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Introduction

- 17.1 This chapter aims to collate and consolidate a Schedule of Mitigation Measures in respect of the Proposed Development. The Proposed Development, as fully described in **Chapter 2** of this EIAR, comprises an 8 No. Turbine wind farm and ancillary development, including new site access and internal access roads, a cable route and substation to connect with the national grid, as well as associated construction activities including development of two borrow pits for extraction of stone material for the works. The Proposed Development falls within the administrative boundaries between County Westmeath and County Meath. As set out in **Chapter 1** of this EIAR, the project is considered a Significant Infrastructure Development under relevant planning legislation, and the planning application is therefore being made to An Bord Pleanála.

Purpose of this Chapter

- 17.2 This chapter consolidates all the proposed mitigation measures within the proposed Knockanarragh Wind Farm Environmental Impact Assessment Report (EIAR) and is intended to assist An Bord Pleanála in its decision-making role and in identifying any necessary planning conditions.
- 17.3 The mitigation measures outlined are intended to fulfil the requirements of Article 8(a)(4) of the Environmental Impact Assessment (EIA) Directive 2014/52/EU which states:
'...Member States shall ensure that the features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment are implemented by the developer...'
- 17.4 The mitigation measures within this document are those outlined within the chapters of Volume II of the EIAR which will be implemented during specified phases of the development. Mitigation has also taken place through design and embedded measures, which have been outlined in **Chapter 2** of this EIAR and the relevant technical chapters, where appropriate. For example, bat mitigation buffers (see **Chapter 5**) have been adopted for each of the wind turbines proposed and capacity for adaptive management measures such as feathering of blades has been incorporated to the technology to be installed on site. Other mitigation measures for land use have been incorporated at preliminary design stage, through avoidance / prevention of unnecessary or inappropriate ground works or land use alterations. The construction footprint has been kept to the minimum necessary to avoid effects on existing land uses in so far as possible.
- 17.5 Compensatory and biodiversity enhancement measures have also been proposed to offset the loss of limited on-site habitats that were unavoidable.

Proposed Mitigation Measures

- 17.6 The Applicant proposes to implement all mitigation measures outlined below, except as may be required or altered by statutory bodies, in order to comply with conditions of consent.

Table 17-1 Proposed Mitigation Measures

Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
General	<p>A Construction and Environmental Management Plan (CEMP) will be implemented which will outline day to day works, methodologies and safety measures such as overhead and below ground clearance of electrical cables. The CEMP will be written to the highest best practice construction standards, and as a 'live' document, will continually be updated.</p> <p>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 development, the environment is protected, and any potential impacts are minimised. In the event that An Bord Pleanála (ABP) decides to grant approval for the Proposed Development the CEMP will be updated to include the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned by ABP.</p> <p>The contractor will be obliged under the construction contract and current health and safety legislation (Safety, Health and Welfare at Work Act 2005) to adequately provide for all hazards and risks associated with the construction phase of the Proposed Development.</p>	Prior to and during Construction
	Lightning conductors will be installed on each turbine as all structures standing tall in the sky require this protection. Turbines specifically require this to prevent power surges to electrical components. Turbines will also be fitted with ice detection systems which will prevent ice throw which can cause injury.	Construction
	For operation and maintenance staff working at the Proposed Development, appropriate site safety measures will be utilised during the operational and decommissioning phase by all permitted employees. All personnel undertaking works in or around the turbines will be fully trained and will use appropriate Personal Protective Equipment (PPE) to prevent injury.	During Operation and Decommissioning
	Should any maintenance involve construction type activities, mitigation measures will be adhered with the measures in the CEMP to avoid potential effects, including mitigation measures for excavation or stockpiled material. Decommissioning methods will also follow the CEMP, given the similar nature of works.	
	A site-specific Health and Safety Management Plan will be prepared for the decommissioning works.	Prior to and during Decommissioning

