and portable toilets. This compound will either be located on ground that is not prone to flooding or will be surrounded by a protective earth bund to prevent inundation. • All vehicles will be regularly maintained and checked for fuel and oil leaks.

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			• All liquids, solids and powder containers will be clearly labelled and stored appropriately in sealable containers. Storage of fuels and oils will be in the main contractor's compound only. • Spill protection equipment such as spill kits, absorbent mats, oil booms, and sand will be available for use in the event of an accidental spill. These will be disposed of correctly if used and replaced with new ones immediately. Disposal records for used absorbent materials will be retained by the Site Manager. • The contractor will implement measures for the regular inspection of bunds and emptying of rainwater (when uncontaminated). Bunding must have a minimum capacity of 110% of the volume of the largest tank or 25% of the total storage capacity, whichever is the greater. Bunding will be impermeable to the substance that is being stored in the tank. • The use of settling lagoons, settling tanks, or equivalent, with outflow control measures will be used for the interception of surface water pumped from an active working area. • The Contractor will clean equipment prior to delivery to the site. The Contractor will avoid using equipment which leaks fuel, hydraulic oil or lubricant. The Contractor will maintain equipment to ensure efficiency and to minimise emissions. • Management/Response plans will be implemented to identify mobilisation of soil particles/pollution and initiate the interception and treatment of pollution/silt runoff. • Precast concrete elements should be maximised to avoid wet concreting in close proximity to water. <u>Drainage Works</u>

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			To reduce the potential impacts from drainage works the following mitigation measures are proposed: • All drainage works will be supervised by an Ecological Clerk of Works (ECoW), and safe concreting measures during construction will be implemented.
10	Hydrology, Water Quality and Flood Risk	Operation	During the operational phase, the operator of the wind farm will put the mitigation measures outlined in Section 10.5.2 of Chapter 10 of the EIAR in place during maintenance works. In addition, the proposed surface water drainage network design includes the following mitigation measures. Dirty water relief drains, spaced at 200mm intervals along the access tracks, will collect and divert runoff with sediments. Filtration check dams will be installed to slow down the water flow, reduce erosion, and help sediments settle. Swales and clean water cross drains will channel clean water across the site, preventing it from mixing with runoff containing sediment. Additionally, scour protection measures will be implemented to prevent erosion and maintain the integrity of the clean water channels.
11	Air Quality	Construction	In terms of mitigation, only potential impacts associated with dust emissions on site require mitigation measures to be implemented. The proposed development has been assessed as having a medium risk of dust soiling impacts and a low risk of dust related human health impacts during the construction phase as a result of earthworks, construction and trackout activities (see Section 11.5.2.1 of the EIAR). Therefore, the following dust mitigation measures shall be implemented during the construction phase of the proposed development. These measures are appropriate for sites with a medium risk of dust impacts and aim to ensure that no significant nuisance occurs at nearby sensitive receptors. The mitigation measures draw on best practice guidance from Ireland

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			(DCC, 2018), the UK (IAQM (2024), BRE (2003), The Scottish Office (1996), UK CoPM (2002)) and the USA (USEPA, 1997). These measures will be incorporated into the overall Construction Environmental Management Plan (CEMP) prepared for the site. The measures are divided into different categories for different activities. **Communications** • Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement involves explaining the nature and duration of the works to local residents and businesses. • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. **Site Management** • Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. **Preparing and Maintaining the Site** • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.

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			• Avoid site runoff of water or mud. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site use dust suppression/mitigation measures will be utilised. **Operating Vehicles / Machinery and Sustainable Travel** • Ensure all vehicles switch off engines when stationary - no idling vehicles. • Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 30 kph haul roads and work areas. If long haul routes are required these speeds may be increased, with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate. **Operations** • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips.

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			• Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. **Waste Management** • Avoid bonfires and burning of waste materials. **Measures Specific to Earthworks** • The following measures must be implemented in areas in close proximity to the ecologically sensitive areas that have been assessed as having a high risk of impacts. These measures are also recommended for other areas of the site earthworks. • Re-vegetate earthworks and exposed areas/soil to stabilise surfaces as soon as practicable. • Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate. This is to ensure moisture content is high enough to increase the stability of the soil and, therefore, suppress dust. **Measures Specific to Construction**

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			• Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out. If this is required for a particular process, then ensure that appropriate additional control measures are in place. **Measures Specific to Trackout** • A speed restriction of 20 kph will be applied as an effective dust control measure for on-site vehicles. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. • Install hard surfaced haul routes which are regularly damped down, with fixed or mobile sprinkler systems, or mobile water bowsers, and regularly cleaned. **Monitoring** • Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust. This should include regular visual dust soiling checks within 100 m of site boundary. Cleaning is to be provided if necessary. • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.

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11	Air Quality	Operation	During the operational phase of the proposed development, the works onsite will be limited to maintenance associated with the wind farm components. Although the intensity of activity will be only a small fraction of the construction phase, all employees and contractors that are on site will ensure that machinery used is properly maintained and is switched off when not in use to avoid unnecessary exhaust emissions from maintenance traffic.

