APPENDIX 20.1

MITIGATION MEASURES

Introduction

All mitigation and monitoring measures relating to the pre-commencement, construction, operational and decommissioning phases of the Project are set out in the relevant chapters of this EIAR.

All mitigation which will be implemented during the various phases of the Project are presented in **Table 20.1a** below. The mitigation measures have been grouped together according to their environmental field/topic and are presented under the following headings:

- Land Use
- Tourism
- Flora and Fauna
- Spoil Management
- Site Drainage
- Telecoms and other service interference
- Health and Safety
- Shadow Flicker
- Noise
- Waste
- Cultural Heritage
- Traffic
- Decommissioning

The mitigation proposals in the below format provides an easy to audit list that can be reviewed and reported on during the future phases of the Project. The proposal for site inspections and environmental audits are set out in the Construction and Environmental Management Plan (CEMP) which is included as **Appendix 2.1** of this EIAR. The tabular format in which the below information is presented, can be further expanded upon during the course of future project phases to provide a reporting template for site compliance audits.

All monitoring measures which will be implemented during the pre-commencement, construction, operational and decommissioning phases of the Project are outlined in **Table 20.1b**. All monitoring measures were set out in the relevant chapters of this EIAR. The monitoring proposals are presented in terms of the monitoring requirement, frequency of monitoring and the mechanism for reporting results where applicable. By presenting the monitoring proposals in the below format, it is intended

to provide a monitoring schedule that can be reviewed and tracked during all phases of the Project to ensure all required monitoring is completed as required.

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 would be submitted to the Planning Authority for written approval.

Table 20.1a: Summary of Mitigation Measures

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
Pre-Commencement Phase						
MM1	Land Use	Chapter 5: Population and Human Health	5.5.6 Land Use and Topography	Existing forestry tracks have been incorporated into the design to minimise the construction of new Site Access Roads and minimise the removal of forested areas. New Site Access Roads have been sensitively designed to minimise impact on forestry. Electricity cables will be installed underground in or alongside Site Access Roads to avoid and minimise negative impact.		
MM2	Tourism	Chapter 5: Population and Human Health	5.5.7 Tourism	For public safety, appropriate signage and safety measures will be put in place during construction and decommissioning activities.		
MM3	Flora and Fauna	Chapter 7: Bat Ecology	7.6.1 Embedded Mitigation	During the project's design phase, measures were taken to avoid significant impacts on the local bat populations. These efforts included: • reducing the initial layout of seven turbines to a final layout consisting of five turbines • relocating turbines which in part was to ensure avoidance of direct impacts on important bat features such as areas of high foraging social activity, and roost potential • Having a lower blade tip height of 42.5 m for turbine model Siemens-Gamesa SG155 • Relocating the substation and BESS • Reducing the level of habitat removal • Avoiding removal of moderate to high potential roost features • Avoid felling in areas moderate to high potential roost features • Using existing tracks and roads where possible • Siting new track and roads away from hedgerows and treelines		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Restrictions on construction works hours		
MM4	Flora and Fauna	Chapter 8: Ornithology	8.4 Embedded Mitigation	Minimising collision risk through design was one of the key considerations during the design process. This involved locating turbines away from breeding IOF territories and areas of regular flight activity, and a reduction in the number of turbines to account for increasing rotor size and the associated increased collision risk. Standard good practice measures will also be implemented during construction through adherence to a Bird Protection Plan to ensure compliance with relevant legislation protecting all breeding wild birds. As such, a Bird Protection Plan (BPP) will be produced prior to construction, to safeguard birds and ensure legislative compliance during all stages of the Proposed Development, a summary of which is provided below: **Bird Protection Plan** *Construction Phase* **Ecological Clerk of Works (ECoW)**: To ensure that mitigation measures are reactive to changing conditions on Site and compliance with legislation protecting breeding birds, a suitably experienced ECoW will be present to identify any potential constraints to Proposed Development works and provide advice to comply with all legislation relative to breeding birds during the construction phase. **Toolbox talk**: A 'toolbox talk' will be delivered prior to construction, and at regular intervals, by a suitably experienced ECoW to ensure that all contractors working on the Proposed Development are aware of ornithological sensitivities and relevant legislation. **Timing of works**: Given the anticipated construction period, some construction work will take place during the peak breeding season (March to August). No works will start during the breeding		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				season without first establishing the status of breeding birds within likely disturbance distances of the proposed works. **Vegetation removal**: Where possible, any removal of vegetation including grassland and moorland habitats, will take place outside of the breeding season. Any vegetation removal during breeding season will be subject to additional safeguards and nesting bird checks by the ECoW, with appropriate exclusion areas instated if any nests are located, following current disturbance guidance (Goodship and Furness, 2022). **Pre-construction Surveys**: Pre-construction surveys will be undertaken to identify the any breeding birds nesting within or close to working areas. Surveys will be undertaken by the ECoW, who will determine the scope of surveys required, which will be based on current disturbance guidance and professional judgement (Goodship and Furness, 2022). **Protection of nesting birds**: It is an offence to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird, and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. If any active nests are identified during pre-construction surveys which could be damaged or destroyed, an exclusion zone around the nest/breeding territory will be established which would be informed by current guidance (Goodship and Furness, 2022). No works will be permitted within the exclusion zone and no personnel or vehicles will be allowed to enter or pass through until the ECoW has confirmed that the nesting attempt has reached a natural conclusion. **Minimising disturbance from Site vehicles**: Where construction works are required during the breeding bird season, mitigation measures to limit the impact of vehicular disturbance will be implemented. This will include no idling of vehicles, appropriate speed restrictions and dust suppression measures on Site.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Operational Phase Routine maintenance required during operation is expected to be minimal, limited to small areas and of temporary duration. However, should significant operational works (for example widespread track upgrades or turbine replacement) be required during the breeding bird season, the mitigation measures outlined above for the construction phase will be implemented to ensure compliance with the relevant legislation. *Decommissioning Phase* As decommissioning works are likely to be of a similar nature and duration as construction activities, the mitigation measures outlined above for the construction phase will be implemented to ensure compliance with relevant legislation.		
MM5	Flora and Fauna	Chapter 9: Aquatic Ecology	9.6 Mitigation Measures 9.6.1 Embedded Mititgation	Within the design of the project good practice environmental and pollution control measures will be employed in accordance with current best practice guidance such as, but not limited to, the following: • CIRIA C532, 'Control of water pollution from construction sites: guidance for consultants and contractors' (2001). • CIRIA C741, 'Environmental good practice on site guide' (Kwan et al., 2023). • IFI (2016) Guidelines on Protection of Fisheries during Construction Works in and adjacent to waters. Inland Fisheries Ireland, Dublin. The project incorporates embedded mitigation aimed at minimising the potential impacts during the design phase. This includes the design principle of maintaining set-backs of 50 m for turbines and associated infrastructure from watercourses and utilising existing forestry access tracks where feasible.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				The project incorporates embedded mitigation aimed at minimising the potential impacts during the design phase. This includes the design principle of maintaining set-backs of 50 m for turbines and associated infrastructure from watercourses and utilising existing forestry access tracks where feasible.		
MM6	Peat Management	Chapter 10: Soil and Geology	10.6.1 Design Phase	The primary mitigation measure employed has been the design of the wind farm in terms of locating the turbines, access roads, material storage areas and other site infrastructure on agricultural lands and minor forestry, where the soils are extensively worked and drained, so as to be remote from residential and sensitive commercial properties. In order to reduce the impacts on geology, hydrogeology and slope stability, infrastructure has also been positioned within areas of thinner organic soils / soft ground and lower slope gradients away from designated watercourses and other sensitive features. Extensive work has already been undertaken at the preliminary design stage to apply risk avoidance by design which has included: • Extensive peat probing to screen for the presence of peat or other organic soil deposits across the site and layout takes this into account for the purpose of placement of wind farm infrastructure. No significant wind farm infrastructure will be constructed within 100m of peat bog of thickness greater than 0.50m. • Excavation of trial pit and advancement of boreholes to establish overburden and bedrock characteristics. • Relocation and micro-siting of turbines, hardstandings, access roads and other infrastructure based on the site assessments and geotechnical assessments in order to reduce ground risk associated with the proposed project. • The works have been designed and checked by geotechnical engineers, who are suitably qualified and experienced in excavation and earthworks design and construction methodologies.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				The following will also be implemented: • Any excavation and construction related works will be subject to a design risk assessment at detailed design stage to determine risk levels for the construction, operation and maintenance and decommissioning of the works. Identified impacts will be minimised by the application of principles of avoidance, prevention and protection. Information on residual impacts will be recorded and relayed to appropriate parties • A detailed method statement for each element of the works will be prepared by the Contractor prior to any element of the work being carried out. • Given that the works comprise a significant proportion of excavation and earthworks, suitably qualified and experienced geotechnical personnel will be required on site to supervise the works. • The Contract will require programming of the works such that earthworks are not scheduled during severe weather conditions.		
MM7	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.1 Water features	As a precautionary measure, and in accordance with the guidance previously adhered to for wind farm projects, buffer / exclusion zones to 'major' and 'minor' watercourses were adopted as constraints in the design layout, and for incorporation as a construction buffer in relation to construction activities in proximity to watercourses. Major watercourses are those where catchment within Site is >0.25 km^2. Minor watercourses represent tributary channels within the Site where the catchment area was less than 0.25 km^2. Avoidance measures (i.e. buffer or exclusion zones) have been developed in accordance with legislation and industry guidance outlined in this section. Maintaining intact buffer zones between infrastructure and water features allows:		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Protection of water quality by filtering runoff with riparian vegetation before it enters the watercourse; • Space for natural fluvial processes such as channel shape and planform adjustment, which help restore and maintain the natural dynamic balance of river systems and associated habitats; • Vegetation to be maintained and further establish to stabilise banks and reduce soil erosion; • Access for the maintenance and inspection of watercourses and for dealing with any residual risk of pollution incidents; and • Habitat for plants and animals to form part of a habitat network. The following publications include industry guidance around buffer exclusion zones to watercourses. The guidance relied on is relevant and similar in nature to the construction and operational activities for the Proposed Development: • In relation to works near water, IFI (2016) recommends buffers of at least 5 m from the watercourse, with bridge foundations recommended to be placed at least 2.5 m from riverbanks to prevent silt and other contaminants from entering the riparian habitat; • Regarding management of sediments and runoff from construction works, concrete/cement mixing, or washing areas, SEPA / NIEA (2018) recommends a buffer of 10 m from any watercourse, surface water drain, rock outcrop, or karstic sinkhole to prevent suspended solids or other pollutants from entering the water environment; • In relation to on-site storage and construction works, SEPA / NIEA (2018) recommends a buffer of 10 m from a watercourse or flood defence and 50 m from a well, borehole, or spring; • To mitigate potential impact of wind farm developments such as tracks, foundations, and borrow pits on the water environment, DAERA (2019) recommends buffers zones		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				of 10 m from surface watercourses, 50 m from water features not used for water supplies, and 250 m from designated wetlands and water features used for drinking water; • In relation to wetlands and groundwater dependent terrestrial ecosystems, SEPA, (2017) recommends a screening distance of 100 m from roads, tracks, and trenches, and 250m from borrow pits and foundations; suitable buffers taking into account ground cover, waterlogging, and slope should be proposed around sensitive receptors; • In relation to forestry works (in particular on upland and peat sites), DAFM (2023) recommends riparian buffer reflecting stream size, with buffers from 10 – 25 m; and • Regarding management of sediments and runoff from exposed ground in relation to agriculture, GAEC (2012) recommends buffers of up to 10 m in order to protect surface waters from pollution by suspended solids, and nutrient enrichment by organic / inorganic fertilisers. New infrastructure is designed to lie outside hydrological buffer zones for major and minor watercourses. This includes those elements of the works associated with earthworks and greatest potential for spillage or leakage of chemical pollutants, i.e.: • All turbine bases, crane pads and associated working areas; • Temporary and permanent spoil and peat repositories; and • Enabling works compound, substation, BESS, and construction compound, fuel and chemical storage areas and any other platforms. New permanent access tracks are to lie outside of buffer zones; with the exception of locations where proposed site tracks unavoidably cross over watercourses. Careful consideration has been given to the routing of access tracks in order to avoid / limit		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				crossing of watercourses. Where crossings are proposed, appropriate design measures shall be incorporated to control or reduce the potential effect of the Proposed Development on the receiving environment. Temporary track infrastructure (such as temporary widening and turning heads) that may encroach into buffers shall be managed through the use of additional surface water management measures. Development located within buffers includes drainage infrastructure due to their requirement to be located at natural low points often coinciding with watercourses. In instances where drainage infrastructure is located within buffers, construction works shall be managed through the use of additional surface water management measures. Protection of other drainage features will be managed during and following construction by means of diversion and / or temporary blocking (with prior settlement features upstream of, and outside, the drainage channel), using filtration check dams or similar, in order to prevent residual indirect potential pollution downstream caused by connectivity to downstream waterways.		
MM8	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.2 Abstractions	With regards to known or potential potable water abstractions identified in the previous screening assessment, the proposed infrastructure layout within the Site is such that no turbines and associated significant infrastructure are sited within 250 m of screened locations.		
MM9	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.3 Springs	The proposed infrastructure layout within the Site is such that no new development is sited within 100 m of springs for non-potable usage (refer to **section** Error! Reference source not found.). No f urther avoidance measure is required.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM10	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.4 Forestry	The ancillary forestry felling required to facilitate construction and operation of the Proposed Development will be limited to 13.41 ha felling of in the vicinity of turbines T01 and T05. In line with relevant guidelines i.e., 'Forest Harvesting and the Environment Guidelines' (DAFM, 2000) and 'Forestry and Water Quality Guidelines' (DAFM, 2000), a minimum 10 m buffer has been established between areas of felling and watercourses. No further avoidance / design measure is required.		
MM11	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.5 Floodplains	Drainage infrastructure to be installed ensures a standard of flood protection from surface water for the 1% AEP / 1 in 100-year rainfall event, including allowance for climate change. SuDS, comprising temporary drainage and silt management features will be constructed prior to earthworks (including preliminary or enabling works including felling) proceeding to construct any linear works (tracks / hardstanding areas / cable routes), turbine bases, and other infrastructure. Drainage will be provided to temporary earthworks. Permanent drainage will be installed in advance of or in parallel with completion of tracks and hardstanding areas; a planning design for permanent drainage is shown on drawings within **Appendix 11.1: Flood Risk and Drainage Assessment** and **Appendix 11.2: Surface Water Management Plan.** Temporary measures will include: • Temporary silt fences erected in areas where risk of pollution to watercourses has been identified e.g. track watercourse crossing locations and areas where tracks lie within watercourse buffer zones; • Installing temporary constructed settlement features such as sumps or settlement ponds / lagoons in areas where		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				water is to be discharged. Principles and design standards for sizing of treatment are stated in **Appendix 11.2**; • Upslope temporary cut-off drainage channels approximately parallel to the proposed track alignment installed in advance of any excavated cuttings for the track or turbine hardstanding areas; • Drains, natural flow paths and cut-off drain outlet locations will be identified and charted, in order to ensure that piped crossings can be installed in advance of or adjacent to the track construction; • Settlement ponds will be constructed in advance of commencing excavations for foundations and at any other locations where dewatering of reduced quality runoff is expected; and • Trackside drainage swales will be installed in parallel with track construction. Note that this may require that drainage swales are reformed on an ongoing basis as temporary track alignments are modified to their eventual finished design level. While risk of flooding given the nature of the GCR is not deemed significant, the Applicant will take a precautionary approach and adopt appropriate measures to avoid earthworks becoming inundated and potentially transporting sediment off-site into the water environment. Measures will comprise: • Routinely checking weather warnings and planning for adverse weather conditions; • Storing plant and materials in areas outside areas prone to flooding; • Implementing temporary drainage systems to alleviate localised surface water flood risk and prevent surface water ingress to the construction working areas; and		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Prevent obstruction of existing surface runoff pathways. The nature of the GCR (underground cable) and the methods used to cross watercourses (i.e., within existing bridge decks or by directional drilling) would have no potential to affect watercourse morphology, and so potential for effects at watercourse crossings are not considered further.		
MM12	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.2.1 Site Drainage Management and SuDS Design	The drainage manages flood risk to the Proposed Development, provides environmental protection and manages water quality and silt / suspended sediment, and avoids unnecessary disruption to existing hydrological patterns by adhering to the following principles: • Track and hardstanding drainage adopts SuDS principles and ensures that runoff from new track and hardstanding shall be reduced to the pre-development greenfield rate. The drainage system caters for protection for up to a 1 in 100-year / 1% AEP rainfall event including allowance for climate change; • The drainage plan adopts sub-catchments to manage runoff from the Proposed Development where sub-catchments mimic natural topography to avoid "crossing catchments" which could locally affect flood risk; • Drainage maintains existing overland flow routes and channels. Existing natural flow paths are maintained through the use of piped crossings under road alignments at natural depressions and at regular intermediate intervals; • Drainage minimises transporting rainfall runoff in long linear drainage swales by providing regular channel "breakouts", whereby water is encouraged to flow overland, thus maintaining existing natural hydrological patterns;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Drainage reducing surface water flow rates and volumes by attenuating runoff from tracks and hardstands "at source" by providing check-dams in swales, whereby the flow velocity and rate of discharge is artificially reduced to mimic natural properties. This provides an additional layer of protection rather than relying solely on "end of line" attenuation basins; and • Drainage provides attenuation and settlement ponds at main surface water discharge locations at end of drainage "runs", where runoff from significant new impermeable areas is treated and attenuated before being discharged, either by dispersal overland, or over a riparian zone adjacent to a watercourse. Drainage design will reduce chemical, silt and other suspended pollutant transport by providing a "treatment train" of two to three stages of pollutant removal to all surface water runoff, nominally by: • Ensuring that drainage swales are designed to convey flows at a low velocity by using a wide, flat-bottomed drain; • Providing settlement and filtration features in all linear drainage swales (check dams, filtration dams) to reduce flow velocity and encourage settlement; • Encouraging appropriate vegetation growth in the base of all linear drainage to provide additional filtration of water; • Providing settlement ponds at discharge locations in order to provide treatment to contaminated runoff prior to discharge; • Discharging surface water runoff over undisturbed vegetated ground, hence allowing any remaining silts and other pollutants to drop out of flows before entering the		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				watercourse (having the effect of polishing the runoff); and • Preventing the discharge of surface water runoff flows directly to existing watercourses or drainage. Discharges will be via SuDS and buffer zones which will act as a filter strip, allowing deposition of suspended solids and other pollutants.		
MM13	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.2.2 Drainage at Upgraded Tracks	The Proposed Development design includes the upgrading of sections of existing access track associated with the existing agricultural lands and commercial forestry workings. As such, the proposed upgrade works (maintenance of existing running surface and associated drainage) may encounter current track drainage which is locally significant in terms of drainage function. In these instances, additional mitigation measures will be deployed including placement of temporary silt barriers (e.g., check dams) within retained and replacement drains.		
MM14	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.2.3 Watercourse Crossings	Crossings are designed to accommodate the track width and minimise length of affected channel. Hydraulic design of crossings has been undertaken as per the guidance and requirements provided in CIRIA C786 "Culverts, Screen and Outfall Manual", with primary parameters as follows: • Width of the culvert will be greater than the width of the active drainage channel; • Alignment of the culvert will suit the alignment of the drainage channel, i.e. preserve the existing direction of flow; • The slope of the culvert will not exceed the slope of the bed of the existing drainage channel; • Detailed design of crossings will comply with OPW Section 50 guidelines, which will include providing		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				freeboard to design flood levels and ensuring no increase in flood risk elsewhere as a result of the bridge / culvert. Detailed hydraulic design of culverts and similar structures post permission is normal and accepted practice for wind farms in Ireland; and • Fisheries shall be protected by adopting the guidance stated in 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters' as published by Inland Fisheries Ireland (2016). Hydraulic design of crossings has been undertaken as part of this assessment. The GCR will require the crossing of 5 no. watercourses (3 no. bridges and 2 no. culverts) where there is insufficient cover to install the cable to ESB specification (450 mm cover to the top of ducts). At these locations Horizontal Direction Drilling (HDD) shall be employed. All other culverts to be traversed using standard 38kV Service / Culvert Crossing.		
MM15	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.2.4	The battery energy storage systems (BESS) comprise 20 no. lithium-ion battery energy storage containers. The storage containers are designed such that the batteries are within sealed units to ensure that a single cell thermal runaway will not propagate and result in multiple cell thermal runaways. In the very unlikely event there is loss of control of a battery cell container, the Proposed Development includes allowance for containment of spills including in the event where firefighting water (from an external source) is used to suppress fire or is used to cool adjacent battery containers. The approach is precautionary and presumes that the potential concentration of contaminants in water could reach a level that could cause potential environmental harm and seeks to entirely omit the potential pollutant pathway.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Measures adopted prevent vertical and lateral pathways to waterbodies. Runoff in the event of a firefighting event will be stored within the permeable subbase and an adjacent open lagoon/basin, with infiltration to ground prevented by installation of an impermeable liner to the subbase and lagoon, and control of outflows by a pollution control valve. Storage in the BESS subbase (c. 1013 sq. m x 0.5m deep x typical 30% voids, c. 150 cu.m storage), contained to the site by an impermeable membrane, will eventually drain via perforated pipes to a lagoon with a capacity of a further min. 80 cu.m capacity. Total containment storage within the site will exceed the minimum recommended volume (228cu m) required to contain water used for boundary cooling per National Fire Chiefs Council (UK) - Grid Scale Battery Energy Storage System Planning – Guidance for Fire & Rescue Services, which is adopted as the best applicable guidance in the absence of an Irish equivalent. Where loss of control is limited to a single BESS unit, fire suppression is by a mix of gas and internally supplied coolant by sprinkler which is self-contained. The drainage system is designed to give sufficient time to contain that water and allow for the arrangement of pumping facilities to remove the contaminated water from the network. Pumped firewater will be removed into suitable lorries which will transport this to a licensed facility for disposal.		
MM16	Land Use	Chapter 12: Landscape and visual	12.4 Mitigation Measures	The proposals have been designed to ensure that the turbines achieve the minimum setback distance of 720m from residential dwellings, and agreements are in place with regard to the four properties located within this.		
MM17	Land Use	Chapter 14: Material Assets and Other Issues	14.5.4 Mitigation Measures	A process of "Mitigation by Avoidance" to avoid or minimise impacts on agricultural land use has been incorporated into the design stage. The construction and operational footprint of the Proposed Development has been kept to the minimum necessary		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				to avoid impact on existing land uses and existing roads and tracks serving agricultural and forestry use have been used where possible. These mitigation measures will allow for the prevention of unnecessary or inappropriate ground works or land use alterations to occur and will avoid unnecessary soil compaction.		
MM18	Land Use	Chapter 14: Material Assets and Other Issues	14.6.4 Mitigation Measures	Where possible existing forestry tracks have been incorporated into the design to minimise the construction of new Site Access Tracks and minimise the removal of forested areas. New Site Access Tracks have been designed to minimise impact on forestry. Electricity cables will be installed underground in or alongside Site Access Roads to avoid and minimise negative impact. To ensure a tree clearance method that reduces the potential for sediment and nutrient runoff, the construction methodology will follow the specifications set out in the Forest Service Forestry and Water Quality Guidelines (2000) and Forest Harvesting and Environmental Guidelines (2000).		
MM19	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.7.9 Mitigation Measures	All electrical elements of the Development are designed to ensure compliance with electro-magnetic fields (EMF) standards for human safety. Compliance with the EMC Directive 2014/30/EU will mean that the electromagnetic emissions from devices used will not cause interference to other equipment. At pre-construction phase, an Electrical Interference Assessment shall be carried out.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				2rn transmission links: To address the potential risk of interference with two 2rn transmission links (Drogheda and Clermont Carn Transmitters), the developer has agreed to sign a protocol agreement with 2rn prior to construction, committing to restoring service to any end users that may have their service disrupted as a result of the proposed development. Examples of measures for restoration of service include technical solutions including re-alignment or replacement of TV antenna, re-tuning to alternative TV transmitters or provision of subscription free satellite television services can be implemented. Vodafone network: To address the likely risk of potential interference to existing link (Fresnel link) on the Vodafone network, a meeting was held with Vodafone on 31 Aug 2023 during which it was agreed to remove the two turbines likely to cause interference.		
MM20	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.8.5 Mitigation Measures	Mitigation by design and avoidance will minimise impacts on existing electricity networks. • Confirmatory drawings for all existing services will be sought upon consultation with ESB Networks. • Immediately prior to construction taking place, the area where excavation is planned will be surveyed by CAT scan (sub-surface survey technique to locate any below-ground utilities) and all existing services will be verified. Temporary warning signs will be erected. • The as-built location of the installed ducts will be surveyed and recorded using a total station/GPS before the trench is backfilled to record the exact location of the ducts. The co-ordinates will be plotted on as-built record drawings for the grid connection cable operational phase.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Clear and visible temporary safety signage will be erected all around the perimeter of the live work area to visibly warn members of the public of the hazards of ongoing construction works.		
MM21	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.9.6 Mitigation Measures	The IAA will be consulted and upon request, the turbine with the highest elevation above sea level (mOD) or turbines at the extremities of the Wind Farm Site, and any obstacle 100m or greater, will be installed with a warning light system under direct specification and in accordance with ICAO Annex 15. It should be noted that infra-red lights are not visible to the naked eye. The IAA and the Local Authority will be informed of the coordinates of the constructed positions of the turbines and the highest point of turbines or any infrastructure greater than 100m at least 30 days prior to erection. The IAA and Local Planning Authority will be notified at least 30 days in advance of intended crane erection. An aeronautical lighting scheme for the Proposed Development will be agreed and installed in consultation with IAA and Department of Defence. The following data will be supplied to the IAA airspace team and Department of Defence: • The WGS84 coordinates (In degrees, minutes and seconds) for each turbine • Height above ground level (to blade tip) and elevation above mean sea level (to blade tip) in both meters and feet. • Horizontal extent (rotor diameter) of turbines and blade length where applicable in both meters and feet.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Lighting of the wind farm and turbines and the type of lighting.		
MM22	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.10.4 Mitigation Measures	Existing tracks have been used where possible and the layout was designed to minimise the length of new track required in order to reduce the requirement for such stone material. Local quarries have been identified to reduce impact on transportation. The source quarry will be chosen based on stone which is chemically similar to that occurring at the Development. This will reduce hydrogeochemical impacts.		
MM23	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.11.6 Mitigation Measures - Utilities	The risk of working in close proximity to the gas line was taken into consideration when designing the project, the required setback distances outlined by Gas Networks Ireland (GNI) were adhered too for all site infrastructure[1], namely adherence to 2 times the turbine mast height from the nearest edge of a transmission pipeline and 10m from any excavation. Cable layout was designed to avoid any crossing of the gas pipeline. Pre-construction, GNI will be consulted to mark out the gas pipeline and wayleave. The layout has been designed to avoid excavation work within any Wayleave. However, in the highly unlikely scenario that any excavation is required within the wayleave demarcation, GNIs advice and approval must be sought. Such works can only proceed if consent, in the form of a valid Excavation Permit is granted by GNI.		