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Population and Human Health	<p>Details of the CEMP will be communicated to the public and other stakeholders through a community liaison officer, particularly in regard to activities which may impact on their properties or agricultural practices.</p>	<p>Prior to and during Construction</p>
	<p>Prior to the cable route installation works along public roads, all access points to domestic, business and farm properties shall be considered when finalising the temporary road closures.</p>	
	<p>Public safety will be addressed by restricting access to the public in the vicinity of the site works during the construction stage. Appropriate warning signs will be posted at the construction site, directing all visitors to the site manager. Appropriate signage will be provided on public roads approaching site entrances and along haul routes. Extra safety measures will be employed when large loads are being transported, for instance, Garda escort will be requested for turbine delivery and a comprehensive turbine delivery plan will be utilised to avoid potential impact to human safety for road users and pedestrians.</p>	
	<p>Access to the towers and the substation compound will be restricted to approved and appropriately trained personnel. The substation area will be enclosed by palisade fencing and will be remotely monitored and equipped with intruder and fire alarms, in line with ESB and EirGrid standards.</p>	<p>During Operation</p>
	<p>Rigorous statutory and engineering safety checks imposed on the turbines during design, construction, commissioning and operation will ensure the risks posed to humans are negligible. 24-hour remote monitoring and fault notifications are included as standard in the Turbine Operations and Maintenance Contracts. In addition to scheduled maintenance, the maintenance contracts will allow for call out of local engineers to resolve any issues as soon as they are picked up on the remote monitoring system.</p>	<p>All stages</p>
	<p>Fencing will be maintained at the site to ensure the risks of injury to the public and livestock is minimised.</p>	
	<p>Mitigation measures identified within the technical assessments and specified elsewhere in this Table will ensure that potential disturbance to the local community will be kept to a minimum.</p>	
<p>Private Water Supply (PWS) Action Plan is provided in the CEMP and includes an emergency hotline telephone number for householders so that they can contact the project with any concern regarding water quality or quantity.</p>		
Biodiversity	<p>A pre-construction walkover survey of the works corridor will confirm the presence of any invasive/non-native species that may have escaped into the area since the baseline surveys were conducted, particularly for cherry laurel and snowberry. A method statement will be prepared and followed in relation to cleaning machinery and avoidance of importing/spreading non-native species. Water used to disinfect the machinery will be intercepted and prevented from draining back into watercourses.</p>	<p>Prior to and During Construction</p>

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Biodiversity	<p>A suitably qualified Ecological Clerk of Works (ECoW) will be employed for the duration of the construction period. A pre-construction walkover survey of the site will be undertaken. This will search for mammal resting/breeding places and other protected fauna, which could change over time. If any are identified, then appropriate exclusion zone(s) will be implemented and construction activities timed to avoid sensitive periods, such as the breeding season or hibernation, as relevant.</p>	<p>Prior to and During Construction</p>
	<p>Along the Proposed Cable Corridor, immediately in advance of construction works, the ECoW will undertake a comprehensive survey of bridges / structures / trees with moderate to high bat roosting potential and emergence surveys will be carried out to determine if bats are present. Pre-construction roost surveys will be undertaken to identify and protect any bats occupying roosts in vegetation earmarked for removal. For any newly occupied roost sites, where vegetation removal is proposed, these surveys will inform a derogation license application process from the NPWS to undertake appropriate mitigation actions, as required, to ensure the conservation of bats. If emergence and roost inspection survey fail to detect bats then 'soft felling' will be implemented. This will be carried out in suitable weather conditions and at appropriate times of year (other than winter when they are hibernating).</p>	
	<p>Clearance of woodlands and uncultivated vegetation i.e. trees and hedgerows (including vegetation removal for creation/maintenance of bat mitigation buffers), will be undertaken outside the main breeding season from March to September inclusive,</p> <p>If other site clearance and construction activities are required to take place during the main breeding bird season, pre-commencement survey work will be undertaken to ensure that nest destruction and disturbance is avoided. This will include the implementation of disturbance-free buffers for common snipe (400 m) and Eurasian woodcock (500 m), which have been recorded breeding within the Main Wind Farm Development Site previously.</p> <p>Once vegetation has been removed from the works corridor, these areas will be retained in a condition that limits suitability for nesting birds for the remainder of the construction phase e.g. cover for ground nesting species will be made unsuitable by cutting vegetation or tracking over with an excavator, and</p> <p>A suitably experienced ecology will be employed for the duration of the construction period to make contractors aware of the ornithological sensitivities of the Proposed Development and to undertake surveys for nesting birds throughout the construction period, enforcing exclusion areas as required.</p>	
	<p>A buffer distance of 50 m will be implemented between watercourses, including the gravel ponds, and any proposed construction activities or infrastructure. Where the 50 m buffer cannot be provided at T1, mitigation measures identified in drainage report provided in Appendix 7-4 of the EIAR will be implemented.</p>	