12	Climate	Construction	The IEMA GHG Management Hierarchy (IEMA 2020b) will be followed for impact minimisation. The Hierarchy is as follows:
			• First Eliminate
			  ○ Influence business decisions/use to prevent GHG emissions across the lifecycle
			  ○ Potential exists when organisations change, expand, rationalise or move business
			  ○ Transition to new business model, alternative operation or new product/service
			• Then Reduce
			  ○ Real and relative (per unit) reductions in carbon and energy
			  ○ Efficiency in operations, processes, fleet and energy management
			  ○ Optimise approaches (e.g. technology) and digital as enablers
			• If you can't eliminate or reduce, then Substitute
			  ○ Adopt renewables/low-carbon technologies (on site, transport etc)
			  ○ Reduce carbon (GHG) intensity of energy use and of energy purchased

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			○ Purchase inputs and services with lower embodied/embedded emissions ○ The final option is to Compensate ○ Compensate 'unavoidable' residual emissions (removals, offsets etc) ○ Investigate land management, value chain, asset sharing, carbon credits ○ Support climate action and developing markets (beyond carbon neutral) Embodied carbon of materials and construction activities will be the primary source of climate impacts during the construction phase. Best practice measures to reduce the embodied carbon of the construction works include: • Appointing a suitably competent contractor who will undertake waste audits detailing resource recovery best practice and identify materials can be reused/recycled; • Alignment with requirements under the Local and National Climate Action Plans • The use in construction plant and equipment of sustainably (International Sustainability and Carbon Certification (ISCC) or similar) sourced Hydrotreated Vegetable Oil (HVO) as a 100% replacement of fossil fuels. HVO use is considered a stepping stone towards the use of electric construction plant as they become available in the market; • The replacement, where feasible, of concrete containing Portland cement with a low carbon concrete as per the Climate Action Plan, a 50% Ground Granulated Blastfurnace Slag (GGBS) replacement is currently the likely option and has been deemed appropriate by the project designers;

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			• Procurement contracts will ensure that lower carbon choices are considered favourable during tender; • Low carbon design choices and materials will be prioritised within design where technically feasible; • Materials will be reused on site where possible; • Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods; • Ensure all plant and machinery are well maintained and inspected regularly; • Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site; • Where practicable, opportunities for materials reuse will be incorporated within the extent of the Proposed Development including the use of reclaimed asphalt and recycled aggregate, which will reduce the virgin material needs; and • Sourcing materials locally where possible to reduce transport related CO_2 emissions. In terms of impact on the Proposed Development due to climate change, during construction the Contractor will be required to mitigate against the effects of extreme rainfall/flooding through site risk assessments and method statements. The Contractor will also be required to mitigate against the effects of extreme wind/storms, temperature extremes through site risk assessments and method statements. All materials used during construction will be accompanied by certified datasheets which will set out the limiting operating temperatures. Temperatures can affect the performance of some materials, and this will require consideration during construction. During

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			construction, the Contractor will be required to mitigate against the effects of fog, lighting and hail through site risk assessments and method statements.
12	Climate	Operation	During the operational phase of the Proposed Development, the works onsite will be limited to maintenance associated with the wind farm components. Although the intensity of activity will be only a small fraction of the construction phase, all employees and contractors that are on site will ensure that machinery used is properly maintained and is switched off when not in use to avoid unnecessary exhaust emissions from maintenance traffic. No other mitigation is proposed.
13	Noise and Vibration	Construction	No significant construction noise effects have been identified. Therefore, no specific mitigation measures are required. However, general guidance for controlling construction noise through the use of good practice given in BS 5228-1:2009+A1:2014 (BSI, 2014), will be followed. Construction and Decommissioning of the Proposed Development shall be limited to working times given and any controls incorporated in any planning permission.
13	Noise and Vibration	Operation	The Proposed Development has been designed to comply with the 2006 Noise Guidelines (DoEHLG, 2006) and noise limits attached as conditions to recent An Bord Pleanála decisions (ABP, 2022). The operational noise emissions from the Proposed Development in isolation comply with the noise limits at all wind speeds and receptors. The operational noise emissions from the Proposed Development cumulatively with Slieveacurry Wind Farm minorly exceed the limit of 43 dB(A) at six receptors at wind speeds from 7 to 12 m/s based on an omni-directional assessment. Therefore, further assessment/mitigation measures are

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			required, which are detailed in Section 13.6.2.1 of Chapter 13 of the EIAR. It should be noted that all turbines will have STE fitted as standard to reduce noise emission levels at source.
13	Noise and Vibration	Decommissioning	During the Decommissioning phase of the Proposed Development, noise levels are likely be no more than predicted in Table 13-11 in Chapter 13 of the EIAR. However, it is envisaged that decommissioning will be of shorter duration. Any legislation, guidance or best practice relevant at the time of decommissioning will be complied with. Construction and decommissioning are temporary day time activities.
14	Shadow Flicker	Construction	In line with guidance as outlined in Section 14.2 of Chapter 14 of the EIAR, it is proposed that each turbine is fitted with an automatic shadow detection system during turbine manufacturing. This is an embedded mitigation measure that will see that the turbines shut down during periods where shadow flicker is predicted at any of the identified receptors, until the potential for shadow flicker ceases. The control system will calculate, in real-time: • Whether shadow flicker has the potential to affect nearby properties, based on pre-programmed co-ordinates for the properties and turbines; • Wind speed, which can affect how fast the turbine will turn and how quickly the flicker will occur; • Wind direction; and • The intensity of the sunlight.