[1] Gas Networks Ireland: Code of Practice for Working in the Vicinity of the Transmission Network - Procedure No: AO/PR/127- Rev 3 Date: May 2021

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Pre-construction, an Electrical Interference Assessment to assess any interference from the use of handheld power assisted tools in the vicinity of the live network, will be completed and submitted to GNI, as per required by GNI Code of Practice referenced in previous paragraph.		
MM24	Health and Safety	Chapter 19: Major Accidents and Natural Disasters Appendix 11.2 Surface Water Management Plan	19.4.2 Mitigation Measures	In the unlikely event of a fire at a turbine, at the substation or Battery Energy Storage System (BESS), all personnel on site will meet at a designated fire point and emergency services will be contacted. Louth County Council is the fire authority providing a fire and emergency rescue service to the functional area of Louth County Council. For operations of an emergency nature under Section 26 of the Fire Services Act 1981, refer to Louth County council Fire and Rescue plan To mitigate the unlikely potential for contaminated water due to mixing of firefighting water with battery constituents, consideration has been given to potential for the need for firewater management at the battery storage site. Measures adopted at the site prevent vertical and lateral pathways to waterbodies. Runoff in the event of a firefighting event will be stored within the permeable subbase and an adjacent open lagoon/basin, with infiltration to ground prevented by installation of an impermeable liner to the subbase and lagoon, and control of outflows by a pollution control valve. Storage in the BESS subbase (c. 1013 sq. m x 0.5m deep x typical 30% voids, c. 150 cu.m storage), contained to the site by an impermeable membrane, will eventually drain via perforated pipes to a lagoon with a capacity of a further min. 80 cu.m capacity. Total containment storage within the site will exceed the minimum recommended volume (228cu m) required to contain water used		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				for boundary cooling per National Fire Chiefs Council (UK) - Grid Scale Battery Energy Storage System Planning – Guidance for Fire & Rescue Services, which is adopted as the best applicable guidance in the absence of an Irish equivalent. Where loss of control is limited to a single BESS unit, fire suppression is by a mix of gas and internally supplied coolant by sprinkler which is self-contained. The drainage system is designed to give sufficient time to contain that water and allow for the arrangement of pumping facilities to remove the contaminated water from the network. Pumped firewater will be removed into suitable lorries which will transport this to a licensed facility for disposal.		
Construction Phase						
MM25	Construction Traffic	Chapter 5: Population and Human Health	5.5.2 Construction Traffic	Although no long term significant effects have been predicted, the proposed mitigation measures have been incorporated into the design to maintain the highest standard of road safety, minimise delay and disruption to all public road users, and to comply with statutory regulations • Prior to delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána, TII, PPP operators and all relevant Local Authorities to obtain all necessary abnormal load permits and discuss the requirement for a Garda escort. The Applicant will also outline the intended timescale for deliveries and efforts can be made to avoid peak times such as school drop off times, church services, peak traffic times where it is considered this may lead to unnecessary disruption, and abnormal loads may travel at night and outside the normal construction times as may be required by An Garda		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Síochána. Local residents at sensitive locations along the affected route will be notified of the timescale for abnormal load deliveries. • Prior to delivery of abnormal loads, the Applicant or their representatives, will consult with TII, PPP operators and all Local Authorities through which the abnormal loads will pass and agree the specification for any enabling works to be carried out on the Turbine Delivery Route. • Prior to the delivery of turbine components, a survey of the Turbine Delivery Route will be undertaken to identify if any overhead lines or height restrictions at toll booths will need to be lifted along the route to allow abnormal loads such as tower sections and nacelles to be delivered. • Prior to the delivery of turbine components, a trial run shall be carried out between the Port of Galway and the Proposed Development entrance using an abnormal load vehicle with a retractable load gauge to determine that abnormal load vehicles can transverse the route without undue delay and disruption to public road users. • During the construction and decommissioning phases, road works signs in accordance with the requirements of Chapter 8 of the Traffic Signs Manual will be erected at all the Proposed Development entrances and at all locations on the Grid Connection route and Turbine Delivery Route which are being modified to facilitate		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				turbine delivery. Details of signage if given in the Traffic management plan in Appendix 15-2. • Wheel cleaning equipment will be used at all site entrances with the public road to prevent any mud and/or stones being transferred from Site to the public road network. All drivers will be required to see that their vehicle is free from dirt and stones prior to departure from the Site. • To reduce dust emissions, vehicle containers/loads will be covered during both entrance and egress to the Site where required. • All 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 may be employed. • Access to the construction site will be controlled by on Site personnel and all visitors will be asked to sign in and out of the Site by security/Site personnel on entering and exiting the site. • 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.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• A condition survey of the road network in the vicinity of the site entrances will be carried out and agreed with Louth County Council prior to any works being carried out on site. • All works on the public road network will be carried out using an approved road opening licence and traffic management plan. • All wind farm vehicles shall have roof mounted flashing beacons when working on the public road network or will use their hazard lights within the Site. • A speed limit of 25 km/h shall apply to all vehicles within the Site.		
MM26	Land Use	Chapter 5: Population and Human Health	5.5.6 Land Use and Topography	The construction works will be planned and controlled by a Construction and Environmental Management Plan (CEMP). The public and other stakeholders will be provided with updates on construction activities which will affect access to lands. This will be communicated to members of the public through a community liaison officer employed for the duration of the construction period.		
MM27	Land Use	Chapter 5: Population and Human Health	5.5.7 Tourism	There is one existing walkway/trail located on the Wind Farm Site along the forestry track located at T01. Pedestrian access will be maintained where possible during the construction and decommissioning phases.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM28	Health and Safety	Chapter 5: Population and Human Health	5.5.8.1 Human Health and Safety Construction and Decommissioning	All construction staff will be adequately trained in health and safety and will be informed and aware of potential hazards. All activities carried out by the appointed Contractor on the Proposed Development will be in accordance with the requirements of the Safety, Health and Welfare at Work Act 2005 as amended and Regulations made under this Act. All hazards will be identified, and risks assessed prior to any construction. The Health and Safety Manager will monitor the construction phase of the project and ensure works are being carried out in accordance with the agreed method statements, safety procedures and pollution control measures, as outlined in the Construction Environmental Management Plan (CEMP), Appendix 2.1 to the EIAR. The CEMP is a live document that is reviewed and updated as required throughout the live cycle of the project works. Safe Pass (a mandatory safety awareness training programme for construction workers) registration cards are required for all construction, delivery and security staff. Construction operatives will hold a valid Construction Skills Certificate Scheme card where required for activities such as Scaffolding, Tower crane operation etc. The Developer is required to ensure a competent contractor is appointed to carry out the construction works. The Contractor will be responsible for the implementation of procedures outlined in the Safety & Health Management Plan. Where elimination of the risk is not feasible, appropriate mitigation and/or control measures will be followed. The contractor will be obliged under the construction contract and current health and safety legislation to adequately provide for all hazards and risks associated with the construction phase of the project.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Public safety will be addressed by restricting access to the public in the vicinity of the site works during the construction stage. The construction site will be temporarily closed in sections to the public for the eighteen months construction period. This measure aims to avoid potential injury to members of the public as a result of construction activities. Appropriate warning signage will be posted at the construction site entrance, directing all visitors to the site manager. Appropriate signage will be provided on public roads approaching site entrances and along haul routes. In relation to the turbine delivery route, 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. Once mitigation measures, including health and safety measures are implemented and followed, the potential for impact on human health for members of the public and construction workers during construction of the proposed project is expected to be not significant and temporary to short-term.		
MM29	Health and Safety	Chapter 5: Population and Human Health	5.5.9.1 Accidents/Disasters (incorporating Health and Safety)	As required under the Safety, Health, and Welfare at Work (Construction) Regulations 2013, the Client shall appoint a Project Supervisor for the Design Process (PSDP) and a Project Supervisor for the Construction Stage (PSCS). The PSDP shall compile a Preliminary Safety and Health Plan (PSHP), which details general information about the project and envisaged health and safety risks. The PSHP shall be made available to the		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				PSCS. The PSCS shall develop a Construction Stage Health and Safety Plan (CSHSP) which incorporates the information contained in the PSHP and details how safety and health will be managed during the construction of the project. The PSCS may also develop the following documents for the construction stage: • Construction and Environmental Management Plan • Emergency Response Plan • Detailed Traffic Management Plan The PSDP shall ensure the General Principles of Prevention are taken into account for all designs relating to the project.		
MM30	Flora and Fauna	Chapter 6: Biodiversity	6.5.2 Mitigation for Habitats	Habitat losses will be offset through a Biodiversity Enhancement and Management Plan (BEMP). The objectives of the Plan are as follows: **Objective no. 1** To preserve and enhance existing wetland habitat, rated as of National Importance, by removal of grazing and control of spread of gorse scrub to offset the loss of wet grassland, and to comply with Policy Objective NBG 20 of Louth County Development Plan 2021-2027. **Objective no. 2** To offset the loss of hedgerows by a tree and shrub planting programme. **Objective no. 3** To enhance habitat for bats and to offset loss of hedging and forest edge due to implementation of bat buffers at turbines. The achievement of the objectives will be evaluated through a detailed monitoring and reporting programme.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				It is anticipated that with the implementation of the BEMP, the overall ecological value of the Site will increase over time, with benefits not just for habitats and bats but also birds, mammals and invertebrates. The loss of a relatively small area (500 m^2) of wet grassland along the western edge of the Drumshallon wetland system will be offset by the enhancement of a considerably larger area of similar habitat within the BEMP area. The permanent loss of hedgerows to facilitate the Proposed Development will amount to an estimated 301 m. An additional loss of 249 m (maximum) will be lost as a result of the implementation of bat buffers at the turbines. With an average hedgerow width of 3 m, this equates to 1,650 m^2 (0.165 ha). The loss will be offset by the planting of 0.52 ha of broadleaved woodland (which includes mitigation planting for bats). The plantings will include a mix of species ranging from oak to hazel and hawthorn, and, apart from some beech which is included specifically as mitigation for bats, will be native species of certified Irish genetic stock.		
MM31	Flora and Fauna	Chapter 6: Biodiversity	6.5.3 Drumshallon Lough Wetland System	Supervision by ECoW when track construction is in progress so as to minimise disturbance of adjoining wetland ground on the eastern side. Use of stone of similar chemical composition for track bases in area of wetland. To mitigate potential impact of wind farm developments such as tracks, foundations, and borrow pits on the water environment,		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				DAERA (2019) recommends buffers zones of 10 m from surface watercourses, 50 m from water features not used for water supplies, and 250 m from designated wetlands and water features used for drinking water; In relation to wetlands and groundwater dependent terrestrial ecosystems, SEPA, (2017) recommends a screening distance of 100 m from roads, tracks, and trenches, and 250m from borrow pits and foundations; suitable buffers taking into account ground cover, waterlogging, and slope should be proposed around sensitive receptors;		
MM32	Flora and Fauna	Chapter 6: Biodiversity	6.5.5 Badger	As distribution of local populations can change over time, should more than 24 months have elapsed by the commencement of construction since the baseline surveys in 2023-24, a pre-construction confirmatory survey will be undertaken in accordance with NRA Guidance (2006). This will focus on the areas of the site where works will take place (to a distance of approximately 100 m). Should an active sett be located within a 50 m distance of the works area, mitigation would be necessary to ensure that the sett is closed prior to the commencement of any works onsite. This procedure would be carried out in strict accordance with relevant legislation.		
MM33	Flora and Fauna	Chapter 6: Biodiversity	6.5.6 Common from and common lizard	Areas where construction works are due to commence during the period February to August will be checked by the ECoW for the presence of frog spawn, tadpoles and adult frogs. If present, these will be removed prior to the commencement of any construction works in the area under licence from NPWS and		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				transferred to suitable drains or wetlands in the vicinity and away from the construction footprint. The common lizard was recorded in the areas of open scrub and shallow soils in the location of Turbine T04. The ECoW will be aware of the likely vigilant to the presence of this species and will review the work areas by visual inspection prior to the entry of plant machinery. Should a lizard be observed, it will be retained in a suitable container and released in similar habitat away from the construction foot-print.		
MM34	Flora and Fauna	Chapter 6: Biodiversity	6.5.7 Invasive plant species	During construction, the following best practice measures will be implemented: • Where the presence of an invasive species is identified, the treatment and control of same will follow guidelines issued by the National Roads Authority - The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads (NRA 2010). • Good construction site hygiene will be employed to prevent further introduction of invasive plant species and/or spread of sources within the site to outside areas, by thoroughly washing vehicles prior to entering site and prior to leaving site. • Any soil or topsoil required on the site will be sourced only from a stock that has been screened for the presence of invasive species		
MM35	Flora and Fauna	Chapter 7: Bat ecology	7.6.2.1 Indirect effects – Habitat Loss	Where the working area intersects a hedgerow, where practicable the hedgerow will be reinstated and replanted with similar species or native species of Irish provenance. This will maintain connectivity of the linear features for use by bats. Where the loss is permanent, additional areas of hedgerow will be planted within		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				appropriate locations within lands under the control of the applicant. To offset each loss of bat commuting and foraging habitat and to adhere to a biodiversity net gain approach, areas for compensatory habitat enhancement and replanting have been established and are outlined in the BEMP. Planting in this area will be approximately 0.5 ha in length. The regime and species will attempt to replicate the tree line north of T5 in terms of species composition. It compensation area will be planted as an extension to the north of the western end of the treeline, outside of all turbine felling buffers. The planting will be a mix of tree species in the identified compensatory habitats to offer a more resilient and holistic approach compared to relying solely on bat boxes (Reason & Wray, 2023). Additionally, the approach will include early senescent fruit trees in the species mixes, as they provide roosting features for bats more quickly than other tree species (Reason & Wray, 2023). Tree lines and mature trees that are located immediately adjacent to proposed access routes will be avoided and retained intact. Overall impacts on these areas have been reduced through modified design and sensitivity. Retained trees will be protected from root damage by an exclusion zone of at least 7 metres or equivalent to canopy height (whichever is greatest). Such protected trees will be fenced off by adequate temporary fencing prior to other works commencing. No works or material storage will take place within the root protection areas.		
MM36	Flora and Fauna	Chapter 7: Bat Ecology	7.6.2.1 Indirect effects – Disturbance and	Construction work will take place between 07:00 and 19:00 throughout the week with some operations taking place outside		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
			displacement with ALAN and noise	these hours when needed. Where lighting is required, the following mitigation will be employed. Lighting will be designed in accordance with EUROBATS 'Guidelines for the consideration of bats in lighting projects', as well as Bat Conservation Trusts' 'Bats and Artificial Lighting at Night: Guidance Note 08/23' (EUROBATS, 2018; BCT, 2023) and lighting mitigation included in the 'Bat mitigation guidelines for Ireland v2' by Marnell et al. (2022). Measures are proposed to reduce the potential for light spill impacts from temporary construction lighting, along hedgerows, treelines, scrub and grassland habitats: • Motion sensors / timer triggers used where possible; • Column heights kept to a minimum as practicable; • Lighting directed only to areas where lighting is needed (avoid unnecessary light spill); • Luminaires used to prevent light spill; • Warm colour temperatures used where possible (2700K or less); • Cowls, louvres, hoods or baffles used to direct lighting; and • No upward facing lighting. While the noise chapter (Chapter 13: Noise and Vibration) will implement mitigation measures for noise, there are no measures directly associated with reducing impacts to bat species. However, with the implementation of measures such as those outlined below, impacts to bats will be significantly reduced. • All ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Machines will be shut down between work periods (or when not in use) or throttled down to a minimum. • Regularly maintain all equipment used on site, including maintenance related to noise emissions. • Vehicles will be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and • All ancillary plant such as generators and pumps will be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures will be provided.		
MM37	Flora and Fauna	Chapter 8: Ornithology	8.4 Embedded Mitigation	Standard good practice measures will be implemented during construction through adherence to a Bird Protection Plan to ensure compliance with relevant legislation protecting all breeding wild birds. These measures will cover all aspects of the Proposed Development, including Grid Connection routes. This will help to reduce impacts on IOFs and other ornithological features. Under the Wildlife Acts 1976 and 2000 (as amended) it is an offence to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird, and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. As such, a Bird Protection Plan (BPP) will be produced prior to construction, to safeguard birds and ensure legislative compliance during all stages of the Proposed Development, a summary of which is provided below. *Construction Phase* **Ecological Clerk of Works (ECoW)**: To ensure that mitigation measures are reactive to changing conditions on Site and compliance with legislation protecting breeding birds, a suitably experienced ECoW will be present to identify any potential constraints to Proposed Development works and provide advice		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				to comply with all legislation relative to breeding birds during the construction phase. **Toolbox talk**: A 'toolbox talk' will be delivered prior to construction, and at regular intervals, by a suitably experienced ECoW to ensure that all contractors working on the Proposed Development are aware of ornithological sensitivities and relevant legislation. **Timing of works**: Given the anticipated construction period, some construction work will take place during the peak breeding season (March to August). No works will start during the breeding season without first establishing the status of breeding birds within likely disturbance distances of the proposed works **Pre-construction Surveys**: Pre-construction surveys will be undertaken to identify the any breeding birds nesting within or close to working areas. Surveys will be undertaken by the ECoW, who will determine the scope of surveys required, which will be based on current disturbance guidance and professional judgement (Goodship and Furness, 2022). **Protection of nesting birds**: It is an offence to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird, and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. If any active nests are identified during pre-construction surveys which could be damaged or destroyed, an exclusion zone around the nest/breeding territory will be established which would be informed by current guidance (Goodship and Furness, 2022). No works will be permitted within the exclusion zone and no personnel or vehicles will be allowed		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				to enter or pass through until the ECoW has confirmed that the nesting attempt has reached a natural conclusion. **Minimising disturbance from Site vehicles**: Where construction works are required during the breeding bird season, mitigation measures to limit the impact of vehicular disturbance will be implemented. This will include no idling of vehicles, appropriate speed restrictions and dust suppression measures on Site.		
MM38	Flora and Fauna	Chapter 9: Aquatic Ecology	9.6.2.1 Mitigation by Avoidance	A key mitigation measure during the construction phase is the avoidance of hydrological features, by the implementation of buffer zones (i.e. 50 m to main watercourses, and 10 m to main drains) except for the watercourse crossings, road development and drainage measures as detailed on the Water Quality Management Plan. The proposed buffer zone will avoid physical damage to watercourses and associated release of sediment; and also avoid the entry of suspended sediment from earthworks into watercourses. The site compound and any temporary soil storage areas will also be located at a minimum distance of 50 m from any watercourse. No crossing of rivers or streams by machinery will be permitted, all machinery must stay within the designated routes. In addition, roadside drains will not discharge directly into watercourses, but rather through a riparian buffer area of intact vegetation as denoted on design drawings. Work in or near water is expected to be limited to construction of drainage outfalls and pre-construction felling. No plant maintenance will be completed on-site, with any broken-down plant removed from site to be fixed. All machinery will be serviced before being mobilised to site and will be fully maintained and routinely checked during operation to ensure no leakage of		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				oils or lubricants occurs. All fueling of machinery will be undertaken at a discrete "fuel station" designated for the purpose of safe fuel storage and fuel transfer to vehicles (see Section 2.7.3 in Chapter 2 of the EIAR). Mobile bowsers, tanks and drums will be stored in secure, impermeable storage area, away from drains and open water; and, where necessary, fuel containers will be stored within a secondary containment system e.g. bund for static tanks or a drip tray for mobile stores procedures. Contingency plans will be set up to deal with emergency accidents or spills; an emergency spill kit with oil boom and absorbers will be kept on site in the event of an accidental spill. Due consideration will be given to the prevailing ground and weather conditions when programming the execution of the works to ensure that in-channel works are undertaken during periods of predicted low flow and low rainfall to minimise contact with water. Ready-mix concrete will be delivered to the Site with no concrete batching on the Site and a dedicated, bunded area will be created to cater for concrete wash-out from chutes (see Section 2.7.4 in Chapter 2 of the EIAR).The concrete wash water will be discharged to a lined basin in order that it be disposed of at a licensed facility as outlined in the CEMP – Management Plan 5 - Waste Management Plan (**Appendix 2.1**). Any waste which is not recyclable or compostable will be properly disposed to landfill.		
MM39	Flora and Fauna	Chapter 9: Aquatic Ecology	9.6.2.2 Mitigation by design	The proposed surface water management system, including existing and proposed infrastructure, will be inspected and confirmed to be of sufficient capacity to prevent any potential emissions to water entering the watercourses on Site. This will include adopting SuDS principles, catering for a 1 in 100-year		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				rainfall event, and maintaining existing natural flow paths where possible to avoid significant hydrological changes on site. All site drainage, as described in the surface water management plan and shown on associated drawings, will be directed through either sediment traps, settlement ponds and/ or buffered drainage outfalls (NRA, 2006) to ensure that total suspended solid levels in all waters discharging to any watercourse will not exceed 25 mg/l (IFI, 2016). To address sediment on site, a spoil management plan has been developed which details the location and positioning of spoil heaps on site and the requirement for silt fencing near watercourses. Additionally, in periods of dry weather, damping down dust may be required on site and the covering of Heavy Goods Vehicles (HGVs) may be required to prevent dust generation. Chemical, silt and other suspended pollutant transport will be reduced by providing a "treatment train" of two to three stages of pollutant removal to all surface water runoff prior to discharge. Daily monitoring of all sediment traps and settlement ponds will be undertaken by the Environmental Manager or Ecological Clerk of Works to ensure satisfactory operation and/ or maintenance requirements. Re-seeding/ re-vegetation of all areas of bare ground or the placement of Geo-jute (or similar) matting will take place prior to the operational phase to prevent silt-laden run-off. Refuelling of vehicles and machinery will be carried out on an impermeable surface in designated areas, away from any watercourse or drainage ditches and will adhere to best practice. Standing machinery will have drip trays placed underneath to prevent oil and fuel leaks causing pollution, with further equipment available (such as absorbent booms) if required. If a hydrocarbon		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				contamination incident were to occur, it will be dealt with immediately. Hydrocarbon spill kits will be prepared and kept in vehicles associated with the construction phase of the project. Spill kits will also be established at proposed construction areas, for example, a spill kit will be established and mobilised as part of the turbine erection materials and equipment. Spill kits will also be available in designated areas throughout the Site. Suitable receptacles for hydrocarbon contaminated materials will also be at hand. Escalation can include measures such as the installation of temporary sumps, drains or dykes to control the flow or migration of hydrocarbons, excavation and disposal of contaminated material. On site training and toolbox talks will ensure any response to any potential incident is mobilised quickly and efficiently. Mess and welfare facilities will be required during the construction phase and will be located at the construction compounds. Foul effluent disposal shall be via chemical facilities with periodic tankered removal by a licensed waste haulier for licensed offsite disposal (i.e., there shall be no emission of treated or untreated foul effluent on the Site). Depending on the timing of the proposed works, different life stages of migratory fish species may be impacted by factors such as noise and disturbance associated with the installation of hardstands, or by increased sediment ingress into the watercourse during works involving excavation. Spawning and egg incubation for salmon occurs from October to February and for lamprey species from March to May. As a result, the construction of watercourse crossings will be undertaken during the period July to September as set out in Inland Fisheries Ireland Guidance (2016) to avoid accidental damage or siltation of spawning beds, unless otherwise specified by Inland Fisheries Ireland during consultations in advance of works. Work in or near		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				water is expected to be limited to construction of drainage outfalls and pre-construction felling. The Proposed Development will result in the loss of a limited amount of habitat of significant ecological importance in a local context, for example, small areas of wet grassland will be loss by a section of track leading southwards from Turbine T04 (estimated at 150 m^2). A Biodiversity Enhancement and Management Plan (BEMP) will be created to offset these losses by looking at the enhancement of certain habitats on site. An Ecological Clerk of Works (ECoW) will be employed to monitor the Site and review the emissions to water control measures and working practices during construction (see Section 2.7.12 in Chapter 2 of the EIAR). The ECoW will be educated to degree or diploma in ecology or a related field, with experience and knowledge gained in similar roles, ideally on large civil engineering projects, of environmental legislation, wildlife legislation, and the ecology of the site. The ECoW will check for fish activity before any works adjacent to watercourses and advise on whether the work should be rescheduled. A full specification for the water quality monitoring is presented in the Water Quality Management Plan		