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Biodiversity	To avoid damaging the roots of hedgerows and tree lines, root protection zones will be used. The root protection zone area will be equivalent to a circle with a radius 12 times the diameter of the tree's trunk at 1.5 m above ground level.	Prior to and During Construction
	For habitats, temporary fencing (paling with 25mm mesh) will be erected around the required site works to delineate the works area and minimise the potential for disturbance impacts outside of the works areas.	
	Measures contained within the CEMP and water management mitigation measures will prevent the release of any pollution/sediment.	
	Where possible, stockpiled material will either be seeded or appropriately covered.	
	The contractor will carry out regular visual inspections of watercourses to check for suspended solids in watercourses downstream of work areas.	
	Habitat management to limit common kestrel foraging activity around turbines in newly felled areas will be implemented i.e. this will deter kestrel to ensure no significant effects from collision on this species.	
	A range of flight activity surveys and collision monitoring (carcass searching) will be undertaken during breeding and non-breeding seasons in the first three years post-construction. If collision rates are below the predicted rate by the CRM, the monitoring will stop. If collision mortality for SPA birds occur, mitigation measures will be developed and adopted alongside further monitoring, to reduce the risk of collision to SPA birds. Mitigation and monitoring will be agreed with the planning authority prior to implementation.	During Operation
Turbine curtailment for birds will be implemented <u>if</u> the results of the proposed monitoring programme show there is a significant effect on bird populations.		
SuDS measures, such as lagoons and retention ponds, will attenuate run off to prevent run off and flooding issues, reduce sediment and pollutant volumes in run-off, and will provide suitable environments for wildlife.	All stages	
Water	Effluent and waste from onsite construction shall be captured and stored for offsite disposal by a licensed contractor. The system will be designed for approval by the EPA prior to the construction phase of the Proposed Development.	Prior to Construction

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Water	<p>Prior to the construction of the turbine foundation at T1, a groundwater monitoring borehole will be carried out to confirm the ground conditions and determine the depth of the groundwater.</p>	Prior to Construction
	<p>Should significant dewatering be required during the construction of the turbine base at T1, sheet piling will be placed between the construction area and the cSAC, so that there would be no change in the groundwater level at the River Boyne and River Blackwater cSAC. Details of options will be included in the CEMP.</p>	
	<p>Management of earthworks to reduce erosion and sediment will ensure no blockages of watercourses or drainage channels by doing the following:</p> <ul style="list-style-type: none"> • all stockpiled materials will be located out with a 50 m buffer from watercourses. • where possible, stockpiled material will either be seeded or appropriately covered. • water will be prevented as far as possible, from entering excavations such borrow pits. • clean and dirty water onsite will be separated • any silt-laden water will pass through a number of settlement lagoons and silt/sediment traps to remove silt prior to percolation to ground or discharge into the surrounding drainage system. • stockpiling of excavated material would be managed such that the potential contamination of down slope water supplies and/or natural drainage systems is mitigated / minimised. Temporary interception bunds and drainage ditches would be constructed upslope of the borrow pit(s) to prevent surface water runoff from entering the excavation. Swales would be implemented to convey and attenuate excess surface water flow away from borrow pit(s); • the amount of ground exposed, and time period during which it is exposed, will be kept to a minimum and appropriate drainage will be in place to prevent surface water entering deep excavations, specifically borrow pit excavations. • a design of drainage systems and associated measures to minimise sedimentation into natural watercourses will be developed - this may include swales, check dams, silt traps, buffer strips, silt fences, and infiltration trenches where appropriate. • silt/sediment traps, single size aggregate, geotextiles or straw bales will be used to filter any coarse material and prevent increased levels of sediment. Further to this, activities involving the movement or use of fine sediment will avoid periods of heavy rainfall where possible; and • construction personnel and the Principal Contractor will carry out regular visual inspections of watercourses to check for suspended solids in watercourses downstream of work areas. 	During Construction