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			When the control system detects that the sunlight is strong enough to cast a shadow, and the shadow falls on a property or properties, then the turbine will automatically shut down; and will restart when the potential for shadow flicker ceases at the affected properties. It is intended that the measures outlined above, subject to safe shut down time of approximately 60 seconds, will eliminate the potential for shadow flicker to affect any of the properties within the study area. In the event that complaints of shadow flicker are received by the Developer / Site Operator or by Clare County Council, an investigation will take place and the complaints frequency, duration and time of complaints will be considered and specialist modelling software will be used to confirm the occurrence(s). Should the complaint persist, a shadow flicker survey involving the collection of light data will also be carried out at the property in which the complaint was made. Further refinement of the blade shadow control system will be conducted to eliminate the shadow flicker occurrence. This may result in the shutting off turbines at specific times of day.
15	Landscape and Visual Impact	Construction	Outside of those landscape and visual mitigation measures that formed part of the iterative design process of the Proposed Development over a number of years, and which are embedded in the assessed Project, other specific landscape and visual mitigation measures are not considered necessary / likely to be effective. Thus, the impacts assessed in Section 15.4, Chapter 15, are the equivalent of residual impacts in this instance.
15	Landscape and Visual Impact	Decommissioning	The Decommissioning phase will see a similar nature of effects to the construction phase due to the movement of heavy machinery within the Site, and to and from the Site removing turbine components. However, such effects will be temporary in duration and decreasing in scale as turbines are removed from view and the landscape is substantially reinstated to former uses. As

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			with construction stage impacts, Decommissioning stage effects are not considered to be significant.
16	Archaeology and Cultural Heritage	Construction	The topography and land use (wet ground, overgrown areas of rough pasture) precludes the use of geophysical survey in the non-forested / previously undisturbed areas. In addition, no specific sites of archaeological potential were identified on which to undertake advanced targeted archaeological testing. The ground conditions would also present difficulties for or preclude machine access for testing and potentially unsafe working conditions. Given the archaeological potential of these greenfield areas, a programme of archaeological testing will take place well in advance of construction, in areas where access is possible and conditions are deemed to be safe, to determine whether any features, finds or deposits are present. Where access and ground conditions preclude this, the testing will take place once site enabling works have commenced to allow access into the site and provide safe working conditions. A report on the results of the testing will be submitted to the relevant authorities. Any archaeological sites or features identified during testing will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance), following consultation with the National Monuments Service and the National Museum of Ireland. Archaeological testing under licence to the National Monuments Service of the Department of Housing, Local Government and Heritage (DHLGH) will be carried out at the following locations: • Proposed turbines WTG3, WTG6, part of WTG1 and associated platforms; • Proposed borrow pits;

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			• Proposed compound; • Proposed PRA at WTG6; • Sections of access track in greenfield areas. In addition, archaeological monitoring under licence to the National Monuments Service (DHLGH) of all earth-moving works during construction will be undertaken. The purpose of monitoring is to determine if any archaeological material or features are uncovered during ground disturbance works. In the event of the discovery of archaeological finds or remains, the DHLGH and the NMI will be notified immediately. Provision will be made to allow for, and fund any, archaeological work that may be needed if any remains are noted. If features are revealed, the immediate area will be investigated, allowing no further development to take place until the site is fully identified, recorded and excavated or alternatively avoided to the satisfaction of the statutory authorities. During the construction phase all mitigation measures will be undertaken in compliance with national policy guidelines and statutory provisions for the protection of the archaeological, architectural and cultural heritage.
16	Archaeology and Cultural Heritage	Operation	All physical cultural heritage impact issues will be resolved at the construction stage of the development. With regard to impacts on the settings of the ringfort in Drumbaun (RMP CL023-044) or from Kilfarboy Church, Graveyard and Holy Well (RMP CL031-008001 to -008003 & RPS 635), the effects cannot be mitigated due to the scale and size of the proposed turbines during the project life.

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17	Material Assets	Embedded	With due reference to the baseline assessments and the EIAR Scoping Report, the design of the Proposed Development has followed an iterative process which best accounts for the sensitivity of key material assets receptors. As a result of this, where possible, sensitive receptors have been avoided during the initial design of infrastructure components to minimise any potential impact which may arise from works associated with the construction, operational and decommissioning phases of wind farm development. Specific embedded or designed-in mitigation measures which have dictated infrastructure design, and which the developer has committed to implement in full, are outlined below. Those activities that still have the potential to cause potential impacts on the sensitive receptors after embedded mitigation has been accounted for and are outlined in Chapter 17 of the EIAR.
17	Material Assets	Construction	<u>Electrical Infrastructure</u> The successful contractor will be responsible for putting measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with ESB Networks. Ongoing consultation with ESB Networks will take place when any works in close proximity to ESB infrastructure is taking place, in addition, all works will be in compliance with any requirement or guidelines that the ESB may have including procedures to ensure safe working practices are implemented when working near ESB infrastructure such as overhead wires is taking place. <u>Telecommunications</u>

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			JC Mont-Fort are committed to working with telecommunications providers to resolve any interference which may potentially occur due to the Proposed Development, although it is not expected that there will be any effects on telecommunications during the construction phase of the Proposed Development. Contractors will be required to adhere to good practice measures outlined in the Construction Environmental Management Plan (CEMP) which accompanies this report, to prevent any impacts to telecommunications from occurring. <u>Television</u> JC Mont-Fort are committed to working with television service providers to resolve any interference which may potentially occur due to the Proposed Development. Contractors will be required to adhere to good practice measures outlined in the CEMP which accompanies this report, to prevent any impacts to television broadcasts from occurring. <u>Gas</u> No mitigation measures are required for gas infrastructure. <u>Water Supply and Wastewater</u> All wastewater during the construction phase will be taken off-site by an authorised waste contractor and brought to an authorised waste facility. Contractors will be required to adhere to good practice measures outlined in the CEMP which accompanies this report. <u>Aviation</u>