MM40		Chapter 10: Soil and Geology	10.6.2.1 Construction Environmental Management Plan	A Construction Environmental Management Plan (CEMP) has been prepared for the proposed project and is included in **Volume IV, Appendix 2.1**. The CEMP defines the work practices, environmental management procedures and management responsibilities relating to the construction phase of the proposed project.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				The CEMP sets out the key environmental management measures associated with the construction, operation and decommissioning of the proposed wind farm, to ensure that during these phases of the development, the environment is protected, and any potential impacts are minimised. The final CEMP will be developed further at the construction stage, on the appointment of the main contractor to the project to address the requirements of any relevant planning conditions, including any additional mitigation measures that are conditioned and shall be submitted to the planning authority.		
MM41	Peat Management	Chapter 10: Soil and Geology	10.6.2.3 Earthworks Activities	The project will be constructed in a phased manner in order to reduce the potential effects of The Project on the Soils and Geology. Phased construction reduces the amount of open, exposed excavations at any one time. Given that the works comprises a significant proportion of excavation and earthworks, suitably qualified and experienced geotechnical personnel will be deployed on site to supervise the works. One of the primary mitigation measures employed at the preliminary design stage was the minimisation of volumes of excavated overburden deposits to be exported off site. All excavated overburden will be retained on-site. This will include: • Use of suitable site won material (bedrock) as general fill in the construction of access tracks, hardstands and in reinstatement around turbine foundations.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Surplus overburden will be re-used on site in the form of landscaping and for reinstatement purposes at the existing on-site borrow pit. • Residual surplus overburden will also be stored at a permanent spoil repository, located to the west of the site track between Turbines T4 and T5. Surplus overburden deposits excavated during the course of the works will be temporarily stored in designated areas adjacent to the construction phase excavations prior to reuse. Some temporary stockpiles (not exceeding 2m in height) of material will be necessary adjacent to the excavation areas prior to reinstatement. No surplus/waste soil or rock will be removed from the proposed project site. Temporary stockpiles will be shaped and sealed to prevent the ingress of water from rainfall. To mitigate against the compaction of soil at the site, prior to the commencement of any earthworks, the work corridor will be demarcated, and machinery will stay within this corridor so that soils outside the work area are not damaged. Excavations will then be carried out from access tracks as they are constructed in order to reduce the compaction of soft or otherwise sensitive ground.		
MM42	Land Use	Chapter 10: Soil and Geology	10.6.2.4 Vehicular Movements	Vehicular movements will be restricted to the footprint of the Proposed Development, particularly with respect to the newly constructed Site Access Tracks. This ensures that machinery must be kept on tracks and will not move onto areas that are not permitted.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Vehicular traffic on Site will be minimised through the re-use of excavated material on Site which will reduce the need to source material from external quarries. As discussed previously, excavation volumes have been reduced during the design phase by avoiding areas of sensitive or soft soils and by avoiding excessive cut and fill during construction. This will result in reduced excavation volumes and therefore reduced Site traffic. Best practice as described in the IWEA and Scottish Best Practice Guidelines will be applied during construction which will minimise double handling, again reducing the Site traffic. All works will be managed and carried out in accordance with the Construction Environmental Management Plan (**Sections 3.3.3** of the CEMP in **Appendix 2.1** of **Volume IV**), which will be updated by the civil engineering contractor and agreed prior to any Site works commencing.		
MM43	Land Use	Chapter 10: Soil and Geology	10.6.2.5 Soil Contamination	The CEMP (**Sections 3.3.5** and **3.4.4** of the CEMP in **Appendix 2.1** of **Volume IV**) requires the checking of assets (plant, vehicles, fuel bowsers) on a regular basis during the construction phase of the Proposed Development. The purpose of this management control is to ensure that the measures in place are operating effectively, prevent accidental leakages, and identify potential breaches in the protective retention and attenuation network during earthworks operations. Fuel management procedures adopted will include the following elements:		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Mobile bowsers, tanks and drums will be stored in secure, impermeable storage area, away from drains and open water; • Fuel containers will be stored within a secondary containment system e.g. bund for static tanks or a drip tray for mobile stores; • Ancillary equipment such as hoses, pipes will be contained within the bund; • Taps, nozzles or valves will be fitted with a lock system; • Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage; • Only designated trained operators will be authorised to refuel plant on Site. The emergency response plan, as detailed in the CEMP, has been developed in order to deal with any emergency accidents or spills. In particular an emergency spill kit with oil boom and absorbers will be kept on Site in the event of an accidental spill. All Site operatives will be trained in its use. In addition, all vehicles will also contain emergency spill kits.		
MM44	Land Use	Chapter 10: Soil and Geology	10.6.2.6 Ground Stability and Failure Appendix 2.1 CEMP	• The works will be supervised by a suitably qualified and experienced geotechnical engineer or engineering geologist, and hydrologist or drainage engineer. • Drainage infrastructure will be put in place in advance of excavations. Drains will divert surface water and groundwater away from excavations into the existing and proposed surface drainage network. Uncontrolled, direct and concentrated discharges of water onto the ground surface will be avoided. • Loading or stockpiling of materials on the surface of soft ground will be avoided. Loading or stockpiling on other		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				deposits will not be undertaken without first establishing the adequacy of the ground to support loads by an appropriately qualified geotechnical engineer experienced in construction within upland conditions. No stockpiling of material shall take place on slopes greater than 5 degrees to the horizontal. The height of temporary stockpiles will not exceed 2m. • Turbines located in areas adjacent to peat deposits will incorporate drainage measures such that surface water will be drained away from the peat and will not be allowed to collect adjacent to the peat mass. • Excavation will be carried out from access roads or hardstanding areas to avoid tracking of construction plant across areas of soft ground/peat. • An assessment of the stability at proposed infrastructure locations has been carried out as part of this EIAR based on worst case conditions. A further assessment will be undertaken at detailed design stage. • Blasting of rock will not be permitted. • Excavations which could have the potential to undermine the up-slope component of an existing slope will be sufficiently supported to resist lateral slippage and careful attention will be given to the existing drainage. • Earthworks will not be commenced when heavy or sustained rainfall is forecast. A rainfall gauge will be installed on site to provide a record of rainfall intensity. An inspection of site stability and drainage by the Geotechnical Engineer will be carried out on site when a daily rainfall of over 25mm is recorded on site, works will only recommence after heavy rain with the prior approval of the Geotechnical Engineer following inspection.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				The Construction Environmental Management Plan (**Section 3.3.4** of the CEMP in **Appendix 2.1** of **Volume IV**) includes an emergency response to be applied in the unexpected event of a landslide or ground instability: a) All activities in the area will cease and all available resources will be diverted to assist in the required mitigation procedures. b) The Site Manager/ Main Contact must be notified c) All relevant authorities will be notified if a peat slide event occurs on site and this Emergency Response Plan (ERP) followed. d) Where peat slides do not represent a risk to a watercourse and have stopped moving, they will be stabilised using rock infill, if required. The failed area and surrounding area will then be assessed by the engineering staff and a stabilisation procedure implemented. The area will be monitored, as appropriate, until movements have stopped. e) Where possible, check barrages (comprises the placement of rock fill across a watercourse which allows the passage of water but will prevent peat debris from passing through) will be constructed on land using rock fill to prevent a peat slide reaching any watercourse. f) If peat reaches a watercourse a check barrage will need to be constructed across the watercourse preventing the peat from moving downstream. The check barrage will allow water to flow through it, but the peat will be trapped. g) The size of the check barrage will depend on the scale of the peat slide to be contained and the geometry of the watercourse at the location of the barrage.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				All measures to contain the peat slide must be approved by the Louth County Council or Inland Fisheries Ireland (IFI).		
MM45	Land Use	Chapter 10: Soil and Geology	10.6.2.7 Blasting Activity at Gallstown Quarry	During blasting activities at Gallstown Quarry portions of the Wind Farm will be closed for the duration of the blasting activity to prevent injury to site users. At these times the following mitigation measures will be enacted: • The construction works programme will be co-ordinated with that of the Gallstown Quarry blasting programme. • A 500m radius exclusion zone centred on the blast site will be delineated on site with lockable gates installed at entry / exit points. • Signage will be erected to warn site users of the blasting hazard and the need to keep out of the exclusion zone. Signage will also detail the annual calendar of these expected events.		
MM46	Waste	Chapter 10: Soil and Geology	10.6.2.8 Material and Waste Management Appendix 2.1 CEMP Management Plan 4	All materials used on Site and wastes generated on Site will be reduced by good Site practice and attention to the CEMP (**Sections 3.3.7 and 3.4.4** of the CEMP in **Appendix 2.1** of **Volume IV**). A policy of reduce, re-use and recycle will apply. All waste will be segregated and re-used where possible or removed from Site for recycling. Any waste which is not recyclable or compostable will be properly disposed to landfill. Whenever possible, excavated spoil materials will be re-used close to the area of excavation. The careful design which has been achieved will result in minimal excess soil and rock. The excavated material will be stored on-site. During the construction phase, materials required for reinstatement will be		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				stored in an environmentally safe manner, ensuring no risk of water pollution, until they are needed for reuse. A buffer of 25m from watercourses will be implemented for storage areas of excavated materials to be re-used for reinstatement works. Excavated material will not be stored adjacent to slopes (>15 degrees gradient). This will be subject to evaluation and approval by the Civil Contractors' geotechnical engineer and will accommodate the Site stockpiling requirements based on earthwork calculations. The locations chosen for temporary storage are based on gradient, geotechnical data and ground stability assessment, habitat type, and the adequacy of the ground to support the surcharge material. The Civil Contractor will be responsible for ensuring that the removal and storage of excavated material is done in accordance with the requirements of this management plan. The temporary storage area and the vegetative material will be inspected regularly from an ecological perspective.		
MM47	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.5 Floodplains	Construction works associated with the GCR (underground cable to a depth of 1.2 m) will follow the route of existing road corridors and cross watercourses either via existing bridges and culverts or via Horizontal Direction Drilling (HDD). The cable route affects no significant fluvial floodplains other than those contiguous with existing road bridges and culverts. The cable route will not further encroach into existing floodplains compared to existing conditions.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM48	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1 Pollution Prevention Measures	To ensure best practice on site and to help avoid pollution release to watercourses, IFI 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters' (2016) will be adhered to. The Guidance on Pollution Prevention (GPP) series (SEPA / NIEA, 2022), relevant in similar adjacent jurisdictions, will be consulted (as additional examples of best practice) and complied with to help avoid pollution release to watercourses. Key requirements for control of chemical pollution risk that will be implemented include those outlined in the following sections.		
MM49	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.1 Storage	All equipment, materials and chemicals required for the Proposed Development will be stored away from any watercourse (i.e. outside previously stated buffer zones). Chemical, fuel and oil stores will be sited on impervious bases in accordance with GPP2: Above Ground Oil Storage Tanks and within a secured bund of 110% of the storage capacity.		
MM50	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.2 Vehicles and Refueling	Standing machinery will have drip trays placed underneath to prevent oil and fuel leaks causing pollution. Spill kits will also be available in designated areas throughout the Site. Refuelling of vehicles and machinery will be carried out on an impermeable surface in designated areas, away from any watercourse or drainage ditches (i.e., outside previously stated buffer zones) and will adhere to best practice as detailed in Pollution Prevention Guidance (PPG) 7.		
MM51	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.3. Maintenance	On-site maintenance (outside of construction compounds) to construction plant will be avoided in all practicable instances, unless vehicles have broken down necessitating maintenance at the point of breakdown. Spill / leak prevention measures (spill kit, drip trays, absorbent booms) will be put in place to avoid spills of oils or fuels prior to carrying out any maintenance works.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM52	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.4 Cement and Concrete Batching	Measures to prevent discharge of alkaline wastewaters or contaminated storm water to watercourses will be determined before commencement of works. Concrete contaminated water will be discharged to a lined basin in order that it be contained for authorised disposal off site. Wastewater spillage will be minimised by using settling tanks and recycling water. Spill kits will also be available in designated areas throughout the Site.		
MM53	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.5 Mess and Welfare Facilities	Mess and welfare facilities will be required during the construction phase and will be located at the construction compounds. Foul effluent disposal shall be via chemical facilities with periodic tankered removal by a licensed waste haulier for licensed offsite disposal (i.e., there shall be no emission of treated or untreated foul effluent on the Site).		
MM54	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.6 Construction in the vicinity of Watercourses	The following procedures apply to the general construction activities required either within watercourses or in defined watercourse buffer zones: • Due consideration will be given to the prevailing ground and weather conditions when programming the execution of the works in order to ensure that in-channel works are undertaken during periods of predicted low flow and low rainfall in order to minimise contact with water; and • Ensure that roadside drains do not discharge directly into watercourses, but rather through a riparian buffer area of intact vegetation as denoted on design drawings. Work in or near water will be limited to construction of drainage outfalls and 3 no. watercourse crossings / culverts.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM55	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.7 Construction of Watercourse Crossings	Construction of watercourse crossings will be programmed to coincide with periods of predicted low flow in the affected channel (determined by rainfall and would generally coincide with summer months) and adhere to working period restrictions imposed. Construction will be strictly as per the design for each identified watercourse crossing and will fully implement all SuDS and additional mitigating measures proposed at the detailed design stage. For purposes of outline design, the proposed mitigation will include: • Installation of silt fences parallel to the watercourse channel in the vicinity of the proposed crossing; • Installation of small cut-off drains to prevent natural surface runoff entering area of construction activity; • Installation of filtration or other silt entraining features within the watercourse channel immediately downstream of the works location; and • Use of over pumping where deemed appropriate.		
MM56	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.8 Construction in the Vicinity of Private Water Supplies	There shall be no storage of chemicals, fuels, or other lubricants and no refuelling permitted within 100 m of private water supplies. A spill kit will be available on site at all times and a team of operatives will be trained in the use of the spill kit. Emergency procedures in the event of a spillage will be displayed on site and communicated to all operatives. All operatives will be made aware that any fuel spillage must be reported to the contractor's office as soon as it happens. An Emergency Response Plan for dealing with an accidental spillage of chemicals, fuels, or other lubricants shall be prepared prior to works commencing and communicated to all operatives. Emergency response measures shall include the following: • Establish that there is not an immediate risk of fire, if there is call the Fire Brigade and evacuate the area;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Stop the source of the leak – i.e. by turning off the tap, plugging the leak or rolling over the drum (if it is safe to do so); • Contain the spillage by bunding using sandbags, earth banks, absorbent materials etc. Seal any drains to prevent entry of oil and place booms across any receiving watercourses to contain and absorb surface oil; • If necessary, contact the Emergency Response Team; • Notify the Environmental Manager or another member of the SHE department. The Environmental Manager/SHE department will assess the requirement to notify other agencies i.e. EPA or the sewage undertaker; and, • Clean up within the contained area. All contaminated earth and materials arising from the spillage are classifies as hazardous waste and are to be disposed of via a licensed haulier to a licensed recipient in line with approved hazardous waste removal procedures.		
MM57	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.9 Temporary SuDS	SuDS, comprising temporary drainage and silt management features will be constructed prior to earthworks (including preliminary or enabling works including felling) proceeding to construct any linear works (tracks / hardstanding areas / cable routes), turbine bases, and other infrastructure. Drainage will be provided to temporary earthworks. Permanent drainage will be installed in advance of or in parallel with completion of tracks and hardstanding areas; a planning design for permanent drainage is shown on drawings within **Appendix 9.1: Flood Risk and Drainage Assessment** and **Appendix 9.2 Surface Water Management Plan.** Temporary measures will include:		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Temporary silt fences erected in areas where risk of pollution to watercourses has been identified e.g. watercourse crossing locations and areas where felling lie within watercourse buffer zones; • Placing temporary filtration silt fences within drainage channels where required; • Installing temporary constructed settlement features such as sumps or settlement ponds / lagoons in areas where water is to be discharged. Principles and design standards for sizing of treatment are stated in **Appendix 9.2**; • Upslope cut-off drainage channels approximately parallel to the proposed track alignment installed in advance of any excavated cuttings for the track or turbine hardstanding areas; • Drains, natural flow paths and cut-off drain outlet locations will be identified and charted, in order to ensure that piped crossings can be installed in advance of or adjacent to the track construction; • Settlement ponds will be constructed in advance of commencing excavations for foundations and at any other locations where dewatering of reduced quality runoff is expected; and • Trackside drainage swales will be installed in parallel with track construction. Note that this may require that drainage swales are reformed on an ongoing basis as temporary track alignments are modified to their eventual finished design level. The prevention measures described above will be in place at all times during the construction phase to prevent the conveyance of silts to receiving watercourses.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM58	Site Drainage	Chapter 11: Hydrology and Hydrogeology Appendix 2.1 CEMP	11.8.1.10 Electrical Cable Laying	Cable laying works will be managed and limited in accordance with section **Error! Reference source not found.** (Responding to Weather) so that execution of the works is undertaken during periods with low rainfall likely to coincide with low superficial groundwater levels in order to reduce the likelihood of runoff entering the excavations. Excavation of cable trenches will be carried out over short distances, with frequent backfilling of trenches to minimise opportunity for the ingress of water into open trenches, temporary silt traps will be provided in longer trench runs and on steeper slopes and spoil will be stored in line with a spoil management plan, which is included as part of the detailed CEMP at the pre-construction stage. The following shall apply to the construction of all cable trenches at the site: • To minimise impacts from disturbance, cables will be laid in small trenches along the side of access tracks, as far as possible; • Due cognisance will be given to the prevailing ground conditions and season when programming the execution of the works, to seek to undertake the works in a period with low potential to cause introduction of silt laden runoff from excavations; • Excavation of cable trenches will be carried out over short distances, with frequent backfilling of trenches, to		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				minimise opportunity for the ingress of water into open trenches; • Temporary silt traps will be provided in longer trench runs and on steeper slopes; and • Where constructed trackside swales are disturbed by cable installation, swale slopes will be correctly reinstated post infilling of the cable trench.		
MM59	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.11 Dewatering Excavations	Shallow groundwater or rainfall runoff collected in excavations will be discharged via settlement ponds or filter strips prior to entry to the receiving water environment. Any settlement lagoons or filter strips associated with dewatering will be regularly inspected, particularly after periods of heavy rainfall and prior to periods of forecast heavy rainfall. Maintenance (to clear blockages or remove silt) will be carried out in periods of dry weather where practicable.		
MM60	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.12 Dust Management	Loose track material generated during the use of access tracks and the construction compound will be prevented from reaching watercourses by maintenance to surface water drainage systems installed at aggregate based hard standing areas. In dry weather dust suppression methods such as by dust suppression bowser will be employed.		
MM61	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.1.13 Maintenance of Pollution Prevention Measures	All SuDS and additional pollution prevention measures installed will be subject to a regular maintenance regime for the life of the construction phase in order to maintain functionality of all features. This will comprise: • Unblocking of drains; • Maintenance of access road and other hard standing surfaces;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Replacement of filtration features; and • Removal of silt build-up from settlement and filtration features.		
MM62	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.8.2 Responding to Weather	The works programme for the construction phase will take account of weather forecasts and predicted rainfall in the region. Monitoring of weather forecasts shall be the responsibility of a suitably qualified Environmental Consultant / Environmental Clerk of Works (ECoW). Work will be suspended or scaled back if heavy rain is forecast. The extent to which works will be scaled back or suspended will relate directly to scale and nature of the work proposed, the proximity to a receiving watercourse, and the amount of rainfall forecast. Using the safe threshold rainfall values below will allow work to be safely controlled (from a water quality perspective) in the event of forecasting of an impending high rainfall intensity event. Works will be suspended if forecasting suggests any of the following is likely to occur: • >10 mm/hr (i.e. high intensity local rainfall events); • >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or, • >half monthly average rainfall in any 7 days. Prior to works being suspended the following control measures shall be completed: • Secure all open excavations; and • Provide temporary or emergency drainage to prevent back-up of surface runoff. Contractor will avoid working during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded. ECoW shall check drainage after rainfall event and prior to recommencement of works.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM63	Flora and Fauna	Chapter 12: Landscape and Visual	12.4 Mitigation Measures	All construction activities will follow best practice methods to reduce environmental impacts upon the environment, as outlined in the Construction and Environmental Management Plan (CEMP) which will manage the environmental commitments of the Project through the construction phase, and will be continued through to the commissioning, operation and final decommissioning phases. It is noted that an Environmental Manager / Ecological Clerk of Works (ECoW) with appropriate experience will be appointed for the duration of the construction phase so that the CEMP is effectively implemented.		
MM64	Flora and Fauna	Chapter 12: Landscape and Visual	12.4 Mitigation Measures	With regard to landscape and visual matters, it is recognised that vegetation removal will be required to facilitate the construction of access tracks, civil works and turbine hardstands. This would comprise Sitka Spruce and additional broadleaves, and all works would be undertaken in regard to the Forestry Service specifications outlined in Chapter 2. This chapter also outlines that all felled areas would be replaced in the form of replacement afforested land. The felling area proposed is the minimum necessary to construct the Proposed Development and to comply with construction set back distances and environmental mitigation.		
MM65	Flora and Fauna	Chapter 12: Landscape and Visual	12.4 Mitigation Measures	The construction methodology has considered the minimisation of landscape disturbance, with measures such as Horizontal Directional Drilling (HDD) being proposed as part of the grid connection works to minimise any damage. Temporary works required in relation to the turbine delivery route and grid connection will require the installation of load bearing surfaces, cable trenches (in-road, and off-road), and the localised		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				disturbance of grass and vegetation. At the R162 / L-6274-0 Junction a degree of hedgerow removal and embankment reprofiling will be required in connection with the delivery of the turbine components.		
MM66	Flora and Fauna	Chapter 12: Landscape and Visual	12.4 Mitigation Measures	All areas damaged during construction will be reinstated to their original condition, with the exception of the long-term infrastructure required for the proposed wind farm. Replacement of trees and hedgerows will be undertaken in accordance with approved landscaping plans, with landscape works undertaken in accordance with best practice. The following standards are widely adopted as representing best practice in landscape operations: • BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces). BS 5837:2012 – Trees in Relation to design, demolition and construction. • BS 8545 Trees: from nursery to independence in the landscape - Recommendations. • BS 3936 - Part 1: Nursery stock specification for trees and shrubs.		
MM67	Noise	Chapter 13: Noise	13.5.1 Construction Noise Mitigation	Good site practices, both for construction of the Proposed Wind Farm and the Proposed Grid Connection Route will be implemented to minimise the likely effects. Particular care will be taken at the M1 crossing along the Proposed Grid Connection Route. Section 8 of BS5228-1:2009+A1:2014 recommends a number of simple control measures as summarised below that will be employed onsite: • Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• All vehicles and mechanical plant will be fitted with effective exhaust silencers and be subject to programmed maintenance; • Select inherently quiet plant where appropriate - all major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use; • All ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers; • Machines will be shut down between work periods (or when not in use) or throttled down to a minimum; • Regularly maintain all equipment used on site, including maintenance related to noise emissions; • Vehicles will be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and • All ancillary plant such as generators and pumps will be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures will be provided.		
MM68	Land Use	Chapter 14: Material Assets and Other Issues	14.6.4 Mitigation Measures	The construction of tracks, including the creation of buffer zones and trackside drainage, will take into consideration the following requirements and guidelines: • Environmental Requirements for Afforestation, June 2024 (DAFM, 2024) • Forestry Standard Manual, July 2024 (DAFM, 2024) • Land Types for Afforestation: Soil & Fertility, June 2024 (DAFM, 2024) • Forests & Water, Achieving Objectives under Ireland's River Basin Management Plan 2018-2021(DAFM, 2018)		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required