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Water	<p>Mitigation for pollution prevention will include the following:</p> <ul style="list-style-type: none"> • refuelling will take place at least 50 m from watercourses and where possible it will not occur when there is risk that oil from a spill could directly enter the water environment, for example, periods of heavy rainfall or when standing water is present will be avoided. • a vehicle management plan and speed limit will be strictly enforced onsite to minimise the potential for accidents to occur. • drip trays will be placed under stationary vehicles which could potentially leak fuel/oils. • water will be prevented as far as possible, from entering excavations such as borrow pits. • areas of battery storage will be bunded and positively drained so that the quality of runoff can be monitored and contained if required. • procedures will be adhered to for storage of fuels and other potentially contaminative materials to minimise the potential for accidental spillage (e.g. stored in 110% bunded storage facilities); and • an appropriately sized spill kit(s) would be provided and maintained onsite, consideration would be given to suitable locations across the active areas of the site and to having vehicles including plant carry a spill kit. This kit would contain materials, such as absorbent granules and pads, absorbent booms and collection bags. These are designed to halt the spread of spillages and would be deployed, as necessary, should a spillage occur elsewhere within the construction compound. 	<p>All stages</p>
	<p>SuDS techniques shall be adopted as part of the Proposed Development to mimic pre-development runoff conditions and balance or throttle flows to the rate of runoff that might have been experienced prior to the development.</p>	
	<p>Areas of removed structures and/or vegetation will be reinstated prior to heavy rainfall to minimise the effect of silt, chemicals and contaminants from being washed into existing watercourses. This includes access routes, foundations, hardstanding areas and new structures.</p>	
	<p>To prevent pluvial flood risks:</p> <ul style="list-style-type: none"> • drainage systems will be designed to ensure that any sediment, pollutants or foreign materials which may cause blockages are removed before water is discharged into a watercourse. • onsite drainage will be subject to routine checks to ensure that there is no build-up of sediment or foreign materials which may reduce the efficiency of the original drainage design causing localised flooding. • the proposed drainage management systems will attenuate runoff rates and reduce runoff volumes to ensure minimal effect upon flood risk. 	

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Water	<ul style="list-style-type: none"> as per good practice for pollution and sediment management, prior to construction, section specific drainage plans will be developed, and construction personnel made familiar with the implementation of these. 	All stages
	Water quality monitoring will be carried out frequently during the construction phase to ensure none of the tributaries of the main channels are carrying pollutants or suspended solids.	
Land, Soils and Geology	Permission will be sought from the forestry service to replant lands to compensate the loss of forestry land within the Site area by replanting forestry at an alternative site within the state.	Prior to and during Construction
	To reduce localised erosion, areas of exposed soils and rock will be kept to a minimum by progressive restoration of final backfilled surfaces and covered where possible.	
	<p>When developing construction methodologies for works in all areas of peat:</p> <ul style="list-style-type: none"> Appropriately experienced and qualified engineering geologist/geotechnical engineer should be appointed during the construction phase, to provide advice during the setting out and construction phases of the works. Geotechnical Risk Register is developed and maintained by the appointed geotechnical engineer. A minimisation of “undercutting” of peat slopes, but where this cannot be avoided, a more detailed assessment of the area of concern by the geotechnical engineer would be undertaken. Methodologies will be developed as a contingency to minimise the effects to watercourses in the unlikely event of peat instability; and Use of floating track across areas of deep peat. 	
	<p>The following measures will be incorporated to reduce the risk of inducing peat landslide during construction:</p> <ul style="list-style-type: none"> Raise Health and Safety awareness of the peat environment at the site for construction staff by incorporating the issue into the site induction. Include peat slide risk assessment information (e.g. peat instability indicators, best practice and emergency procedures) in toolbox talks with relevant operatives e.g. plant operatives. Introduce a ‘Peat Hazard Emergency Plan’ to provide instructions for site staff in the event of a peat slide or discovery of peat instability indicators. For sections of track that require track side cuttings into peat, suitable support measures would need to be designed to maintain the stability of the adjacent peat terrain. 	