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			JC Mont-Fort will agree an acceptable aviation obstacle warning lighting scheme with the Department of Defence and IAA/AirNav Ireland ahead of turbine construction and will supply the coordinates and elevations for built turbines, as is standard for wind farm developments. After consultation with the Department of Defence, it has been requested that all turbines be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. JC Mont-Fort will adhere to this request and install the required lighting on each turbine in the Proposed Development. During the scoping consultation, the IAA also requested that JC Mont-Fort contact the IAA (should planning consent be granted) regarding; • Agreement of aeronautical obstacle warning light scheme for the Proposed Development, • To provide as-constructed coordinates in WGS84 format together with ground and blade tip height elevations at each wind turbine location and • Notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection. JC Mont-Fort also received a scoping consultation response from the Shannon Airport Authority, the response included the following requests: • JC Mont-Fort give consideration to the IAA Obstacles to Aircraft in Flight Order, 2005 (S.I. No. 215 of 2005), as amended. • JC Mont-Fort must ensure that the Proposed Development satisfies the requirements of the International Civil Aviation Organisation (ICAO) and Shannon Airport Authority DAC

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			which both have defined a volume of airspace above which objects are not permitted to interfere. • Shannon Airport Authority require the locations of the turbines based on GPS data plus Above Mean Sea Level (AMSL) data and stated turbine heights in order for them to undertake a series of obstacle limitation surfaces (OLS) assessment. • JC Mont-Fort must also engage with the Air Nav Ireland - ANSP to assess the possible impact of the Proposed Development on flight procedures and communications, navigation and surveillance equipment. • The Shannon Airport Authority also requested that JC Mont-Fort apply the Chapter Q (Visual Aids for Denoting Obstacles) of the Certification Specifications contained within the EASA Easy Access Rules for Aerodromes (current version – Dec'24) CS ADR-DSN.Q.851 Marking and Lighting of wind turbines (Regulation (EU) No. 139/2014) for the Proposed Development. JC Mont-Fort will ensure each of these requests from the IAA, Shannon Airport Authority and Department of Defence are satisfied through consideration of the requested guidance documents throughout the Proposed Development's lifetime and engagement with the relevant authorities as requested. <u>Waste Management</u> The construction phase of the development will have the potential to produce a number of different types of waste; municipal waste (site, canteen, office) and wastes from demolition/construction (wood, rubble, metal etc.) which must be processed at a local waste processing facility. Waste materials will be required to be temporarily stored on site whilst awaiting

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			collection from a waste contractor. There will be dedicated waste areas on site for skips, bins etc. In order to prevent spills and litter, the dedicated waste areas need to be clearly labelled and easily accessible to waste collection vehicles. Activities at the site will adhere to the guidance in the Waste Management Act 1996 and its subsequent amendments, this will ensure that waste management, recycling and recovery are carried out in a suitable manner. The Act also provides a regulatory framework for meeting higher environmental standards set out in other national and EU legislation. It is required under the Act that any waste related activity must have all necessary licenses and authorisations. The Waste Manager on the site will be required to make sure all contractors hired to remove waste from the site have valid waste collection permits to ensure that the waste is delivered to a licensed and permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations. Poor waste management has the potential to cause a short-term moderate negative effect. <u>Mitigation Measures</u> A Construction Waste Management Plan (CWMP) has been prepared and forms part of the Construction and Environmental Management Plan (CEMP) which accompanies this EIAR. The CWMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Proposed Development of waste will be a last resort. The mitigation measures associated with the CWMP can be found in the CEMP which accompanies this document.
17	Material Assets	Operation	<u>Electrical Infrastructure</u>

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			No mitigations are required for electrical infrastructure during the operational phase of the Proposed Development. <u>Telecommunications</u> Appropriate mitigation measures will be determined in consultation with the relevant authorities and statutory bodies. Following agreement, the identified measures will be implemented in accordance with regulatory requirements and best practice standards. <u>Television</u> Appropriate mitigation measures will be determined in consultation with the relevant authorities and statutory bodies. Following agreement, the identified measures will be implemented in accordance with regulatory requirements and best practice standards. <u>Gas</u> No mitigation measures are required for gas infrastructure during the operational phase of the Proposed Development. <u>Water Supply and Wastewater</u> All wastewater produced during the operational phase of the Proposed Development will be taken off-site by an authorised and fully licenced waste contractor and brought to an authorised and fully licenced waste facility for appropriate disposal. <u>Aviation</u>

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			As outlined in Section 17.5.2 of Chapter 17 of the EIAR, the requests of the consultees have been considered, and the required lighting will be installed on the turbines which will remain as a mitigation measure for the operational phase of the Proposed Development. <u>Waste Management</u> Once the Proposed Development is operational, minimal amounts of solid waste will be generated, which will be collected onsite and transported to a licenced disposal or recycling facility by a full licenced and permitted waste hauling contractor. Any hazardous materials such as gear and hydraulic oils used in the operation of the wind turbines and mineral oils used in transformers, will be disposed of in accordance with all applicable laws and regulations including those outlined in Chapter 2 of this EIAR and Section 17.1.1 of Chapter 17. This is outlined in greater detail in the CEMP which accompanies this report.
18	Major Accidents and Disasters	All	No specific or standalone mitigation measures have been proposed solely in relation to major accidents and disasters, as the risk assessment concluded that the likelihood and consequence of such events occurring as a result of the Proposed Development is, at most, low across all phases. However, a wide range of design features and mitigation measures have been incorporated throughout the Proposed Development to address potential hazards and to reduce residual risks to an acceptable level. These include: • Drainage design and surface water management measures as outlined in Chapter 10: Hydrology, Water Quality and Flood Risk and detailed in the FRA, to prevent off-site discharge,