				• Forest Recreation in Ireland, A Guide for Forest Owners and Managers (Forest Service, 2006)
				• Forest Protection Guidelines, November 2002 (Forest Service, Department of Communications, Marine and Natural Resources)
				• Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures
				• Guidelines published by the Forest Service, Department of the Marine and Natural Resources, July 2000:
				  ○ Forestry and Water Quality Guidelines
				  ○ Forestry and Archaeology Guidelines
				  ○ Forest Biodiversity Guidelines
				  ○ Forest Harvesting and the Environment Guidelines		

MM69	Telecoms and other service interference	Chapter 14: Material Assets and Other Issues	14.7.9 Mitigation Measures	2rn transmission links: To address the potential risk of interference with two 2rn transmission links (Drogheda and Clermont Carn Transmitters), the developer has agreed to sign a protocol agreement with 2rn prior to construction, committing to restoring service to any end users that may have their service disrupted as a result of the proposed development. Examples of measures for restoration of service include technical solutions including re-alignment or replacement of TV antenna, re-tuning to alternative TV transmitters or provision of subscription free satellite television services can be implemented.		
MM70	Waste	Chapter 14: Material Assets and Other Issues	14.11.7 Mitigation Measures - Waste	***Concrete*** During the construction phase: • Precast concrete will be used wherever possible i.e., formed offsite. Elements of the Proposed Development where precast concrete will be used have been identified and are indicated in the CEMP. Elements of the Proposed Development where the use of precast concrete will be used include structural elements of watercourse crossings (single span / closed culverts) as well as Cable		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Joint Bays. Elements of the Proposed Development where the use of precast concrete is not possible include turbine foundations and joint bay pit excavations. Where the use of precast concrete is not possible the following mitigation measures will apply. • The acquisition, transport and use of any cement or concrete on site will be planned fully in advance and supervised at all times. • Vehicles transporting such material will be cleaned upon arrival on site, that is; vehicles will be washed/rinsed removing cementitious material leaving the source location of the material. There will be no excess cementitious material on vehicles which could be deposited on trackways or anywhere else on site. To this end, vehicles will undergo a visual inspection prior to being permitted to drive onto the Wind Farm Site or progress beyond the contractor's yard. Vehicles will also be in good working order. • Where shuttering is required to be installed in order contain the concrete during pouring, it will be installed to a high standard with minimal potential for leaks. Additional measures will be taken to ensure minimal potential of leaking, These measures are the use of plastic sheeting and the use sealing products at joints. • Concrete will be poured during meteorological dry periods/seasons. This will reduce the potential for surface water run off being significantly affected by freshly poured concrete. This works will be limited to dry meteorological conditions i.e. avoid foreseen sustained rainfall (any foreseen rainfall event longer than 4 hour duration) and/or any foreseen intense rainfall event (>3mm/hour, yellow on Met Eireann rain forecast maps), and do not proceed		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				during any yellow (or worse) rainfall warning issued by Met Eireann. This also will avoid such conditions while concrete is curing, in so far as practical. • Ground crew will have a spill kit readily available, and any spillages or deposits will be cleaned/removed as soon as possible and disposed of appropriately. • Pouring of concrete into standing water within excavations will be avoided. Excavations will be prepared before pouring of concrete by pumping standing water out of excavations to the buffered surface water discharge systems in place. • Temporary storage of cement bound sand (if required) will be on hardstand areas only where there is no direct drainage to surface waters and where the area has been bunded e.g., using sand-bags and geotextile sheeting or silt fencing to contain any solids in run-off. • No surplus concrete will be stored or deposited anywhere on site. Such material will be returned to the source location or disposed of off-site appropriately.		
MM71	Waste	Chapter 14: Material Assets and Other Issues	14.11.7 Mitigation Measures - Waste	***Chemicals, Fuels and Oils*** All storage containers of over 200 litres will have a secondary containment of 110% capacity to ensure that any leaking oil is contained and does not enter the aquatic environment. Only essential refuelling (e.g., cranes) will be carried out, outside of this area but not within 65m of any watercourse. In such cases a non-permeable High-density Polyethylene (HDPE) membrane will be provided beneath connection points to catch any residual oil during filling and disconnection.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				A Chemical and Waste Inventory will be kept, as outlined in the CEMP, Appendix 2.1 (Waste management plan no. 5). This inventory will include: • List of all substances stored on-site (volume and description) • Procedures and location details for storage of all materials listed • Waste disposal records, including copies of all Waste Transfer Notes detailing disposal routes and waste carriers used • Any tap or valve permanently fixed to the mobile unit through which oil can be discharged to the open or when delivered through a flexible pipe which is fitted permanently to the mobile unit, will be fitted with a lock and locked shut when not in use • Sight gauges will be fitted with a valve or tap, which will be shut when not in use. Sight gauge tubes, if used will be well supported and fitted with a valve • Mobile units will have secondary containment when in use/out on site All dangerous substances will be conveyed in a container that compiles with the ADR. As such the manufacturer of each bowser will provide certification to contractors of the following: • A leak-proof test certificate. • A copy of the IBC (intermediate bulk containers) approval certificate. • An identification plate attached to the container. Where mobile bowsers are used on site, guidelines will be followed so that:		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Any flexible pipe, tap or valve will be fitted with a lock where it leaves the container and be locked shut when not in use; • Flexible delivery pipes will be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use. Where possible, a nozzle designed to dispense oil is used; • The pump or valve will have a lock and be locked shut when not in use.		
MM72	Waste	Chapter 14: Material Assets and Other Issues	14.11.7 Mitigation Measures - Waste	***Refuelling*** During construction/decommissioning, all refuelling on site will be within the temporary compound within the re-fuelling area (see **Drawing No. 6497-PL-901**). Only essential refuelling (e.g., cranes) will be carried out, outside of this area, but not within 50m of any watercourse. In such cases a non-permeable High-density Polyethylene (HDPE) membrane will be provided beneath connection points to catch any residual oil during filling and disconnection. This membrane will be inspected and if there is any sign of oil contamination, it will be removed from site by a specialist licensed waste contractor. All vehicles will be well maintained and free from oil or hydraulic fuel leaks. Vehicles will be refuelled off-site where possible. For vehicles that require refuelling on-site, fuels will be stored in the Temporary Construction Compound and bunded to at least 110% of the storage capacity of fuels to be stored. Refuelling will take place via a mobile double skinned fuel bowser. The bowser will be a double axel refuelling trailer which will be towed to the refuelling locations by a 4x4 vehicle. The 4x4 will carry, a drip tray, spill kit and absorbent mats in case of any accidental spillages. Only designated competent personnel will refuel plant and machinery on the Wind Farm Site. ***Packaging***		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				In accordance with the waste hierarchy, packaging will be returned to the originator ahead of re-use or recycling. Where this is not possible, waste will be separated as appropriate and safely stored on site appropriately in anticipation to be transferred offsite by a licensed contractor to a licenced facility. ***Metals*** Waste metals from concrete reinforcing etc, have a commercial value and therefore there is an additional economic incentive for the appropriate re-use or recycling with the licensed waste contractor.		
MM73	Cultural Heritage	Chapter 15: Cultural Heritage	15.5.1 Construction Phase Mitigation Measures	The archaeological geophysical survey identified a number of anomalies, and two potential archaeological sites (M1 and M2) within the Redline Boundary. Follow up archaeological test trenching of the identified anomalies throughout the Proposed Development footprint indicated that M1 was non-archaeological, whilst M2 together with a number of other features in the immediate environs east and north of M2, within the area of Turbine 4 and access road between Turbine 3 and Turbine 4 were evidenced. With the exception of M2, these features are located within the design footprint and will be directly impacted and will require preservation by record (excavation) in advance of the main construction phase. Preservation in situ (i.e. avoidance) will not be feasible at these locations given the ground reduction measures required for the Proposed Development. The excavation and preservation by record All such mitigation measures will be subject to consultation and advance agreement with statutory bodies (NMS/NMI), and will be carried out under archaeological excavation licence provisions. Any areas not yet subject to site investigations, and with suitable ground conditions (e.g. areas that were in crop), shall be subject to mitigation by means of an archaeological test trenching		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				programme and on-site monitoring during groundworks in advance of construction. In the event of an archaeological find during testing, will be carried out to direct next steps in terms of preservation in situ (avoidance) or preservation by record (excavation), subject to agreement with statutory bodies. ~~As part of advance construction works and where suitable, feasible and viable, a programme of licenced archaeological geophysical survey at CH09 and throughout the design footprint and temporary working areas in the Site will be carried out by a licence-eligible archaeo-geophysicist. This will be followed up by strategic and targeted test trenching of any anomalies that may be identified. In the event of an archaeological find during testing, will be carried out to direct next steps in terms of preservation in situ (avoidance) or preservation by record (excavation).~~ Ground works throughout the site, during the construction phase, will be subject to archaeological monitoring by a licence-eligible archaeologist under licence by the National Monuments Service. A systematic advance programme of archaeological field-walking surveys will also be carried out within Proposed Development areas in forestry plantations following tree felling to confirm the conditions predicted in this assessment, i.e., that they contain no visible surface traces of potential unrecorded archaeological or architectural heritage sites. In the event that any sub-surface archaeological features are identified during archaeological monitoring they will be securely cordoned off, cleaned and recorded *in situ*. The National Monuments Service will then be notified and consulted to determine further appropriate mitigation measures, which may		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				include preservation *in situ* (by avoidance) or preservation by record (archaeological excavation). The identified temporary indirect negative impacts on the Cultural Heritage resource during construction stage are of a visual nature only that detract from the setting and/or amenity value/access to the identified sensitive receptor. There are no appropriate mitigation measures to reduce or offset these indirect impacts on setting. It is noted that standing stone LH021-013--- has possibly toppled over based on field survey observations, since the ASI survey was conducted, while standing stone LH021-014--- is still upright, and located 31m distant (closest point) to the Proposed Development footprint. A minimum 20m diameter buffer and exclusion zone around the monuments will be retained at construction stage (using temporary and highly visible non-ground intrusive fencing) in order to avoid any inadvertent damage to the stones as well as ground rutting in and around the monuments.		
MM74	Traffic	Chapter 16: Traffic and Transport	16.4.1 Construction Phase	• Prior to delivery of abnormal loads i.e. turbine components, the Applicant or their representatives, will consult with An Garda Síochána, TII, PPP operators and all relevant Local Authorities to obtain all necessary abnormal load permits and discuss the requirement for a Garda escort. The Applicant will also outline the intended timescale for deliveries and efforts can be made to avoid peak times such as school drop off times, church services, peak traffic times where it is considered this may lead to unnecessary disruption, and abnormal loads may travel at night and outside the normal construction		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				times as may be required by An Garda Síochána. Local residents at sensitive locations along the affected route will be notified of the timescale for abnormal load deliveries. • Prior to delivery of abnormal loads, the Applicant or their representatives, will consult with TII, PPP operators and all Local Authorities through which the abnormal loads will pass and agree the specification for any enabling works to be carried out on the Turbine Delivery Route. • Prior to the delivery of turbine components, a survey of the Turbine Delivery Route will be undertaken to identify if any overhead lines or height restrictions at toll booths will need to be lifted along the route to allow abnormal loads such as tower sections and nacelles to be delivered. • Prior to the delivery of turbine components, a trial run shall be carried out between the Port of Galway and the Proposed Development entrance using an abnormal load vehicle with a retractable load gauge to determine that abnormal load vehicles can transverse the route without undue delay and disruption to public road users. • During the construction and decommissioning phases, road works signs in accordance with the requirements of Chapter 8 of the Traffic Signs Manual will be erected at all the Proposed Development entrances and at all locations on the Grid Connection route and Turbine Delivery Route which are being modified to facilitate turbine delivery. Details of signage if given in the Traffic management plan in Appendix 15-2. • Wheel cleaning equipment will be used at all site entrances with the public road to prevent any mud and/or stones being transferred from Site to the public road		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				network. All drivers will be required to see that their vehicle is free from dirt and stones prior to departure from the Site. • To reduce dust emissions, vehicle containers/loads will be covered during both entrance and egress to the Site where required. • All 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 may be employed. • Access to the construction site will be controlled by on Site personnel and all visitors will be asked to sign in and out of the Site by security/Site personnel on entering and exiting the site. • 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. • A condition survey of the road network in the vicinity of the site entrances will be carried out and agreed with Louth County Council prior to any works being carried out on site. • All works on the public road network will be carried out using an approved road opening licence and traffic management plan. • All wind farm vehicles shall have roof mounted flashing beacons when working on the public road network or will use their hazard lights within the Site. • A speed limit of 25 km/h shall apply to all vehicles within the Site.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM74a	Traffic	Appendix 16. 2 Construction Traffic Management Plan	8. PROPOSED MITIGATION MEASURES	In order to minimise the impact of development traffic on the local community and public road users, the following mitigation measures have been considered: HGV movements will generally be limited to 07:00 - 19:00 Monday to Friday and 08:00 - 13:00 on Saturday. Deliveries will be scheduled to avoid peak times around the morning and evening peak hours. This will avoid HGV traffic arriving during the morning peak hour creating conflict with local residents on their commute/school run. Construction personnel will be encouraged to car-pool, or to travel to site in minibuses. • Wheel cleaning equipment will be used on site to prevent mud and stones being transferred from the Development to the public road network. All drivers will be required to check that their vehicle is free from dirt and stones prior to departure from the construction Site. In addition, any dust generating activities will be minimised where practical during windy conditions, and drivers will adopt driving practices to minimise dust creation. Finally, loads will be covered into and out of the site where required to ensure that the		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				spillage or deposit of clay, rubble or other debris on the public road network is prevented. • Construction works on the public road network will be carried out under a road opening licence with an agreed Traffic Management Plan in accordance with Chapter 8 of the Traffic Signs Manual. • During the construction phase, clear construction warning signs will be placed on the L6274, L275 and R132 advising the general public as to the presence of the construction Site. The site entry points will also be appropriately signed. Access to the construction site will be controlled by on site personnel and all visitors will be asked to sign in and out of the site by security / site personnel. Security gates will be sufficiently set back from the road, so that vehicles entering the Site will stop well clear of the public road, thus obviating the queuing of construction traffic on the public road network. Site visitors will all receive a suitable Health and Safety site induction, and Personal Protective Equipment ("PPE") will be worn.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Grid Connection works will proceed at a rate of approximately 100m per work shift, the rate will depend on the ground conditions and the number of existing services encountered in the excavation. The works area will be fully enclosed within the traffic management system. Traffic management using temporary traffic lights shall be kept to the minimum length necessary to accommodate the works being undertaken and to minimise delays to the public road users. • Longitudinal trench excavations in the public road shall be straight and parallel to the centre of the road/footway where practicable. Transverse road or footway crossings shall be at right angles to the kerb or property line. Bituminous and concrete road surfaces and footways be cut using a road saw, concrete saw or equivalent mechanical means to the full depth of the bituminous or concrete material prior to any excavation work. The edges of the road shall be trimmed to provide an overlap for permanent road reinstatement in accordance with chapter 7 of the Managing Openings in Public Roads Specification.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• The Grid Connection cable trench shall be excavated using a rubber tyre excavator on all public roads. The sides of the trench shall be supported to prevent damage to the road. Material arising from trench excavations may be stored at a safe location within the works area and used to backfill trenches, surplus excavated material shall be removed from Site and disposed at licenced landfills. • All excavated trenches in the public road network are to be reinstated at the end of the work shift, A temporary reinstatement shall be carried out in the event that the works are not completed at the end of the work shift. • Once construction of the Development is completed, all portacabins, machinery and equipment will be removed and temporary hardstanding's excavated and reinstated. The area will be re-graded with the topsoil to a natural profile and allowed to regenerate from the seed bank within the topsoil.		
MM75	Health and Safety	Chapter 18: Air Quality and Climate	18.3.7.1 Construction Phase Mitigation	Good practice site procedures will be followed by the appointed contractor to prevent dirt and dust being transported onto the local		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				road network and to minimise vehicle exhaust emissions. Good practice site control measures will comprise the following: • Site Access Tracks will be upgraded and built in the initial construction phases. These roads will be finished with graded aggregate which compacts, preventing dust. • Approach roads and construction areas will be cleaned on a regular basis to prevent build-up of mud and prevent it from migrating around the Site and onto the public road network. • Wheel wash facilities will be provided near the Site entrance to prevent mud/dirt being transferred from the site to the public road network. • Public roads along the construction haul route will be inspected and cleaned daily. In the unlikely event that dirt/mud is identified on public roads, the roads will be cleaned. The wheel wash facility will be investigated, and the problem fixed to prevent this from happening again. • During periods of dry and windy weather, there is potential for dust to become friable and cause nuisance to nearby residences and users of the local road network. This requires wetting material and ensuring water is supplied at the correct levels for the duration of the work activity. The weather will be monitored so that the need for damping down activities can be predicted. Water bowsers will be available to spray work areas (wind turbine area and grid connection route) and haul roads to suppress dust migration from the Site. • Vehicles delivering materials to the site will be covered appropriately when transporting materials that could result in dust, e.g., crushed rock or sand. • Exhaust emissions from vehicles operating within the site, including trucks, excavators, diesel generators or other		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				plant equipment, will be controlled by the Contractor by ensuring that emissions from vehicles are minimised through regular servicing of machinery. • All machinery when not in use will be turned off. • Ready-mix concrete will be delivered to the Site and no batching of concrete will take place on the Site. Only washing out of chutes will take place on site and this will be undertaken at a designated concrete washout facility at the contractor's compound. The concrete wash water will be disposed of at a licensed facility as outlined in the Construction Environment Management Plan (CEMP) – Management Plan 5 Waste Management Plan (**Appendix 2.1**) • Speed restrictions of 15km/h on Access Tracks will be implemented to reduce the likelihood of dust becoming airborne. Consideration will be given to how on-site speed limits are policed by the Contractor and referred to in the toolbox talks. • Stockpiling of materials will be carried out in such a way as to minimise their exposure to wind. Stockpiles will be covered with geotextiles layering and damping down will be carried out when weather conditions require it. • Earthworks and exposed areas/soil stockpiles will be re-vegetated to stabilise surfaces as soon as practicable. • An independent, qualified Geotechnical Engineer will be contracted for the detailed design stage of the project and geotechnical services and will be retained throughout the construction phase, including monitoring and supervision of construction activities on a regular basis. The methodology statement will be signed off by a suitably qualified Geotechnical Engineer.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• A complaints procedure will be implemented on site where complaints will be reported, logged and appropriate action taken. The appointed contractor responsible for the detailed design of the project will provide details to the planning authority for agreement in writing prior to the commencement of development of environmental safety methodology including best practice procedures to manage construction activities. The methodology statement will be signed off by a suitably qualified geotechnical engineer/engineering geologist. An independent, qualified geotechnical engineer/engineering geologist will be contracted for the detailed design stage of the project and geotechnical services will be retained throughout the construction phase, including monitoring and supervision of construction activities on a regular basis.		
MM76	Health and Safety	Chapter 18: Air Quality and Climate	18.4.7.1 Construction Phase Mitigation	Mitigation measures for reduction of GHGs are • All machinery when not in use will be turned off. • Exhaust emissions from vehicles operating within the site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the Contractor by ensuring that emissions from vehicles are minimised through regular servicing of machinery. • Use of local quarries, materials suppliers and waste facilities will be used, as outlined in Chapter 16 Traffic and Transport, minimising travel distances A robust traffic Management Plan (Appendix 2.1, CEMP, Management Plan no. 7) has been developed, utilising the most direct routes where possible. This plan will be updated to reflect project needs		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM77	Health and Safety	Appendix 2.1 CEMP Management Plan 1 Emergency Response Plan	3. Incident and Hazard Shopping	A blank Environmental Incident Report Form for reporting environmental incidents or hazards for the site is attached in **Section 6.9**. A blank Site Environmental Audit Form is attached in **Section 6.10** to record audit results. The details recorded in these forms will be regularly reviewed and will form part of the response plan procedural review.		