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
<p>Land, Soils and Geology</p>	<ul style="list-style-type: none"> • Refine/optimize the design through the pre-construction phase following completion of a detailed ground investigation; and • Develop methodologies to ensure that accelerated degradation and erosion of exposed peat deposits does not occur as the break-up of the peat top mat has significant implications for the morphology, and thus hydrology, of the peat (e.g. minimise off-track plant movements within areas of peat). 	<p>Prior to and during Construction</p>
	<p>In order to maintain hydrological conditions in consideration of peat stability around T1 and T3, the following requirements of the drainage measures should be met:</p> <ul style="list-style-type: none"> • Development of drainage systems that would not create areas of concentrated flow or cause over, or under-saturation of peat habitats. • Development of robust drainage systems that would require minimal maintenance. • Develop a robust design of drainage systems and associated measures (e.g. silt traps, etc.) to minimise sedimentation into natural watercourses. Method statements should be prepared in advance to mitigate against a slide occurring and should include, but not be limited to, the use of check dams and erosion protection to limit flows and prevent contamination of watercourses; and • Measures shall be put in place to ensure drainage systems are well maintained, to include the identification and demarcation of zones of sensitive drainage or hydrology in areas of construction, e.g. inclusion of maintenance regimes for drainage systems into a construction management plan or similar. <p>In order to maintain the current level or improve the stability of the peat mass on the slopes around the access track, the following principles will be adopted:</p> <ul style="list-style-type: none"> • Maintenance of existing drainage is critical; therefore, all existing drainage tracks must be maintained and where necessary, channelled below the proposed track construction. Upslope side drainage ditches to the track would be required on side-long ground; the ditches should be constructed with small dams and cross drains where necessary so that: • Water can pass below the track at regular intervals. • Scour and erosion is avoided in the side ditches due the limited volume and velocity, concentrated discharges to the peat on the down slope side of the track are avoided; • The camber of the track should encourage surface water to drain to the up-slope side drainage ditch. • Track gradients to be maintained at the recommended gradients from the wind turbine supplier, typically shallower than 1 v: 8 h to facilitate access by the large specialist vehicles for both construction and transport of the wind turbine components. The maximum acceptable gradients are usually defined by the appointed wind turbine manufacturer. 	

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Land, Soils and Geology	<ul style="list-style-type: none"> • Identify and mark all existing drainage features within the access track corridors; these drainage features should be maintained (not enhanced) during the construction and operational phases of the Proposed development. • Install cross drains at regular intervals to maintain interstitial groundwater flow through the peat mass below the tracks where track settlement could reduce the natural permeability. • Install additional drainage in areas up-slope to any track to prevent ponding and possible instability. • Install small dams at regular intervals along the track side drains to prevent significant water velocities in the side drains causing deep erosion in the peat. • Where track construction is required over peat areas in excess of 1m deep, this may be undertaken with a floating track construction, where the integrity of the peat allows. • Cut and fill should be avoided in peat greater than 1m deep if possible; if not, the following requirements on side long ground (across contours) should be adopted. • Excavate to a sound stratum. <ul style="list-style-type: none"> ○ The majority of construction surface's to be essentially horizontal with a slight fall to aid drainage. ○ Where the depth of cut is deemed unstable, employ a stepped or benched surface with the intention of minimising the exposed surface of the up slope cut face; ○ Protect all exposed peat surfaces from erosion and desiccation, by ensuring the integrity and moisture content of the peat is maintained; and ○ The top of cut slopes should be provided with a small bund to retain the peat to prevent desiccation and maintain the local stability of the peat. 	Prior to and during Construction
	<p>Measures shall be put in place to ensure drainage systems are well maintained, to include the identification and demarcation of zones of sensitive drainage or hydrology in areas of construction, e.g. inclusion of maintenance regimes for drainage systems into a construction management plan or similar.</p>	During Construction
	<p>Stockpiles will be evaluated and monitored and kept stable for safety and to minimise erosion.</p>	
	<p>Continue to use and update the 'Peat Hazard Emergency Plan' to provide instructions for site staff in the event of a peat slide or discovery of peat instability indicators. The Peat Hazard Emergency Plan should provide details on the frequency of proposed monitoring during operations.</p>	

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Land, Soils and Geology	Measures contained within the CEMP and water management mitigation measures will prevent the release of any potential ground contaminants through hydrological pathways.	All stages
	All aspects of the proposed backfilling works will be undertaken in accordance with relevant best practice environmental guidance published by the Environmental Protection Agency and other regulatory agencies. All activities will be undertaken in accordance with the provisions in the Waste Management Act (1996) as amended;	
Air and Climate	Internal access roads will be finished with graded aggregate and constructed prior to other major construction activities.	During Construction
	A water bowser will be available to spray work areas (wind turbine area and cable route) and haul roads, especially during periods of excavation works coinciding with dry periods of weather, to suppress dust migration from the site.	
	All loads which could cause a dust nuisance will be covered to minimise the potential for fugitive emissions during transport.	
	Gravel will be used at the site exit point to remove any dirt from tyres and tracks before travelling along public roads.	
	The access and egress of construction vehicles will be controlled to designated locations, along defined routes, with all vehicles required to comply with onsite speed limits.	
	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	
	Construction vehicles and machinery will be serviced and in good working order.	
	Wheel washing facilities will be provided at the entrance/exit point of the Proposed Development site.	
	The developer in association with the contractor will be required to implement a dust control plan as part of the CEMP.	
	Receptors which receive dusting and soiling from local routes entering the site; and dwellings directly adjacent to the cable route construction that experience dust soiling, where appropriate, and with the agreement of the landowner, will have the facades of their dwelling cleaned if required should soiling have taken place.	
All vehicles will switch off engines when stationary – no idling vehicles.		