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			minimise the risk of pluvial and fluvial flooding, and mitigate erosion or sediment mobilisation during construction and operation. • Peat stability risk mitigation, including the avoidance of infrastructure in high-risk areas, enforcement of safety buffer zones, and restrictions on peat stockpiling in sensitive zones, as set out in the PSRA and Chapter 9: Land, Soils, Geology and Hydrogeology. • Climate resilience design features in line with TII Guidance PE-ENV-01104, including structural and operational resilience of turbines, access roads and substations to projected future increases in wind speed, rainfall intensity and temperature extremes, as detailed in Chapter 12: Climate. • Pollution prevention and spill response controls, including bunded fuel storage, designated refuelling areas, and adherence to industry-standard practices for the handling of hydrocarbons, as described in the CEMP and referenced in Chapters 9, 10 and 11. • Controlled blasting procedures at the borrow pits (if required), implemented under a Blasting Management Plan to prevent structural damage or safety hazards during excavation works. • Fire safety and emergency response protocols, to be implemented under the Health and Safety Plan and Fire Safety Risk Assessment as required under the Safety, Health and Welfare at Work Act 2005, and as referenced in the CEMP and Chapter 17: Material Assets. • Traffic management and road safety controls, including a Construction Traffic Management Plan (CTMP), pre- and post-construction condition surveys, and haulage restrictions for abnormal loads, as described in Chapter 19: Traffic and Transport.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Decommissioning phase controls, to be implemented under a future Decommissioning Environmental Management Plan (DEMP), which will mirror the approach and controls set out in the CEMP to manage risks associated with dismantling and site restoration activities. All proposed mitigation and monitoring measures relevant to Major Accidents and Disasters are integrated into the topic-specific chapters of this EIAR and are summarised in Chapter 22: Schedule of Mitigation and Monitoring Measures. These measures collectively ensure that the Proposed Development is designed, constructed, operated and decommissioned in a manner that is resilient to external hazards and that minimises the risk of major accidents and disasters.
19	Traffic and Transport	Construction	The Construction Traffic Management Plan (CTMP) will identify measures to reduce the number of construction vehicles, as well as measures to mitigate the impact of vehicles. The CTMP will identify the programme of works, the agreed routes to Site and details of a Site Liaison Officer who will have responsibilities for managing traffic and transport impacts and effects. The CTMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. Prior to construction and once the Contractors have confirmed their suppliers, the CTMP will be updated in consultation with Clare County Council and An Garda Síochána as necessary. Potential measures could include (but are not limited to): • Immediately upon commencement, all deliveries, operatives and visitors to the Proposed Development Site will report to the security gate and be required to sign in and out. All Site visitors will undergo a Site induction covering Health and Safety issues at the Contractor's temporary compound and will be required to wear appropriate Personal Protective Equipment

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			(PPE) while onsite. This will be communicated to all early works contractors at their pre-start meeting; • The main contractor will develop a logistics plan highlighting the access point for the project, loading bay, pedestrian / vehicular segregation, welfare, storage, security and material handling that will be enforced following full site establishment; • Approved haul routes will be identified to the Proposed Development Site and protocols put in place to ensure that HGVs adhere to these routes; ○ Prior to delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána and Clare County Council Roads Departments to discuss the requirement for a Garda escort; ○ Abnormal loads are likely to travel at night and outside the normal construction times as may be required by An Garda Síochána. Local residents along the affected route will be notified of the timescale for abnormal load deliveries; ○ Works on public roads on the turbine delivery road and grid connection will be strictly in accordance with "Guidance for the Control and Management of Traffic at Road Works – 2nd Edition 2010" as well as "Traffic Signs Manual 2010-Chapter 8 - Temporary Traffic Measures and Signs at Roadworks". • All contractors will be provided with a site induction pack containing information on delivery routes and any restrictions on routes; • Temporary construction site signage will be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles;

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• A construction traffic speed limit (for example, 25 km/h) will be imposed through sensitive areas and on the wind farm site; • The construction material 'lay down' areas will allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 6 am and after 10 pm); • With consultation and agreement from Clare County Council, passing bays will be created on the L1074 in order to ease traffic movement on the route during the construction phase; • An integral part of the progress meetings held with all trade contractors will be the delivery schedule pro-forma. All contractors will be required to give details of proposed timing of material deliveries to the Site. At this stage, they will be given a specific area for delivery; • The CTMP and the control measures therein will be included within all trade contractor tender enquiries to ensure early understanding and acceptance / compliance with the rules that will be enforced on this project; • Under no circumstances will HGVs be allowed to lay-up in surrounding roads. All personnel in the team will be in contact with each other and with Site management, who in turn will have mobile and telephone contact with the subcontractors; • All vehicles accessing the wind farm site will either have roof mounted flashing beacons or will use their hazard lights; • Roads will be maintained in a clean and safe condition; • A wheel cleaning facility will be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network;