MM78	Health and Safety	Appendix 2.1 CEMP Management Plan 1 Emergency Response Plan	4. Waste Disposal after environmental incidences	If spill kits etc. are used in the event of a pollution incident, operatives need to carefully dispose of used equipment by carefully placing them in a sealed bag or container. They should then be removed from site by a licensed waste contractor as per the **Waste Management Plan**. Contaminated soil also needs to be disposed of as hazardous waste by a permit holder. This is also further detailed in the **Waste Management Plan** of this CEMP.		
MM79	Health and Safety	Appendix 2.1 CEMP Management Plan 1 Emergency Response Plan	5. Site Induction and toolbox talks	It is imperative that all contractors, sub-contractors and staff on site are fully familiar with this emergency response plan and it will be detailed regularly in Toolbox Talks. During these talks, they will also receive regular reminders of the importance of the local environment and of the necessary environmental controls that are in place on site.		
MM80	Health and Safety	Appendix 2.1 CEMP Management Plan 1 Emergency Response Plan	6.1 Procedures to be followed in the event of an incident:	The following procedures are intended as a guide in dealing with incidents. Health & Safety guidance should be followed at all times applying common sense and ensuring the health & safety of yourself and others: 1. Identify the source of the spillage and cut off source, if possible, e.g. by closing valve, righting container etc. 2. Work on site will cease and all operatives will assist in placing spill mats on the affected area. Site Manager/ Main Contact must be notified.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				3. Identify where spillage may go. If spillage is near a watercourse (drainage/ditch/ river) divert spillage away from the watercourse through the use of absorbent materials from the spill kit. 4. Notify all parties in the order listed in **Sections 6.4 and 6.5**. Notification should be made by one member of staff whilst remainder of staff present deal with the spill/incident. 5. Dig up all contaminated ground as soon as possible/immediately. All contaminated materials should be placed in sealed polythene bags/containers and disposed of appropriately by an appropriate licensed waste contractor. 6. Complete required record of incident and response into reporting system <u>Suspended Solids</u> If watercourse is at risk of contamination from suspended solids from a slope failure the Site Manager/ Main Contact must be notified and the following actions must be implemented: a) Place straw bales wrapped in geotextile or sand/gravel bags with geotextile curtains **immediately** in the watercourse(s) at regular intervals downstream from the incident. These sand/straw bags and bales will be removed and replaced with stone filters once water quality is stabilised. b) Stone check dams faced with a layer of geotextile will be constructed at critical points along the watercourse. c) Small sumps will be formed intermittently between the check dams to reduce the amount of suspended solids contained in the water. <u>Oil Spill in Watercourse</u>		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				If spill has reached the watercourse the Site Manager/ Main Contact must be notified and the following actions must be implemented: a) Place flexible absorbent booms across watercourse, ahead of the contamination within a quiet stretch of water. b) Place absorbent cushions in the water immediately upstream of these booms as well as downstream of the booms. c) Remove and replace saturated absorbent material as required. Please ensure removed cushions are placed in sealed polythene bags/containers and disposed of by the principal waste contractor. <u>Fire</u> In the unlikely event of a fire at a turbine, at the substation or Battery energy Storage System (BESS), all personnel on site will meet at a designated fire point and emergency services will be contacted. Louth County Council is the fire authority providing a fire and emergency rescue service to the functional area of Louth County Council. For operations of an emergency nature under Section 26 of the Fire Services Act 1981, refer to Louth County council Fire and Rescue plan In the Case of a fire, Louth County Council Fire service covers a broad range of functions ranging from Fire & Rescue cover to Fire Prevention. There are several Louth County Council Fire Stations in the vicinity of the site; located in Drogheda, Dundalk, Carlingford, Dunleer and Ardee. There nearest Fire Stations are Dunleer and Drogheda Fire Stations, at a distance of 5.4km and 13.9km from the Wind Farm site, respectively.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Blade Throw In the unlikely event of ice throw from blades, all activities in the area will cease and site personnel will stand clear of turbines where possible until they have been shut down completely. Vandalism In the event of a vandalism at the site, all personnel on site will be notified and An Garda Síochána will be contacted.		
MM81	Health and Safety	Appendix 2.1 CEMP Management Plan 1 Emergency Response Plan	6.2 Communication Plan	A Communication Plan (to be followed in the event of an incident) will be provided by the Contactor, in liaison with relevant stakeholders and will be included in the updated ERP prior to commencement of site development works.		
MM82	Site drainage	Appendix 2.1 CEMP Management Plan 3 Surface Water Management Plan	4.4 Temporary Drain	During the construction phase the following principles have been employed when planning temporary drainage requirement: "clean" drainage / runoff from land upslope of the works footprint will be managed through or around the works in order to avoid mixing clean and "dirty" water. • "Clean" drainage / runoff from land upslope of the works footprint will be managed through or around the works in order to avoid mixing clean and "dirty" water; • Reduced quality runoff ("dirty water") from the works will be managed and treated before it is discharged to any watercourse; • Dirty water collected in temporary drainage will be dispersed frequently overland to allow filtration in vegetation, which is likely to be more effective in removing sediment than larger settlement basins; and		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Significant accumulations of dirty water at low points where water will be treated at temporary settlement ponds prior to any discharge to a watercourse. <u>Clean / Polluted Water Separation</u> Drainage management ensures that significant flows of clean water is not permitted to mix with contaminated water from sources such as excavation dewatering or track runoff, where "clean water" should be interpreted as natural surface runoff unaffected by construction / earthworks runoff. Design ensures that upslope cut off ditches are to be installed to intercept and divert clean upslope surface water runoff flowing overland prior to it meeting areas of excavation. Design and construction sequencing ensures that clean water cut off ditches are installed ahead of main earthworks wherever practical. This is intended to reduce the flow of clean water onto any exposed areas of rock and soil, thereby reducing the amount of potential silt laden runoff requiring treatment. Installed drainage allows provision for clean water intercepted in cut-off ditches to pass through and under track structures separate to drainage provided for track runoff. Temporary silt / pollution prevention and scour protection measures (such as check dams) is provided in artificial clean water drainage installed to mitigate potential for scouring and transport of sediment from newly excavated channels. Diversion drainage is to be dispersed over vegetated ground. Diversions are designed to avoid collection and interception of		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				large catchments creating significant point flows, with associated risks due to scour and hydraulic capacity. Temporary drainage is intended to be reinstated on completion of the temporary works. <u>Temporary Track Drainage</u> All track runoff (dirty water) will be directed to flow to ditches / swales installed to the track-edge, to be installed as tracks are constructed. Dirty water will be discharged via frequent spillways created on the downhill sides of the access tracks. Temporary drainage will be reinstated to the permanent drainage (refer to Section 2) to suit the permanent infrastructure footprint. Drainage track shoulders will be re-vegetated as soon as feasible after completion of the track and drainage across the site. <u>Check Dams</u> Initial treatment is provided "at source" by check dams installed within trackside drainage at regular frequencies, to reduce flow velocities and improve conditions for the settlement of solids in transit. Check dams shall be of stone formation however compacted clay check dams may be used should suitable stone be unavailable locally. Where stone is used, the aggregate used to form check dams will be a small 'clean' graded stone. On steeper slopes the check		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				dams will be anchored using larger stone placed on the downhill side of the check dam to prevent washing away of the smaller graded stone. The check dams will serve dual functions, by both removing and settling out silts and reducing flow velocities, therefore mitigating against the effects of erosion within the swale and improving the design life of end of line settlement and attenuation features. <u>Settlement Basins</u> Washout pits to be located local to large excavations (i.e. turbine bases) are to accommodate the anticipated volume of contaminated water to be removed from the excavation, either through unavoidable surface water runoff or accumulation of shallow groundwater. Washout pits for concrete (washdown of concrete delivery plant) will be treated separately and shall be lined, with washwater removed for treatment offsite. <u>Vegetative Filtration</u> Wherever possible, runoff from swales, ponds, or other pumped discharges will be dispersed over undisturbed intact vegetation, nominally over agreed riparian watercourse buffer zones, to allow vegetative filtration of runoff prior to water entering receiving watercourses.		
MM83	Site Drainage	Chapter 11: Hydrology and Hydrogeology	4.2 Pollution Prevention Buffer Zones	Buffer zones to water features have been established within the Site Boundary in **Chapter 11: Hydrology and Hydrogeology.** Proposed infrastructure is designed to lie out with stated hydrological buffer zones as described in the EIAR. The same buffers and additional buffers to known po table water supplies will apply during the construction phase to limit the types of construction activities permissible in proximity to water, and to ensure additional precautions are applied in relation		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				to pollution prevention (spills etc). Buffer areas will act as riparian zones allowing filtration and settlement, minimising sediment transport, attenuating flows and maximising infiltration. The following procedures apply to the general construction activities in the vicinity of watercourses (i.e., within buffer zones): 1 Due cognisance will be given to the prevailing ground conditions and season when programming the execution of the works, to seek to undertake the works in a period with low potential to cause introduction of silt laden runoff to on-site water features; 2 Works will be planned so that trackside drains do not discharge directly into watercourses, but rather through a buffer area of adequate width or via a constructed settlement feature such as pond or sequence of silt fences; 3 Cement and concrete will be kept out with buffer zone to avoid contamination of watercourses; 4 Runoff from excavations will not be pumped directly to watercourses. Where dewatering of excavations is required, water shall be pumped to the head of a treatment train (swale, basin, or detention pond) to receive full treatment prior to re-entry to the natural drainage system; and 5 SuDS treatment techniques will be utilised to remove silts from runoff prior to the discharge of flows over open vegetated areas.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				If a specific short-term risk to water quality is identified on site, specific localised measures will be implemented including: 6 Placing temporary filtration silt fences within drainage channels where siltation is observed; and 7 Installing temporary constructed settlement features such as sumps or settlement ponds / lagoons where required.		
Operational Phase						
MM84	Health and Safety	Chapter 5: Population and Human Health	5.5.8.2 Human Health and Safety Operation	For operation and maintenance staff working at the proposed wind farm, appropriate site safety measures as detailed in this section will be utilised during the operational 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. Equipment within high voltage substations presents a potential hazard to health and safety. The proposed substation will be enclosed by palisade fencing and equipped with intruder and fire alarms in line with ESB and EirGrid standards. All electrical elements of the Project are designed to ensure compliance with electro-magnetic fields (EMF) standards for human safety. At pre-construction phase, an Electrical Interference Assessment shall be carried out. All on-site electrical connections are carried by underground cable and will be marked out above ground where they extend beyond		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				the track or hardstanding surface. Details of cables installed in the public road will be available from ESBN. 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 be fitted with ice detection systems which will stop the turbine from rotating if ice is forming on a turbine blade. This aims to prevent ice throw. Rigorous statutory and engineering safety checks imposed on the turbines during design, construction, commissioning and operation will ensure the risk posed to humans is negligible. 24-hour remote monitoring and fault notifications are included as standard in the Turbine Operations and Maintenance Contracts. A Supervisory Control and Data Acquisition ("SCADA") system will monitor the Proposed Development's performance. If a fault occurs, then a message is automatically sent to the operations personnel preventing emergency situations. 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. Access to the turbines inner structure will be locked at all times and only accessed by licenced employees for maintenance. 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: • Exact location;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Type of incident; • Hazards Access and egress; • Number of casualties (if any) and condition, and • Emergency services present and required		
MM85	Health and Safety	Chapter 5: Population and Human Health	5.5.9.3 Operation	The proposed Site drainage will mitigate against any potential flooding risk due to run off with the use of Sustainable Drainage Systems (SuDS). Construction drainage will be left in-situ for the lifespan of the Project through to Decommissioning. The Contractor's fire plans are reviewed and updated on a regular basis. A nominated competent person shall carry out checks and routine maintenance work to ensure the reliability and safe operation of firefighting equipment and installed systems such as fire alarms and emergency lighting. A record of the work carried out on such equipment and systems will be kept on site at all times. Shadow flicker detection systems will be installed on all turbines to manage occurrence of shadow flicker on nearby receptors. The wind farm system shall include a kill switch that can be operated at any time with an overriding manual shutdown system in case of an emergency.		
MM86	Flora and Fauna	Chapter 7: Bat Ecology	7.6.3.1 Direct effects - Collision and barotrauma: Bat buffers around turbines	As recommended by existing guidance, a separation distance from habitat features used by bats and the tips of operational turbine blades must be maintained as a bat feature buffer. • T1 – Sited in a commercial plantation area with a maximum feature height of 25 meters (usually the point		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				at which trees are harvested). The required bat buffer (NatureScot *et al.* 2021) for each turbine model will be: ○ 95.5 m for Nordex N149 ○ 109.4 m for Nordex N163 ○ 101.2 m for Siemens-Gamsea SG155. • T2 – Sited in a grassland in an improved grassland with a hedgerow within approximately 50 m to the north, with a maximum feature height of 5 meters (hedgerow). The required bat buffer (NatureScot *et al.* 2021) for each turbine model will be: ○ 74.2 m for Nordex N149 ○ 93 m for Nordex N163 ○ 82.2 m for Siemens-Gamsea SG155. • T3 – Sited within a dense scrubland with a maximum feature height of 2 meters. The required bat buffer (NatureScot *et al.* 2021) for each turbine model will be: ○ 70 m for Nordex N149 ○ 89.9 m for Nordex N163 ○ 75.8 m for Siemens-Gamsea SG155 • T4 – Sited between a tillage field and scrub dominated area with a maximum feature height of 5 meters (hedgerow). The required bat buffer (NatureScot *et al.* 2021) for each turbine model will be:. ○ 74.2 m for Nordex N149 ○ 93 m for Nordex N163 ○ 82.2 m for Siemens-Gamsea SG155 • T5 – Sited in a commercial plantation area with a maximum feature height of 25 meters. As this is an area		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				of higher activity and social behaviour, the required bat buffer (NatureScot "extended") for each turbine model will be. ○ 155.1 m for Nordex N149 ○ 166.2 m for Nordex N163 ○ 159.7 m for Siemens-Gamsea SG155		
MM87	Flora and Fauna	Chapter 7: Bat Ecology	7.6.3.1 Direct effects - Collision and barotrauma: Turbine curtailment	For Leisler's bat and Nathusius' pipistrelle species, a turbine curtailment regime will be implemented as a mitigation measure from the start of operation. At the Development, Leisler's bats were notably more active during summer and autumn, particularly near the proposed T3 and T4 turbine locations, the Drumshallon stream (monitored by detector D.06), and the mature tree line north of T5 (monitored by detector D.08). Based on observed Leisler's bat activity levels, turbines requiring seasonal condition based curtailment include: T3 and T4 during the summer; T4 during the autumn; Based on observed Leisler's bat activity in specific temperature and wind speed ranges the curtailment plan based on this weather data requires reducing turbine speeds when: • Nighttime ground-level winds are equal to or less than 3 m/s in summer and autumn (June – October) • Nighttime temperatures exceed 9°C during summer (June – mid-August) and nighttime temperatures exceeding 11°C during autumn. (mid-August – October). The effectiveness of this curtailment regime will need to be monitored for the first 3 years of the project as outlined in NatureScot *et al* 2021. Should the curtailment be successful,		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				more specific "smart curtailment" can be implemented for the lifetime of the project. This can be implemented in the form of a Turbine Integrated Mortality Reduction (TIMR) system (Hayes et al., 2019). This system comprises three primary components aimed at facilitating smart curtailment (Hayes et al., 2019): • Bat acoustic detectors installed on the turbine nacelle for detecting bats within the turbine-swept zone; • A TIMR server responsible for analysing bat acoustic data in real-time alongside wind speed data obtained from the facility; • A SCADA interface designed to initiate turbine shut down when bats are detected, and wind conditions are within the curtailment zone. With this curtailment approach, turbines will only be feathered when bats are detected and wind conditions are within the curtailment zones, thereby minimizing power generation losses (Hayes et al., 2019, Rabie et al., 2022). Refer also to Section **Error! Reference source not found.**.		
MM88	Flora and Fauna	Chapter 7: Bat Ecology	7.6.3.2 Indirect effects – Lighting	Lighting will be designed in accordance with EUROBATS 'Guidelines for the consideration of bats in lighting projects', as well as Bat Conservation Trusts' 'Bats and Artificial Lighting at Night: Guidance Note 08/23' (EUROBATS, 2018; BCT, 2023) and lighting mitigation included in the 'Bat mitigation guidelines for Ireland v2' by Marnell et al. (2022). Measures are proposed to reduce the potential for light spill impacts from temporary construction lighting, along hedgerows, treelines, scrub and grassland habitats: • Motion sensors / timer triggers used where possible; • Column heights kept to a minimum as practicable;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Lighting directed only to areas where lighting is needed (avoid unnecessary light spill); • Luminaires used to prevent light spill; • Warm colour temperatures used where possible (2700K or less); • Cowls, louvres, hoods or baffles used to direct lighting; and • No upward facing lighting.		
MM89	Flora and Fauna	Chapter 7: Bat Ecology	7.6.3.2 Indirect effects – Displacement and attraction effects of operating turbines	The most likely location for displacement and attraction to occur is where bats are most active in the Proposed Development Site. As part of the mitigation for collision and barotrauma, the bat buffer for the nearest turbine, T5, has been extended to 100 m rotor distance separation (166.2 m), exceeding the limits of this effect described in Leroux *et al.* 2022 (100 m). This extended buffer will mitigate where this effect is most likely to occur.		
MM90	Flora and Fauna	Chapter 8: Ornithology	8.4 Embedded Mitigation – Operational Phase	Routine maintenance required during operation is expected to be minimal, limited to small areas and of temporary duration. However, should significant operational works (for example widespread track upgrades or turbine replacement) be required during the breeding bird season, the mitigation measures outlined above for the construction phase will be implemented to ensure compliance with the relevant legislation.		
MM91	Flora and Fauna	Chapter 9: Aquatic Ecology	9.6.3 Operational Phase Mitigation	On completion of the construction stage, any areas not required for operation will be reinstated. Drainage will be reinstated, if required, to minimise future erosion of the soils and restore the pre-development state of the environment. To verify the efficacy of pollution prevention and mitigation works (during construction), Water Quality Monitoring is required to be undertaken by a suitably qualified Environmental Consultant(s) (qualified to		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				minimum of degree level with a minimum of 5 years relevant experience), prior to, during and post completion of construction works. A Biodiversity Enhancement and Management Plan (BEMP) will be developed to further mitigate against changes to landscape, for example, that could otherwise lead to increased drought or flushing events. The temporary works areas will be reinstated using the original spoil material removed and stockpiled close to the location from where it was excavated. Silt traps erected (during the construction phase) within roadside and artificial drainage will be replaced with stone check dams for the operational lifespan of the project. These stone check dams will only be placed within artificial drainage systems such as roadside drains and not in natural streams or drainage lines. A full review of construction stage temporary drainage will be undertaken by the Developer (in conjunction with the Project Hydrologist/ Site Engineer and the Project Ecologist) following the completion of construction, and drainage removed or appropriately blocked where this will not interfere with infrastructure. ECoW will monitor and review the emissions to water control measures and working practices. Mitigation against emissions to water will also be applied during maintenance visits.		
MM92	Site Drainage	Chapter 10: Soil and Geology	10.6.3 Operational Phase	The main potential residual impact during the operation phase would be the risk to groundwater from contamination from spills. Storage tanks, used to store fuel for the various items of machinery, will be self-contained and double-walled. Refuelling of maintenance vehicles will be carried out from these tanks or from delivery vehicles at designated refuelling areas. Specific		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				mitigation measures relating to the management of hydrocarbons are as follows: • Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage. • Any spillage of fuels, lubricants or hydraulic oils will be immediately contained, and the contaminated soil removed from the site and properly disposed of. • Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for recycling and • Appropriate spill control equipment, such as oil soakage pads, will be kept within the refuelling areas and in each item of plant to deal with any accidental spillage. All wastes from the substation, battery storage and ancillary facilities will be removed by the appropriate contractor. The operational team will carry out maintenance works (to Site Access Tracks, Substation, Battery Energy Storage and Turbines) and will put in place control measures to mitigate the risk of hydrocarbon or oil spills during the operational phase of the windfarm. Any vehicles utilised during the operational phase will be maintained on a weekly basis and checked daily to ensure any damage or leakages are corrected. Due to the reduced magnitude of the effects, no additional mitigation measures are required for the maintenance and operation of the wind farm, over and above those incorporated into the design of the substation transformers and batteries, which will be bunded to protect soils against accidental leakages of oils and battery fluids.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				These potential effects are limited by the size of the fuel tank of vehicles used on the Site. Additional potential effects will occur in the event that a turbine needs replacement. The effects associated with this will be similar to those involved for vehicles movements during construction but much reduced. Blasting Activity at adjacent Quarry will continue throughout the operational phase of the wind farm. During these periods the operational works programme for the wind farm will be co-ordinated with that employed at the quarry for quarry blasting and the relevant mitigation employed to avoid risk to site users.		