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Air and Climate	To minimize severe weather risk at wind farms, the applicant will implement new lightning safety procedures and weather intelligence by monitoring real-time wind gust information and the forecast. An accurate wind forecast at altitude will be used to help decision-makers extend automatic shutoffs when more wind is in the near forecast.	During Operation
Noise	<p>Construction works traffic will be restricted to the approved access routes.</p> <p>All construction activities will adhere to good practice as set out in BS 5228.</p> <p>All equipment will be maintained in good working order and any associated noise attenuation such as engine casing and exhaust silencers shall remain fitted at all times.</p> <p>Where flexibility exists, activities will be separated from residential neighbours by the maximum possible distances.</p> <p>Construction plant capable of generating significant noise and vibration levels will be operated in a manner to restrict the duration of the higher magnitude levels.</p>	During Construction
	<p>A site management regime will be developed to control the movement of vehicles to and from the site.</p> <p>Those activities that may give rise to audible noise at the surrounding properties and heavy goods vehicle deliveries to the site will be limited to the hours 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays. Those activities that are unlikely to give rise to noise audible at the site boundary may continue outside of the stated hours. If turbine deliveries are required outside of the stated hours, it will be subject to agreement with the relevant planning authority and it would be ensured that vehicles on local roads do not wait outside residential properties with their engines idling, and that the local residents will be informed of any activities likely to occur outside of normal working hours.</p>	All stages
Shadow Flicker	In the unlikely event that significant effects occur, then technical mitigation such as shutting down turbines which are causing the effects when certain condition prevail. This can be done with a control module, which would be programmed to shut down turbines on specific dates and times when the sun is bright enough and when there is sufficient wind to rotate the blades.	During Operation

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Cultural Heritage	Pre-construction archaeological investigation, specifically strip, map and sample, has been proposed within the substation Site prior to construction activities which would destroy potential remains associated with the ringfort (ME023-010).	Prior to Construction
Material Assets	On grant of planning permission, a protocol will be signed between RTE/2rn to mitigate any interferences with broadcast services.	Prior to Construction
	Existing services will be identified before any excavations occur using cable detection tools, ground penetrating radar, trenches, and will be avoided.	
	Measures will be sought to reduce, reuse and recycle material used in the development.	All stages
Major Accidents and Natural Disasters	The Project Supervisor Construction Stage will be required to prepare an Environmental Incident and Emergency Response Plan which will provide emergency response contacts, reporting procedures, and procedures for dealing with all potential pollution incidents during the construction of the Project.	Prior to Construction
	The wind farm system will include a kill switch that can be operated at any time with an overriding manual shutdown system in case of an emergency.	During Operation
	In line with the Health Service Executive's Emergency Planning recommendations, any incident which may occur at the site which requires emergency services, incident information will be provided in the 'ETHANE' format: <ul style="list-style-type: none"> • Exact location, • Type of incident, • Hazards, • Access and egress, • Number of casualties (if any) and condition, and • Emergency services present and require. 	All stages

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Environmental Topic	Mitigation Measure Proposed	Timing of Implementation
Traffic	Trial run for abnormal loads prior to commencement of construction.	Prior to Construction
	<p>A full and detailed Construction Traffic Management Plan has been prepared, which includes measures such as:</p> <ul style="list-style-type: none"> • appropriate timing, permitting and community communication re turbine delivery/abnormal loads. • ongoing communication with local community in relation to traffic management. • diversion route to offset closure of L5542 to be kept to shortest duration possible. • all contractors to supply detailed method statements. • employment of contractors with experience in wind projects. • appropriate signage for safety and for use of preferred routes. • appropriate management and supervision of site traffic. • education and communication of drivers in relation to routes and exclusions. • provisions for safety and emergency access. • parking management; and • wheel and body wash to limit transfer of materials from site. 	During Construction