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• In addition, any dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise the creation of dust. Where conditions exist for dust to become friable, techniques such as damping down of the potentially affected areas will be employed; and • To reduce dust emissions, vehicle containers/loads of crushed stone will be covered during both entrance and egress to the Site.
20	Forestry	Construction	Considering the proximity of the site to the western coast and the underlying wet, peat soil, taller trees (circa ≥ 13 metres in height) will be at a risk of future windblow following keyhole felling. For the proposed felling for WTG2 and the access roading in plots C4, C6 and C9, where the trees are taller, additional felling around the infrastructure felling areas to windfirm edges is recommended to reduce the risk of potential wind damage. These felling areas will be outside the Proposed Development infrastructure felling footprint and will be replanted *in situ* once felled. This felling will be conducted following consultation/agreement between the developer and the respective forest owners and using existing felling licences if possible. Any areas not under a felling licence will be subject to a new felling licence application, and the trees will be replanted in situ around the wind farm within a period of two years, as required by the Forestry Act 2014. Plot P3, where felling for WTG5 and the associated roading and infrastructure is due to occur, would also be considered vulnerable to windblow and may also require additional felling to windfirm edges. However, the risk of adverse windblow encroaching deep into the stand may be tempered by the inconsistent tree growth at this location, with the stand featuring both open areas and areas where small trees are present.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			The enhancement of the existing forest drainage network on the Proposed Development site is also recommended in advance of any proposed harvesting works to promote better tree stability. **Harvesting and Removal of Trees** An overview of standard mitigation for tree harvesting works is provided below, based on existing standards and guidelines (DAFM, 2019; DAFM 2024b) - additional measures may be required as per felling licence conditions: • Proposed works to be carried out in strict adherence with all relevant standards/guidance: ○ Forest Biodiversity Guidelines (Forest Service, 2000a) ○ Forest Harvesting and the Environment Guidelines (Forest Service, 2000b) ○ Forestry and Water Quality Guidelines, (Forest Service, 2000c) ○ Forestry and Archaeology guidelines, (Forest Service, 2000d) ○ Forestry and the Landscape Guidelines (Forest Service, 2000e) ○ Forest Protection Guidelines (Forest Service, 2002) ○ Felling and Reforestation Policy (DAFM, 2017) ○ Standards for Felling & Reforestation (DAFM, 2019)

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			○ Environmental Requirements for Afforestation (DAFM, 2024) ○ Forestry Standards Manual (DAFM, 2024b) • Contingency plans to be designed according to Section 5 of the *Standards for Felling & Reforestation* (DAFM, 2019), and to be readily available and triggered if necessary. • Felling and extraction to cease during and after periods of rainfall that could result in the surface mobilisation of silt until conditions improve. • In advance of works, a safety statement to be issued, and the responsible forester to erect all relevant safety signage. Forester to also walk the Proposed Development site with contractors to highlight any environmental sensitivities or site risks. • Harvesting works to adhere to construction working hours as specified in the Construction Environmental Management Plan (CEMP). • On-site supervision to be present to ensure all harvesting operations are carried out according to standards, and to confirm mitigation measures are effective. • All relevant forestry harvesting exclusion zones (DAFM, 2019) to be identified and clearly marked on site maps and on the Proposed Development site before any works commence: ○ A 10 m-wide exclusion zone to be established from the edges of any aquatic zones, water hotspots or abstraction points.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			○ A 5 m-wide machinery exclusion zone to be established from the edges of any relevant watercourses. ○ An appropriate exclusion zone (≥ 20-30 m) to be observed from the outer edges of any archaeological features – See *Environmental Requirements for Afforestation* (DAFM, 2024). In the event an unrecorded archaeological feature is found during harvesting works, it must be immediately reported to the National Museum of Ireland or the Garda Síochána. A minimum exclusion zone of 20 m must be established around the feature until the site of the find has been investigated (Forest Service, 2000d). ○ An appropriate exclusion zone to be observed for any wildlife habitats present within the harvesting area – location of any habitats to be well known by all operators before works commence. • Prior to harvesting works, silt traps to be installed within existing forest drains that connect with aquatic zones, either directly or indirectly through other relevant watercourses. Silt traps to be constructed along the length of drains and to be monitored and maintained as required throughout works. • Storage, maintenance, and refuelling areas to be sited in dry and sheltered locations, at least 50 metres from aquatic zones and 20 metres from relevant watercourses. No rinsing of fuel, chemical or oil containers to occur on the site.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Harvesting machinery to be fitted with up-to-date spill kits to mitigate against an accidental spillage. • Temporary bridging points to be used where machinery routes must cross existing water features - direct crossing over a stream bed is not permitted. Water features to be crossed at a right angle to the flow of water and any crossing to be via an appropriate structure – see Standards for Felling & Reforestation (DAFM, 2019). Temporary bridging points to be removed as no longer required and relevant areas restored to their original condition, with due care afforded to avoid the release of any sediment or harvesting residues. • Any drains crossed during the extraction phase to be kept clear of residues/debris to ensure no drainage issues arise for the remaining trees – this can be a major attributor to windblow. • Works scheduled to occur near existing power lines to be conducted according to Section 7 of the *Forestry Standards Manual* (DAFM, 2024b) and the *Code of Practice for Avoiding Danger from Overhead Electricity Lines*[1]. • Dense brash mats to be laid along all machinery routes. Additional brash to be deployed on any sections of soft ground subject to high levels of machinery passage. Brash mats to be replaced as soon as they exhibit signs of wear.

[1] Code of Practice for Avoiding Danger from Overhead Electricity Lines

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Contractors to monitor machinery routes and to use extra brash where available to pre-empt the risk of soil damage. A new track containing a new brash mat layer to be promptly established where ground conditions begin to visibly deteriorate. • Harvesting machinery must not enter any exclusion zones: trees standing within an exclusion zone that are outside the reach of the harvester arm to be manually felled by an experienced chainsaw operator and removed by an extended harvester arm for processing and stacking outside of the exclusion zone. Trees to be directionally felled away from sensitive features. • It will typically be a condition of a felling licence that urea shall be applied to freshly cut conifer stumps where the soil is a mineral soil or where peat depth is < 25cm (excluding the litter layer): the urea should contain a non-toxic dye to aid the forester in confirming that all relevant stumps have been treated. Urea must not be applied to stumps within 10 metres of an aquatic zone or a relevant watercourse (DAFM, 2019). • Regular visual monitoring of relevant watercourses and aquatic zones to occur to check for any silt/sediment discharge from harvesting works. • Timber stacking areas to be located at least 50 metres from aquatic zones, and 100 metres from residential dwellings wherever possible. • Load sizes on forwarders to be monitored during timber extraction to ensure no overloading occurs.