MM93	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.6.1.5 Floodplains	During the operational phase of the Proposed Development, the cable route would by its nature (buried) have no effect on flooding by causing restrictions or disruption to flood flows.		
MM94	Site Drainage	Chapter 11: Hydrology and Hydrogeology	11.9 Mitigating Measures – Operational Phase	Mitigation of the effects of the Proposed Development will comprise the following: • Ensure best practice is adhered to on the Site and avoid pollution release to watercourses by incorporating Pollution Prevention Guidance notes into management policy. • In the event that permanent welfare facilities are installed as part of control building / substation facilities, foul effluent will be disposed of through the use of sealed cesspools or chemical facilities with periodic tankered removal by a licensed waste haulier for licensed offsite disposal (i.e. there shall be no emission on the site); and • Cyclical maintenance of permanent SuDS drainage features installed during the construction phase, including unblocking of drains, maintenance of access road and		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				other hard standing surfaces, and removal of silt build-up from settlement features.		
MM95	Waste	Chapter 14: Material Assets and Other Issues	14.11.7 Mitigation Measures - Waste	***Staff Facilities*** Provision for separation of waste streams will be provided so that e.g., paper, and cardboard waste and bottles will be recycled. This waste will be appropriately stored to prevent exposure to wind, rain, and wildlife. ***Sewage*** It is proposed to install a rainwater harvesting system as the source of water for toilet facilities for the operational phase. Wastewater from the staff welfare facilities in the control building will be collected in a sealed storage tank, fitted with a high-level alarm. This is a device installed in a fuel storage tank that is capable of sounding an alarm, during a filling operation, when the liquid level nears the top of the tank.		
MM96	Shadow Flicker	Chapter 17: Shadow Flicker	17.2.9.3 Operational Phase	Shadow flicker control systems, consisting of light sensors and specialised software, will be installed on each of the wind turbines. The control system will calculate, in real-time: • Whether shadow flicker has the potential to effect nearby sensitive receptors, based on pre-programmed co-ordinates for the sensitive receptors and turbines; • Wind speed (can affect how fast the turbine will turn and how quickly the flicker will occur); • Wind direction; and • The intensity of the sunlight. When the control system detects that the sunlight is strong enough to cast a shadow, and the shadow falls on a sensitive receptor or receptors, then the turbine will automatically shut		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				down; and will restart when the potential for shadow flicker ceases at the effected receptors.		
MM97	Site Drainage	Appendix 2.1 CEMP Management Plan 3 Surface Water Management Plan	3.2 Construction Phase Mititgaiton	Residual risk to watercourses specific to the construction stage will be fully addressed in the Contractor's construction method statement and will include the following: Works to install all crossings shall be programmed to coincide with a period of anticipated low drain flow and firm ground conditions in order to minimise potential for silt laden runoff draining toward the stream; For closed crossings (culverts) the channel will be dammed upstream of the proposed culvert location using sandbags or similar in order to provide a dry working environment at the culvert location. Dammed flows will be pumped out of channel and returning directly to the drain shortly downstream of the culvert location. Erosion protection shall be placed at the point of pump return. All pumping will be controlled on a contractor permit-to–pump scheme, such that pumping operations can be carefully planned, installed and monitored; Geotextile silt fences shall be installed adjacent to the drain bank upstream and downstream of the culvert location to filter contaminated runoff that may be caused by plant movement associated with the culvert installation. A sequence (minimum 2 no.) in-channel geotextile check dams will be installed within the drain channel downstream of the culvert location and downstream of the pump return; Silt fence arrangements are shown on drawing SWMP_41 included in Annex D. The culvert comprising pre-cast concrete or pre-formed plastic pipes shall be installed and backfilled with suitable aggregate.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Headwalls and scour protection to the drain bed shall be formed at the culvert inlet and outlet using dry formed components (lean-mix concrete-filled sandbags or similar). Washed gravel or pebbles (including if feasible that material recovered from the natural substrate excavated to permit the culvert installation) shall be introduced to cover and protect the extent of the drain channel affected by excavations. No wet concrete or cementitious material shall be required to be used within the channel; Over pumping and upstream dams shall be removed and water permitted to pass through the culvert. Downstream in-channel filtration check dams shall be retained and renewed as necessary in order to trap sediment until any residual washout of sediment from the exposed excavation has stabilised to a normal (pre-construction) level; and Geotextile or equivalent splash-guards shall be erected to the track embankment over the culvert or clear span crossing prior to trafficking.		
Decommissioning Phase						
MM98	Decommissioning	Chapter 5: Population and Human Health	5.5.6 Land Use and Topography	Decommissioning works will be planned and controlled by a Construction and Environmental Management Plan (CEMP). This provides details on day to day works and methodologies. As part of these works, the public and other stakeholders will be provided with updates on construction activities which will affect access to lands. This will be communicated to members of the public through a community liaison officer employed for the duration of the construction period.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM99	Decommissioning	Chapter 5: Population and Human Health	5.5.8.1 Human Health and Safety Construction and Decommissioning	Public safety will be addressed by restricting access to the public in the vicinity of the site works during the decommissioning stage. The construction site will be temporarily closed in sections to the public for the eighteen months decommissioning period. This measure aims to avoid potential injury to members of the public as a result of construction activities. Appropriate warning signage will be posted at the construction site entrance, directing all visitors to the site manager. Appropriate signage will be provided on public roads approaching site entrances and along haul routes. Once mitigation measures, including health and safety measures are implemented and followed, the potential for impact on human health for members of the public and construction workers during decommissioning of the proposed project is expected to be not significant and temporary to short-term.		
MM100	Decommissioning	Chapter 7: Bat Ecology	7.6.4 Decommissioning Phase Mitigation	Decommissioning of the Development will be scheduled to take place after the proposed 35-year lifespan of the project. Decommissioning phase impacts for the proposed Development are likely to be broadly similar to construction phase impacts, in terms of potential surface impacts to bat foraging and roosting habitats. However, there will be a reduction in the amount of vegetation clearance required as buffers will not be implemented. While the impacts are expected to be significantly reduced during decommissioning compared to construction, based on a precautionary approach, all mitigation measures detailed for the construction phase will be adopted in full during the decommissioning phase. Restoration of the Proposed Development Site following decommissioning of infrastructure will require the prior		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				establishment of the new baseline conditions at the Development which will have developed over the intervening 35 years life of the project. These studies will inform any modification or additional sensitivities that may need to be factored into restoration and habitat-specific measures.		
MM101	Decommissioning	Chapter 8 Ornithology	8.4 Embedded Mitigation – Decommission Phase	As decommissioning works are likely to be of a similar nature and duration as construction activities, the mitigation measures outlined for the construction phase will be implemented to ensure compliance with relevant legislation. **Ecological Clerk of Works (ECoW)**: To ensure that mitigation measures are reactive to changing conditions on Site and compliance with legislation protecting breeding birds, a suitably experienced ECoW will be present to identify any potential constraints to Proposed Development works and provide advice to comply with all legislation relative to breeding birds during the construction phase. **Toolbox talk**: A 'toolbox talk' will be delivered prior to construction, and at regular intervals, by a suitably experienced ECoW to ensure that all contractors working on the Proposed Development are aware of ornithological sensitivities and relevant legislation. **Timing of works**: Given the anticipated construction period, some construction work will take place during the peak breeding season (March to August). No works will start during the breeding season without first establishing the status of breeding birds within likely disturbance distances of the proposed works.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Vegetation removal: Where possible, any removal of vegetation, including grassland and moorland habitats, will take place outside of the breeding season. Any vegetation removal during breeding season will be subject to additional safeguards and nesting bird checks by the ECoW, with appropriate exclusion areas instated if any nests are located, following current disturbance guidance (Goodship and Furness, 2022). **Pre-construction Surveys**: Pre-construction surveys will be undertaken to identify the any breeding birds nesting within or close to working areas. Surveys will be undertaken by the ECoW, who will determine the scope of surveys required, which will be based on current disturbance guidance and professional judgement (Goodship and Furness, 2022). **Protection of nesting birds**: It is an offence to wilfully destroy, injure or mutilate the eggs or nest of a protected wild bird, and to wilfully disturb a protected wild bird on or near a nest containing eggs or unflown young. If any active nests are identified during pre-construction surveys which could be damaged or destroyed, an exclusion zone around the nest/breeding territory will be established which would be informed by current guidance (Goodship and Furness, 2022). No works will be permitted within the exclusion zone and no personnel or vehicles will be allowed to enter or pass through until the ECoW has confirmed that the nesting attempt has reached a natural conclusion. **Minimising disturbance from Site vehicles**: Where construction works are required during the breeding bird season, mitigation measures to limit the impact of vehicular disturbance will be implemented. This will include no idling of vehicles,		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				appropriate speed restrictions and dust suppression measures on Site.		
MM102	Decommissioning	Chapter 9: Aquatic Ecology	9.6.4 Decommissioning Phase Mitigation	Prior to the decommissioning work, a comprehensive plan will be drawn up that takes account of the findings of this EIAR and the contemporary legislative requirements at that time, to manage and control the component removal and ground reinstatement.		
MM103	Decommissioning	Chapter 10: Soil and Geology	10.6.4 Decommissioning and Restoration Phases	Mitigation measures applied during decommissioning activities will be similar to those applied during construction where relevant. Some of the effects associated with reinstatement of the site (excavation of access tracks) will be avoided by leaving these in place where possible. It is proposed to leave the access tracks in-situ at the decommissioning stage. IWEA state that "it may be best" to leave site tracks in-situ depending on the size and geography of the development. It is considered that leaving the access tracks in-situ will cause less environmental damage than removing and recycling them, so these elements of the construction will be retained. Turbine base, hardstand and other ancillary infrastructure will be removed and covered with overburden material to allow for re-vegetation of the development site. Areas of excess soil and rock will be reused in order to match the surrounding land as near as possible. Drainage and slopes will be restored as close to the original ground as possible.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Grid connection infrastructure including substations and ancillary electrical equipment shall form part of the national grid and will be left in situ. Removal of this infrastructure would result in considerable disruption to the local environment in terms of increased sedimentation, erosion, dust, noise, traffic and an increased possibility of contamination of the local water table. However, if removal is deemed to be required by the respective local authority all infrastructure will be removed with mitigation measures similar to those during construction being employed. Mitigation measures to avoid contamination by accidental fuel leakage and compaction of soil by on-site plant will be implemented as per the construction phase mitigation measures outlined below. **Vehicular Movements** Vehicular movements will be restricted to the footprint of the Proposed Development, particularly with respect to the newly constructed Site Access Tracks. This ensures that machinery must be kept on tracks and will not move onto areas that are not permitted. Vehicular traffic on Site will be minimised through the re-use of excavated material on Site which will reduce the need to source material from external quarries. As discussed previously, excavation volumes have been reduced during the design phase by avoiding areas of sensitive or soft soils and by avoiding excessive cut and fill during construction. This will result in reduced excavation volumes and therefore reduced Site traffic.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				Best practice as described in the IWEA and Scottish Best Practice Guidelines will be applied during construction which will minimise double handling, again reducing the Site traffic. All works will be managed and carried out in accordance with the Construction Environmental Management Plan (**Sections 3.3.3** of the CEMP in **Appendix 2.1** of **Volume IV**), which will be updated by the civil engineering contractor and agreed prior to any Site works commencing. **Soil Contamination** Careful design of the wind farm has reduced the amount of Site traffic required on Site by reducing access tracks lengths, excavation volumes and double handling. Similarly, good Site practice and a robust CEMP (**Technical Appendix 2.1**) will also result in less traffic and a lower potential for fuel spills and leakages. The CEMP (**Sections 3.3.5** and **3.4.4** of the CEMP in **Appendix 2.1** of **Volume IV**) requires the checking of assets (plant, vehicles, fuel bowsers) on a regular basis during the construction phase of the Proposed Development. The purpose of this management control is to ensure that the measures in place are operating effectively, prevent accidental leakages, and identify potential breaches in the protective retention and attenuation network during earthworks operations. Fuel management procedures adopted will include the following elements: • Mobile bowsers, tanks and drums will be stored in secure, impermeable storage area, away from drains and open water; • Fuel containers will be stored within a secondary containment system e.g. bund for static tanks or a drip tray for mobile stores;		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Ancillary equipment such as hoses, pipes will be contained within the bund; • Taps, nozzles or valves will be fitted with a lock system; • Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage; • Only designated trained operators will be authorised to refuel plant on Site. The emergency response plan, as detailed in the CEMP, has been developed in order to deal with any emergency accidents or spills. In particular an emergency spill kit with oil boom and absorbers will be kept on Site in the event of an accidental spill. All Site operatives will be trained in its use. In addition, all vehicles will also contain emergency spill kits.		
MM104	Decommissioning	Chapter 11: Hydrology and Hydrogeology	11.6.5.1 Floodplains	During decommissioning phase, underground cables will be removed while the ducting will be left in-situ. As such there would be no effect on flooding caused by restrictions or disruption to flood flows.		
MM105	Decommissioning	Chapter 11: Hydrology and Hydrogeology	11.10 Mitigating Measures – Decommissioning Phase	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, underground cables will be removed while the ducting will be left in-situ. The turbine foundations will remain in-situ, turbine hardstand areas will be remediated to match the existing landscape as closely as possible, and access tracks will be left for use by the relevant landowner(s). Prior to the decommissioning work, a comprehensive plan will be drawn up that takes account of the findings of this EIAR and the		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				contemporary legislative requirements at that time, to manage and control the component removal and ground reinstatement.		
MM106	Decommissioning	Chapter 12: Landscape and Visual	12.4 Mitigation Measures	Upon decommissioning, the turbines, meteorological mast, and all underground electrical and communications cabling will be removed. Other elements will be retained in situ to serve ongoing forestry and agriculture activity.		
MM107	Decommissioning	Chapter 18: Air Quality and Climate	18.3.7.3 Decommissioning Phase Mitigation	Good practice site procedures will be followed by the appointed contractor to prevent dirt and dust being transported onto the local road network and to minimise vehicle exhaust emissions. Good practice site control measures will comprise the following: • Site Access Tracks will be upgraded and built in the initial decommissioning phases. These roads will be finished with graded aggregate which compacts, preventing dust. • Approach roads and decommission areas will be cleaned on a regular basis to prevent build-up of mud and prevent it from migrating around the Site and onto the public road network. • Wheel wash facilities will be provided near the Site entrance to prevent mud/dirt being transferred from the site to the public road network. • Public roads along the construction haul route will be inspected and cleaned daily. In the unlikely event that dirt/mud is identified on public roads, the roads will be cleaned. The wheel wash facility will be investigated, and the problem fixed to prevent this from happening again. • During periods of dry and windy weather, there is potential for dust to become friable and cause nuisance to nearby residences and users of the local road network. This requires wetting material and ensuring water is supplied at the correct levels for the duration of the work activity. The weather will be monitored so that		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				the need for damping down activities can be predicted. Water bowsers will be available to spray work areas (wind turbine area and grid connection route) and haul roads to suppress dust migration from the Site. • Vehicles delivering materials to the site will be covered appropriately when transporting materials that could result in dust, e.g., crushed rock or sand. • Exhaust emissions from vehicles operating within the site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the Contractor by ensuring that emissions from vehicles are minimised through regular servicing of machinery. • All machinery when not in use will be turned off. • Ready-mix concrete will be delivered to the Site and no batching of concrete will take place on the Site. Only washing out of chutes will take place on site and this will be undertaken at a designated concrete washout facility at the contractor's compound. The concrete wash water will be disposed of at a licensed facility as outlined in the Construction Environment Management Plan (CEMP) – Management Plan 5 Waste Management Plan (**Appendix 2.1**) • Speed restrictions of 15km/h on Access Tracks will be implemented to reduce the likelihood of dust becoming airborne. Consideration will be given to how on-site speed limits are policed by the Contractor and referred to in the toolbox talks. • Stockpiling of materials will be carried out in such a way as to minimise their exposure to wind. Stockpiles will be covered with geotextiles layering and damping down will be carried out when weather conditions require it.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• Earthworks and exposed areas/soil stockpiles will be re-vegetated to stabilise surfaces as soon as practicable. • An independent, qualified Geotechnical Engineer will be contracted for the detailed design stage of the project and geotechnical services and will be retained throughout the construction phase, including monitoring and supervision of construction activities on a regular basis. The methodology statement will be signed off by a suitably qualified Geotechnical Engineer. • A complaints procedure will be implemented on site where complaints will be reported, logged and appropriate action taken. The appointed contractor responsible for the detailed design of the project will provide details to the planning authority for agreement in writing prior to the commencement of development of environmental safety methodology including best practice procedures to manage construction activities. The methodology statement will be signed off by a suitably qualified geotechnical engineer/engineering geologist. An independent, qualified geotechnical engineer/engineering geologist will be contracted for the detailed design stage of the project and geotechnical services will be retained throughout the construction phase, including monitoring and supervision of construction activities on a regular basis.		
MM108	Decommissioning	Appendix 20.1 Management Plan 6 Decommissioning Plan	3.5 Invasive Species Management	Prior to Decommissioning, a suitably qualified (CIEEM accredited) ecologist will complete an invasive species survey of the material proposed for turbine foundation backfilling. The invasive species survey will also be undertaken along the cable route to identify invasive species at joint bay locations where excavation to expose the cabling for removal will be required.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
MM109	Decommissioning	Appendix 20.1 Management Plan 6 Decommissioning Plan EIAR Chapter 2 Project Description	3.2 Refueling; Fuel and Hazardous Materials Storage	The following mitigation measures are proposed to avoid release of hydrocarbons at the Site: • Road-going vehicles will be refuelled off site wherever possible. • On-site refuelling will be carried out at designated refuelling area (Planning Drawing No. 803) at the Site. Machinery such as cranes will be refuelled directly by a fuel truck that will come to site as required. • Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations. • Fuel volumes stored on site will be minimised. The fuel storage areas will be bunded to 110% of the storage volume. • The plant used will be regularly inspected for leaks and fitness for purpose. • An emergency plan for the decommissioning phase to deal with accidental spillages will be developed. Spill kits will be available to deal with an accidental spillage in and outside the refuelling area. A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase. • Vehicles will undergo a visual inspection prior to being permitted to drive onto the proposed site or progress beyond the Contractors' yard. Vehicles will also be in good working order. The Contractors and Ecological Clerk of Works will retain a record of all inspections/findings of Environmental Clerks within Section		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				4 of the main CEMP document. All records will be made available for discussion during meetings.		
MM110	Decommissioning	Appendix 20.1 Management Plan 6 Decommissioning Plan EIAR Chapter 18 Air and Climate	3.3 Dust Control	Proposed measures to control dust, the same as those proposed for the construction phase, include: • Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions. • Although highly unlikely to occur, the designated public roads outside the Site and along the main transport routes to the site will be inspected daily by the Site Manager for cleanliness and cleaned if deposits are found. • Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind. • Water misting or sprays will be used in dry and windy if particularly dusty activities are necessary during dry or windy periods. • The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles. • Daily inspection of the site to examine dust measures and their effectiveness.		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				• When in dry and/or windy weather and dirt is visible on the roads, sections of the haul route will be swept using a truck mounted vacuum sweeper.		
MM111	Decommissioning	Appendix 20.1 Management Plan 6 Decommissioning Plan EIAR Chapter 13 Noise	3.4 Noise control	Proposed measures to control noise, the same as those proposed for the construction phase, include: • Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts. • Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations SI No. 320/1988 and SI No 359/1996. • Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers. • All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works. • Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be		

Ref. No.	Reference Heading	EIAR Chapter	Section	Mitigation Measure	Audit Result	Action Required
				kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. • Machines, which are used intermittently, will be shut down during those periods when they are not in use. • Training will be provided by the Site Manager to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation. • Local areas of the haul route will be condition monitored and maintained, if necessary. • Contractors working on the site and along the site haul routes will be required to have 'white noise' reversing beepers on all dump trucks to minimise the potential for tonal noise.		

Table 20.1b: Monitoring Schedule

<table>
<tr><th>Ref. No.</th><th>Reference Heading</th><th>Reference Location</th><th>Mitigation Measure</th><th>Frequency</th><th>Reporting Period</th><th>Responsibility</th></tr>
<tr><td colspan="7">Pre-Construction Phase</td></tr>
<tr><td>MX1</td><td>Flora and Fauna</td><td>6.9.1 Pre-construction badger survey</td><td>If two or more years lapse from between the planning-stage surveys (carried out in 2023-24) and commencement of construction works, including tree-felling, a badger survey will be carried out in areas of potential suitable habitat which will be disturbed by the works as the local distribution of badger may have changed in that period.</td><td>As Required</td><td></td><td></td></tr>
<tr><td>MX2</td><td>Site Drainage</td><td>Appendix 2.1 CEMP Management Plan 3 Surface Water Management Plan</td><td>Permanent drainage assets shall be the responsibility of the site operator to maintain. The developer shall put in place drainage management procedures as part of the overall facility management. Maintenance plans for drainage features are shown in the following table.
<table>
<tr><th>Feature</th><th>Maintenance Requirements</th><th>Time</th></tr>
<tr><td>Culvert inlets/ outlets</td><td>Vegetation maintenance – remove Clear siltation and debris causing blockage</td><td>Inspect twice annually and after significant storms. Repair as required.</td></tr>
<tr><td>Culvert barrel</td><td>Inspect (visual / by camera) for cracking / fracturing and deflection. Repair as required.</td><td>Inspect prior to any heavy traffic movements for maintenance during the operation phase.</td></tr>
</table></td><td>Twice Annually/ Prior to heavy traffic during operation phase</td><td></td><td>Site Operator</td></tr>
<tr><td>MX3</td><td>Waste</td><td>Appendix 2.1 CEMP</td><td>All stores on site of oil, fuel, chemicals etc will be regularly checked (in particular in extreme weather conditions) for</td><td>Weekly</td><td>Every six months</td><td></td></tr>
</table>