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Hauliers to leave timber stacks in safe and stable condition during timber loading.
Any waste/hazardous materials that accumulate throughout operations to be carefully removed from the site once harvesting is complete.
Any harvesting debris evident within drains or silt traps to be removed.
Forest infrastructure to be inspected for signs of damage and to be repaired where necessary.

Compensatory Afforestation (Infrastructure Felling)

Forest Service policy outlines different tree removal scenarios (DAFM, 2017). Table 22-2 summarises the six main scenarios where permanent tree removal may be permitted, and whether alternative afforestation and/or the repayment of grants and premiums are required (where approved).

Table 22-2: Scenarios where permanent removal of forestry may be considered (DAFM, 2017)
<table>
<tr><th>Scenarios</th><th>Felling Licence application required?</th><th>Alternative Afforestation required?</th><th>Refunding of Grants & Premiums required?</th></tr>
<tr><td>1. Overriding environmental considerations (e.g. to protect habitats/species listed as qualifying interests within SPAs and SACs)</td><td>Yes</td><td>No</td><td>No</td></tr>
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<tr><th>Chapter no.</th><th>EIAR Topic</th><th>Phase</th><th>Proposed mitigation measures</th></tr>
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<tr><td>2. Supporting renewable energy and energy security (e.g. wind farm installation)</td><td>Yes</td><td>See Table 22-3</td><td>See Table 22-3</td></tr>
<tr><td>3. Commercial development (e.g. development of an industrial park)</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>4. Conversion to agricultural land</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>5. Public utilities (e.g. erection of an electricity power line)</td><td>No</td><td>No</td><td>Yes</td></tr>
<tr><td>6. Other land use change (may be considered on a case-by-case basis on application)</td><td>Yes</td><td>Case-by-case</td><td>Case-by-case</td></tr>
</table>
Note: Adapted from Felling and Reforestation Policy (DAFM, 2017), pp. 30. © Forest Service, Department of Agriculture, Food & the Marine.

The proposed felling for construction of the Proposed Development relates to ‘Scenario 2’ in Table 22-2 and would therefore require the submission of a felling licence to the Forest Service (DAFM). Table 22-3 illustrates the requirements for each category of tree felling associated with wind farm development.
</td></tr>
</table>

Table 22-3: Requirements of each felling category for wind farm development (DAFM, 2017)

Category of tree felling	Reforestation of Felled area required?	Alternative Afforestation required? (See Note 1)	Refunding of Grants & premiums required? (See Note 2)
Infrastructure felling	No	Yes	Yes
Construction felling	Yes	No	No
Turbulence felling (≤20 ha - for entire project)	Yes	No	No
Turbulence felling (>20 ha - for entire project)	Yes	Yes – 10% 0f turbulence fell area	No
Note 1: If 'YES', the alternative site must be an area equivalent in size (See Section 5.7 of the 'Felling and Reforestation Policy'). If the forest area proposed for permanent removal is still in receipt of premiums and/or is still in contract under the Afforestation Grant & Premium Scheme, the alternative site may be eligible under the Afforestation Grant & Premium Scheme.			
Note 2: If 'YES', the refunding of any afforestation grants and premiums already paid out by the Forest Service is required if the forest area proposed for permanent removal is still in receipt of premiums and/or is still in contract under the Afforestation Grant & Premium Scheme. Also, if 'YES' or 'NO', if premiums are still being paid, premium payments on the area will cease.			

***Note*: Adapted from Felling and Reforestation Policy (DAFM, 2017), pp. 33. © Forest Service, Department of Agriculture, Food & the Marine.**

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures

To facilitate the construction of the Proposed Development, 11.59 hectares of existing forestry will need to be permanently removed through infrastructure felling (Table 22-4).

Table 22-4: Proposed infrastructure felling areas for the Proposed Development

Infrastructure	Area of forestry to be removed (ha)	Felling Type	Alternative land required for compensatory afforestation (ha)
Access track/Cable trench	1.68	Infrastructure	1.68
WTG1	0.72	Infrastructure	0.72
WTG2	3.04	Infrastructure	3.04
WTG3	0.00	Infrastructure	0.00
WTG4	2.88	Infrastructure	2.88
WTG5	2.91	Infrastructure	2.91
WTG6	0.00	Infrastructure	0.00
Substation	0.36	Infrastructure	0.36
Total:	11.59		11.59

The Developer is fully committed to the compensatory afforestation of an equivalent area of alternative land(s) to ensure no net forestry loss occurs as a result of the Proposed Development. The afforestation of any alternative land will first be subject to written Technical Approval from the

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			Minister for Agriculture, Food & the Marine under the Forestry Act 2014, and in accordance with the Forestry Regulations 2017 (S.I. No. 191 of 2017). Technical approval will be sought, and a non-grant-aided afforestation licence application will be submitted to the Forest Service (DAFM) for all proposed alternative sites. The relevant details of alternative planting sites will be provided when applying for a felling licence for the project: address of alternative site(s); Forest Service pre-planting approval number(s); name and address of the owner of alternative site(s). The Forest Service may also require the developer to report on the reduction in productivity of the forest area associated with different wind farm forest management and landscape plans, and the potential loss of soil and biomass CO_2. The following will also apply with regard to the afforestation of any alternative land sites: • The proposed afforestation of alternative land must be evaluated and approved by the Forest Service under the Forestry Act 2014 (and associated Regulations) before an associated felling licence can be granted. • An application for Technical Approval to plant under the Afforestation scheme must be made online by a registered forester using DAFM's iFORIS iNET system: the Applicant and Registered Forester must complete all required forms, maps and declarations and compile any relevant supporting information for online submission. • All afforestation applications must be made up of a minimum of 20% broadleaf tree species by area. • The standard procedures regarding the evaluation of afforestation applications will generally apply, regarding protocols, referrals, Appropriate Assessment (AA) screening, EIA determination etc.