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
		Management Plan 5 Waste Management Plan	evidence of leaks or spills. The timing of each of these checks is detailed in Section 3. These checks will be visual inspections to look for evidence of contamination. Records of all visual checks will be maintained and be available for inspection on request. Waste Management will be a regular item on team meetings as required by the CEMP. Waste Management Practices will be revised at these meetings. A waste audit will be carried out every six months.			
MX3	Waste	Appendix 2.1 CEMP Management Plan 5 Waste Management Plan	A waste inventory will be maintained and kept up to date. It will include an inventory of all waste materials leaving the site for disposal and the name of the licensed operator and intended disposal facility. A Waste Inventory Spreadsheet will be added to this plan by the Contractor.			
Construction Phase						
MX4	Biodiversity	Appendix 6.1 BEMP	The contractor will carry out an annual inspection for failed trees and will replace same at the earliest opportunity. This will be done for as long as it takes the trees to become fully established. Afterwards, standing dead or fallen trees from storms *etc*. will be left in situ as part of the woodland.	Yearly	As Required	
MX5	Biodiversity	6.9.2 On-going monitoring during construction	An Ecological Clerk of Works (ECoW) will be employed by the Contractor for the duration of the construction phase and will ensure that all mitigation measures relating to ecology described in this report and contained within the planning permission are implemented.			Ecological Clerk of Works (ECoW)
MX6	Ornithology	8.7.3 Monitoring	In order to confirm how IOF species are affected by the Proposed Development (including the proposed habitat management outlined in Appendix 6	Yearly		

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			1 BEMP), and how this compares to predicted effects, ornithological monitoring will take place during and post-construction. An Ornithological Monitoring Plan will be produced providing details of the methods and survey effort required, and will be agreed with consultees including NPWS prior to commencement of construction. Surveys will include the following: • Raptor monitoring between March and August to identify any breeding raptor territories within 1km of the Proposed Development, following the methods described in Hardey *et al.* (2013); • Breeding snipe surveys with a minimum of three survey visits between March and July to identify any breeding wader territories within 500m of the Proposed Development. Surveys should be undertaken following methods outlined in Gilbert *et al.* (1998); • Non-breeding season collision monitoring: carcass searches, carcass persistence trials and observer efficiency trials will be completed at least once per month throughout the non-breeding season, to determine whether actual bird collisions are in line with predicted values. Carcasses of all species found on Site will be recorded. In line with NatureScot guidance (2009), the above monitoring is proposed to take place annually during construction, and after the Proposed Development becomes operational during years 1-3, 5, 10 and 15. It is recommended that additional collision monitoring is undertaken following Kilsaran Quarry restoration to determine the effects on the avian population. It is recommended that			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			VPS are undertaken from a suitable VP to determine any changes in flight activity within 500m of the Proposed Development. Surveys should be undertaken for six hours per month for a single non-breeding season following restoration, with methods replicating those used for baseline surveys (or best practice at the time of survey). It is considered that surveys from a single VP location should be sufficient, however this would be confirmed by a suitably experienced ornithologist when designing the survey scope. In addition, it is recommended that Non-breeding season collision monitoring outlined above is repeated alongside VPS.			
MX7	Site Drainage	9.6.2.2 Mitigation by Design	Daily monitoring of all sediment traps and settlement ponds will be undertaken by the Environmental Manager or Ecological Clerk of Works to ensure satisfactory operation and/ or maintenance requirements. Re-seeding/ re-vegetation of all areas of bare ground or the placement of Geo-jute (or similar) matting will take place prior to the operational phase to prevent silt-laden run-off.	Daily		
MX8	Site Drainage	11.11 Water quality monitoring	A water quality monitoring program will be implemented to monitor effects on the surface water quality regime during the infrastructure construction, operational and decommissioning phases of the Proposed Development, in order to: • Demonstrate that the mitigation measures and surface water management is performing as designed; • Provide validation that the in-place mitigation measures are not having an adverse effect upon the environment; and • Indicate the need for additional mitigation measures to prevent, reduce or remove any effects on the water			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			environment, such as additional temporary settlement or filtration structures or short-term flocculant dosing to suit observed site conditions. The monitoring would be informed by existing water quality baseline data and baseline monitoring rounds undertaken prior to the commencement of the construction phase. It is proposed that the water monitoring extent, duration and frequency will be agreed with the local authority or the relevant regulating body post-consent and will nominally consist of physicochemical and biological monitoring. The extent, duration and frequency of the monitoring will be proportionate to the level of activity during each phase of the Proposed Development and the associated perceived risks.			
MX9	Cultural Heritage	15.5.1 Construction Phase Mitigation	Ground works during the construction phase will be subject to archaeological monitoring by a licence-eligible archaeologist under licence by the National Monuments Service. A systematic advance programme of archaeological field-walking surveys will also be carried out within Proposed Development areas in forestry plantations following tree felling to confirm the conditions predicted in this assessment, i.e., that they contain no visible surface traces of potential unrecorded archaeological or architectural heritage sites.			
	Appendix 2.1 CEMP	Management Plan 2 Water Quality Management Plan 2.1 General	In order to verify the efficacy of pollution prevention and mitigation works during construction, Water Quality Monitoring is required to be undertaken by a suitably qualified Environmental Consultant(s), prior to, during and post completion of construction works. This will include all watercourses within the catchment of the construction area. The monitoring will comprise visual, hydrochemistry and grab sample monitoring.			ECoW

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			Prior to works commencing, the Ecological Clerk of Works will be retained by EDF Renewables Ireland Limited with a responsibility to implement this Water Quality Management Plan. Among other requirements, the Water Quality Management Plan requires a full baseline water quality survey to be undertaken prior to the commencement of construction and requires the contractor to provide a 'schedule of work' to Ecological Clerk of Works at the beginning of each week. The Ecological Clerk of Works will prepare and deliver site induction and training to all construction personnel, in liaison with the Site Engineer. • Field monitoring (as described in Section 3) of water quality parameters and collection of samples will be undertaken by the Ecological Clerk of Works or other suitably appointed person(s) (qualified to degree level with at least 5 years' experience in a similar role) based at the site. The Ecological Clerk of Works or nominated site person(s) will be appropriately trained on the required monitoring methods and the use, calibration and maintenance of all monitoring equipment used. Training will be provided by the Environmental Consultant appointed to undertake the Water Quality Monitoring programme. Undertake specific monitoring activities and reporting as defined in agreed documentation prepared as part of the planning process. • Daily visual inspection of access roads for signs of ground damage or solids escape to nearby watercourses in vicinity of construction works			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			• The ground between the structure under construction and the nearest downslope watercourse for signs of solids escape or ground damage • Surface water features in vicinity of construction works • Any pollution control measures at structures and along access roads (e.g., silt fences, drain or stream crossings etc.) for evidence of contaminated run-off or mitigation failure • Attendance at the critical work phases including: access road construction, foundation excavation, watercourse crossings, concrete pouring and back-filling. • Collection and analysis of water samples at a number of monitoring locations (i.e., upstream & downstream of the three onsite water crossing locations) before, during (if potential pollution visually identified) and after construction works at that location • EPA Q Value Biological Monitoring at three water crossing locations (i.e., upstream & downstream of instream construction work locations) before and after construction works. Collection and analysis of water samples at a number of monitoring locations (i.e., upstream and downstream of construction work locations) before, during (if potential pollution visually identified) and after construction works.			
MX10	Appendix 2.1 CEMP	Management Plan 2 Water Quality Management Plan 2.2 Hydrochemistry Monitoring	**Field Monitoring** Field monitoring of water quality parameters and collection of samples will be undertaken by the Ecological Clerk of Works. The Ecological Clerk of Works will be appropriately qualified to third level education and experienced in the field for no less than 5 years on the required monitoring methods and the use,	On-going	Monthly	ECoW

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			calibration and maintenance of all monitoring equipment used. Sampling will be in accordance with International Standards of Operation. The chosen laboratory will be accredited. **Laboratory Analysis** Laboratory analysis of water samples will also be undertaken as part of the monitoring programme by an independent and appropriately certified laboratory to be appointed by the Ecological Clerk of Works. ISO 17025 Accreditation proves a laboratory has an acceptable quality management system in place, and it has the ability and competence to provide testing and calibration results. Coordination of the laboratory sampling and analytical programme will be undertaken by the Ecological Clerk of Works. Samples will be dispatched for analysis under chain of custody procedures. Laboratory analytical results will be sent directly to the Ecological Clerk of Works. Interpretation and reporting of both the field and laboratory data will be the responsibility of the Ecological Clerk of Works			
MX11	Site Drainage	Appendix 2.1 CEMP Management Plan 3 Surface Water Management Plan 4.11 Construction Phase Maintenance	*Drains / Check Dams* • All check dams and settlement basins to be checked weekly in dry weather and daily during periods of heavy rainfall via a walkover survey during the construction phase. Excess trapped silt to be removed and disposed of / re-used as may be agreed with relevant authorities; • Where check dams have become fully blocked with silt, they will be replaced. Procedure for replacement of the check dam as follows: silt deposits to be removed from the upstream side of check dams; removed silt to be buried or re-used by spreading in an area of the site	As required		Engineer

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			where surface runoff will not convey silt deposits back to a watercourse; where there are regular incidents of check dam blockage further check dams to be installed (every 15-20 m intervals) within the swales; • Should there be noticeable effects of erosion along the swales or at discharge points, suitable erosion protection measures such as placement of large stones or erosion protection textiles will be installed at the area affected; and • Any temporarily stored or stockpiled material will be placed in a manner to ensure stability and set back sufficiently far such that in the case of unforeseen collapse, spoil would not cause infilling of swales. <u>Settlement Basins</u> • Basin inlets to be cleared of debris; • Silt in aggregate forebays to be removed by excavator and disposed of. Any aggregate removed to be replaced with clean stone; and • Any flow control device (orifice, weir or similar) to be checked and cleared of any debris. <u>Drainage Pipes</u> • Piped drainage (clean water / dirty water) to be monitored at inlets. Silt to be removed by hand or by excavator and disposed of; and • Pipe deflection to be monitored. Ineffective gradients to be identified and pipes excavated and replaced to ensure drainage function.			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
Operational Phase						
MX12	Biodiversity	6.10.1 Habitats	Post-construction habitat monitoring will focus on the following: • All ground which had been disturbed by construction activities; • Replanted hedgerows along relevant sections of TDR; • The Biodiversity and Enhancement Management Plan area (see details in **Appendix 6.1**). When all ground works are complete on Site, a vegetation survey will take place by an ecologist. This will describe the state of the vegetation in the areas where disturbance has occurred, and which may have been reseeded. The purpose is to minimise the risk of soil erosion. These areas will be revisited in each of the first three years following construction by which time previously bare surfaces should be fully re-vegetated. At that stage, any areas still considered prone to soil erosion will be subject to further planting and/or stabilisation works. All replanted hedging will be monitored in Years 1, 2, 3 and 5 to ensure that the planted stems have taken. Any failed plantings will be replaced. Reports will be prepared for each year of monitoring and issued to the relevant planning authority.	Yearly	Yearly	Ecologist
MX13	Biodiversity	Appendix 6.1 BEMP 2.3.1. Monitoring for wetland enhancement	After the Wetland Management Areas A and B are fenced to exclude grazing stock, a series of permanent quadrats will be set up for the purpose of monitoring of vegetation change over time. The location of these quadrats will be marked using wooden pegs and the grid reference will be recorded using GPS. It is expected that up to ten quadrats will be described. These will	Yearly	Yearly	

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			be of an appropriate size, probably 2 m x 2 m, to take into account the scale of the plan area. The occurrence and cover of vascular plant and moss species will be recorded in these quadrats along with a number of other important parameters such as the height of vegetation, cover of bare peat, peat depth, flowering of plant species etc. This survey will take place in the late summer/autumn period of each monitoring year. Photographs of the quadrats will also be taken on deployment and subsequently during the following years of monitoring. Monitoring will take place during the wind farm Operational Years 1, 2, 3 & 5 of the Plan implementation, with Year 1 being the base year at the time the works are carried out. After Year 5, a review of the progress will be conducted in light of the Plan objectives, and a programme will be developed for the next 5-Year period of the Plan (and so on for the lifetime of the project). A report will be prepared for each year of monitoring. From the monitoring results, an assessment will be made by the project ecologist on whether a level of appropriate grazing would be allowed within Management Areas A and/or B. This would be of a stocking level suitable for the habitats present and would be over a defined period of the year.			
MX14	Biodiversity	Appendix 6.1 BEMP 2.3.1. Monitoring of gorse removal	As with the main wetland area, a series of permanent quadrats will be set up in the areas where gorse has been removed for the purpose of monitoring of vegetation change over time.	Yearly	Yearly	
MX15	Biodiversity	Appendix 6.1 Biodiversity Enhancement Measures Plan 3.3 Monitoring	The contractor will carry out an annual inspection for failed trees and will replace same at the earliest opportunity. This will be done for as long as it takes the trees to become fully established. Afterwards, standing dead or fallen trees from storms *etc*. will be left in situ as part of the woodland.			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
MX16	Biodiversity	Appendix 6.1 BEMP 4.3 Monitoring	A bat ecologist will visit the stand at the time when the trees are expected to have reached a diameter at breast height (DBH) of 30 cm for the purpose of selecting trees to carry out artificial veteranisation.			
MX17	Bat Ecology	Section 7.8.1 Activity Monitoring	Initially, regular monitoring will be conducted in Year 1, 2 & 3 to ensure that vegetation clearance measures and ongoing management efforts result in the desired habitat conditions. Following the establishment of optimal conditions (after year 3), a habitat maintenance plan will be agreed with the local authority and implemented. Annual compliance checks in spring (April) and late summer (August) will be required for the first three years of the Development's with a check every 10 years for the remainder of the Development's lifespan to ensure that buffers are maintained in suitable conditions. The three-year post-construction monitoring also will include bat activity monitoring and carcass searching (NatureScot *et al*., 2021; NIEA 2022). Bat activity monitoring in years 1, 2 & 3 will involve three seasonal deployments of 8 static bat detectors operating for a minimum of 10 nights under compliant weather conditions. Five detectors will be positioned at each of the turbine locations. Three secondary detectors will focus on monitoring activity at the mature tree line north of T5, at the Drumshallon stream east or south of T4, and at the hedgerow north of T2. Deployment will cover the following periods: • early May and mid-June; • mid-June and mid-August; • early September; A continuously recording bat detector will be deployed on the meteorological mast to simultaneously monitor bat activity at			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			ground level (c. 2 m) and at height (approx. 50 m). Similar to pre-construction surveys, weather data will be collected. This can be supplemented with wind speed data collected from wind turbines.			
MX18	Bat Ecology	Section 7.8.2 Carcass Searches	Carcass searches Whilst no significant residual impacts on bats are predicted, the proposed Development could provide an opportunity to gain baseline data on bat/turbine interaction and it is recommended that the scheme be monitored for bat fatalities during years 1, 2, 3, 5, 10, 15 and 25 post construction. A comprehensive onsite fatality monitoring programme is to be undertaken. The primary components of the mortality programme are outlined below. • Carcass removal trials to establish levels of predator removal of possible fatalities. This will be done following best recommended practice and with due cognisance of published effects such as predator swamping, whereby excessive placement of carcasses increases predator presence and consequently skews results. No turbines which are used for carcass removal trials will be used for subsequent fatality monitoring. • Turbine searches for fatalities will be undertaken following best practice in terms of search area (minimum radius hub height) and at intervals selected to effectively sample fatality rates as determined by carcass removal trials in (a) above. • A standardised approach with a possible control group and/or variation in search techniques such as straight line transects/ randomly selected spiral transects/ dog searches will be undertaken. This will provide a means			

Ref. No.	Reference Heading	Reference Location	Mitigation Measure	Frequency	Reporting Period	Responsibility
			of robustly estimating the post construction collision fatality impact (if any). • Recorded fatalities will be calibrated against known predator removal rates to provide an estimate of overall fatality rates.			
Decommissioning Phase						
MX19	Decommissioning	Decommissioning Plan Section 3	Ecological Clerk of Works will maintain responsibility for monitoring the decommissioning works and Contractors/Sub-contractors from an environmental perspective. The Ecological Clerk of Works will act as the regulatory interface on environmental matters. The Site Manager will be responsible for reporting to and liaising with Louth County Council, Louth County Council and other statutory bodies as required.			
MX20	Decommissioning	Decommissioning Plan Section 3	A suitably qualified and experienced ecologist and any other suitably qualified and experienced professionals such as engineers and geotechnical experts will further advise the Ecological Clerk of Works and Site Manager on works and mitigation measures associated with the Decommissioning phase. This will ensure there is no negative impact on the environment as a result of the decommissioning of the Proposed Development.			