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• An afforestation licence granted by the Department is only valid up to and including the expiry date specified in the Technical Approval letter. • It will be a condition on the associated felling licence (where issued) that all alternative land approved for afforestation is planted and managed as forestry land, as per the relevant standards set out in the *Forestry Standards Manual* (DAFM, 2024b).
20	Forestry	Post-construction	**Replanting in-situ** To facilitate construction works for the Proposed Development, the temporary removal of 1.55 hectares of forestry is also required (Table 22-5). Once the construction phase for the Proposed Development is completed, the construction felling areas will be repaired and replanted *in situ*. It is envisaged that these areas will be replanted with the original tree species present - where these were purely conifer stands, a suitable native broadleaf component (e.g. as a 20% mixture) should be incorporated to increase the biodiversity value of the restocked areas.

Table 22-5: Proposed construction felling areas for the Proposed Development

Infrastructure	Area of forestry to be removed (ha)	Felling Type	Alternative land required for compensatory afforestation (ha)
Construction Compound	0.00	N/A	0.00
Borrow Pit #1	0.06	Construction	0.00
Borrow Pit #2	0.20	Construction	0.00
PRA 1	0.06	Construction	0.00
PRA 2	1.23	Construction	0.00
PRA 3	0.00	N/A	0.00
Total:	1.55		0.00

All associated replanting works to be conducted in accordance with the *Standards for Felling & Reforestation* (DAFM, 2019) and the Environmental *Requirements for Afforestation* (DAFM, 2024):

- Appropriate planting setback areas to be implemented as required (DAFM, 2024):
  - Aquatic zone:

Table 22-6: Aquatic zone setbacks (DAFM, 2024)

Slope leading to aquatic zone	Setback width	Setback width for soils with peat component or where within sub basin of high-status objective waterbodies
Moderate (even to 1-in-7 / 0-15%)	10 m	20 m
Steep (1-in-7 to 1-in-3 / 15-30%)	15 m	25 m
Very steep (1-in-3 / > 30%)	20 m	25 m

- Relevant watercourse or Water hotspot: **5 m**
- Water abstraction point: **20 m**
- Hedgerow: **5 m**
- Archaeology: **20 m / 30 m**
- Public roads (conifers): **20 m** (include a 10 m-wide broadleaf strip between a 10 m unplanted setback and the edge of the conifer planting)
- Public roads (broadleaves): **10 m**
- Residential dwellings: **60 m**
- Roofed Farm Buildings: **10 m**

Chapter no.	EIAR Topic	Phase	Proposed mitigation measures
			• Fertiliser or herbicide to be applied on a strictly where necessary basis only. • Granular fertiliser (if required) to be applied to conifers only in strict accordance with Section 13 of the *Standards for Felling & Reforestation* (DAFM, 2019). • Herbicide use, where required to control competing vegetation, to be in strict accordance with Section 13 of the *Standards for Felling & Reforestation* (DAFM, 2019) and to be limited to 1–2 applications during the first four years of tree growth. • Silt traps to be monitored and maintained throughout reforestation works and until the site has 'greened up' with new ground vegetation.

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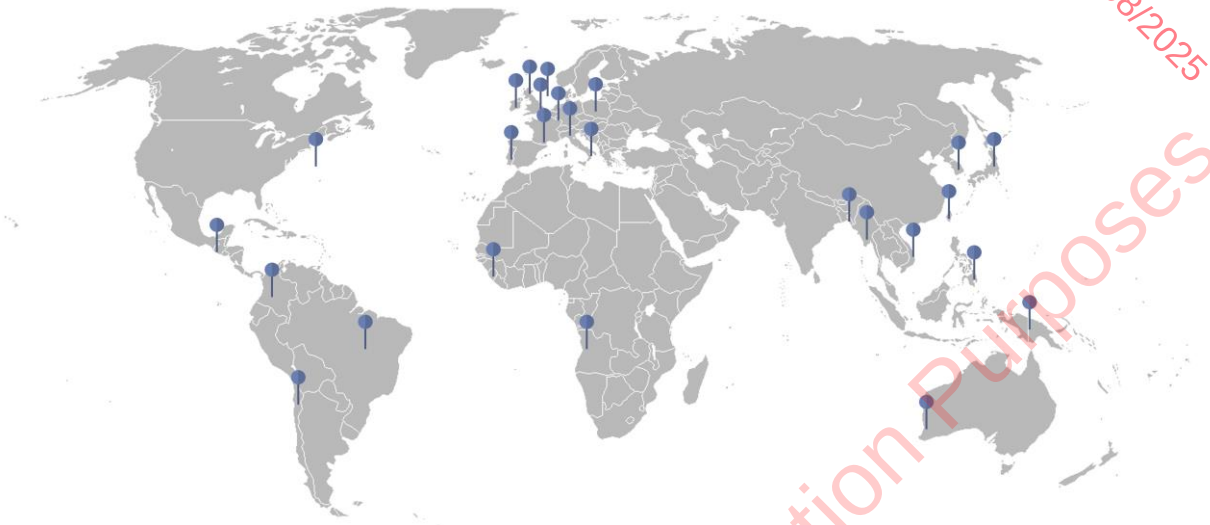

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