21.0 SCHEDULE OF MITIGATION MEASURES

21.1 INTRODUCTION

This chapter of the EIAR provides a summary of the findings of this EIAR, based on the design and mitigation measures identified within the technical assessments of this report. The schedule below details the measures upon which the findings of this EIAR have been based and are an integral part of the proposed development.

During the construction, operational and decommissioning phases of the proposed development, all personnel working on the proposed development will be required to be responsible for the environmental control of their own work and to perform their duties in accordance with the requirements and procedures of the CEMP (See Appendix 3-2).

All works associated with the construction of the proposed development will be undertaken with due regard to the guidance contained within CIRIA Document C741 'Environmental Good Practice on Site' (CIRIA, 2015).

21.2 SCHEDULE OF EIAR MITIGATION MEASURES

The following table provides a summary of the mitigation measures proposed within this EIAR. In addition, the monitoring proposals have been included.



Table 21.1: Table of Mitigation Measures

Ref No.	Related to	Location	Mitigation Measure			
	Pre-construction Phase					
MM1	Construction Phase Monitoring and Oversight	EIAR Chapter 3 / CEMP	This CEMP will be updated prior to the commencement of the construction of the wind farm, to ensure that all mitigation measures, conditions and / or alterations to the EIAR and application documents that may emerge during the course of the planning process are included. Following the update, the CEMP will be submitted to the Planning Authority for written approval. All of the mitigation measures specified in the EIAR, NIS, CEMP and any other documents enclosed in the planning submission will be implemented, and the construction contractor will be responsible for actioning and communicating the requirements with all staff on-site. The implementation of the mitigation measures will be overseen by the supervising Ecological Clerk of Works (ECoW), ecologists, archaeologists and/or geotechnical engineers, as appropriate.			
MM2	Health and Safety	EIAR Chapter 3	A Health and Safety Plan covering all aspects of the construction process will address the Health and Safety requirements in detail. This will be prepared on a preliminary basis at the procurement stage and developed further at construction phase. All hazards will be identified, and risks assessed. Where elimination of the risk is not feasible, appropriate mitigation and/or control measures will be established. 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. Safepass registration cards are required for all construction, delivery and security staff. Construction operatives will hold a valid Construction Skills Certificate Scheme card where required. 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 and Health Plan. Public safety will be addressed by restricting site access during construction. Appropriate warning signs will be posted, directing all visitors to the site manager.			
MM3	Health and Safety: PSDP	EIAR Chapter 3	 The PSDP appointed for the construction stage shall be required to perform their duties as prescribed in the Safety, Health and Welfare at Work (Construction) Regulations. These duties include (but are not limited to): Identify hazards arising from the design or from the technical, organisational, planning or time related aspects of the project; Where possible, eliminate the hazards or reduce the risks; Communicate necessary control measures, design assumptions or remaining risks to the PSCS so they can be dealt with in the Safety and Health Plan; Ensure that the work of designers is coordinated to ensure safety; Organise co-operation between designers; Prepare a written Safety and Health Plan; Prepare a safety file for the completed structure and give it to the client; and Notify the Authority and the client of non-compliance with any written directions issued. 			



MM4	Traffic Management	EIAR Chapter 15 and 19 / TMP	Road traffic accidents will be mitigated by the Traffic Management Plan (TMP) developed as part of the EIAR assessment (Appendix 15-2 of the EIAR). The TMP Outlines minimum road safety measures to be undertaken at site access / egress locations, during the works and including approaches to such access / egress locations. The Contractor shall prepare/develop a Construction Stage Traffic Management Plan (CSTMP) which will take account of the commitments imposed within the TMP and further develop such measures with agreement from the Roads authorities prior to works commencing on site.
MM5	Pre- Construction Pavement Surveys	EIAR Chapter 15	The proposed development will result in slight increase in traffic volume in particular HVs during the construction phase. The weighted loading of the HVs to the proposed wind farm site has the potential to impact on the road network surface (i.e. the N63) causing deterioration of the road pavement. To capture suitable mitigation works the developer will undertake pre-construction visual pavement surveys on the N63. Where the surveys conclude that damage to the road surface is attributable to the construction phase of the proposed development, the developer will fund the appropriate reinstatement works to bring the road surface back to pre-construction condition as a minimum, details for which will be agreed with the Local Authorities Roads Department.
MM6	Biodiversity: Badger	EIAR Chapter 7	 Pre-construction survey - No more than 10-12 months ahead of any construction works, a survey of Badger setts will be undertaken within 50 m of either side of the construction works area boundary to determine the current status of known badger setts (i.e. active or inactive), and/or to determine the establishment of any new setts; Badger surveys are most effective when undertaken between November and April, although they can be carried out at any time of the year. However, until mid-January, Badger is less active (i.e. during colder weather) and setts can appear less well-used (NRA, 2009); The survey results will be kept on file, in the form of a summary report.
MM7	Invasive Alien Plant Species (IAPS): Pre- construction survey	EIAR Chapter 7	 All construction works in the proximity of the Rhododendron stand: Pre-construction survey - A pre-construction dedicated IAPS survey at the proposed wind farm site will be undertaken by the appointed ECoW, particularly focused to the areas near the Mount Dillon Works, where the Rhododendron stand has been identified. All IAPS individual plants/stands present at the site will be identified, counted and georeferenced.
MM8	Ornithology: Pre- construction Survey	EIAR Chapter 8	 Pre-construction survey - If it will not be possible to avoid the breeding bird nesting season, the ECoW will undertake a pre-construction survey of all the areas for vegetation clearance; The ECoW will particularly search for 'Confirmed' breeding activity (see Table 8.4 of Chapter 8 of the EIAR) within the areas to be cleared of vegetation, with particular regard for ground-nesting species; If any active nest is found, the nest will be clearly marked, and a protection zone with a radius equal to the respective MAD extent (Table 8.20 of Chapter 8 of the EIAR) will be clearly demarked, if possible; Where avoidance of the nest is not possible, the nest will only be removed once the chicks have fledged, or the ECoW has confirmed the nesting has failed;





			• The ECoW will keep a log of the pre-construction survey findings, number of nests, their locations (on a map, or with coordinates), species, and actions undertaken for the protection of nests found (e.g. demarcation of a protection zone, approximate dimension of the protection zone).		
MM9	Underground Services	EIAR Chapter 19	A confirmatory survey of all existing services will be carried out prior to construction to verify the assumptions in Chapter 16 (Material assets - Telecommunications, Aviation & Other) of the EIAR and identify the precise locations of any services. Liaising with the service providers will occur prior to construction where such services are identified. Digging around existing services, if present, will be carried out by hand to minimise the potential for accidental damage. Where the works would directly impact on an asset, diversion strategies would be developed and agreed with asset Owners.		
MM10	Ground Investigation	EIAR Chapter 19	Extensive and detailed ground investigation will be undertaken by the appointed Contractor to inform the detailed design and appropriate construction technologies and plant to be deployed. Contractors with a proven track record in delivering work of the scope required by the works will be appointed.		
MM11	Cultural Heritage: Pre- Construction /Post Consent Advance Works Stage	EIAR Chapter 14	 Some parts of the bog are overgrown preventing a full assessment (Section 14.3.10 of Chapter 14 (Cultural Heritage) of the EIAR). The following mitigation measures involve; Clearance of drains to allow for a full inspection of potential archaeology; Archaeological monitoring of tree felling; Archaeological resolution of archaeological feature identified in Lough Bannow Bog; and Archaeological pre-development testing in areas where large excavations will be undertaken (turbine hardstands, construction compounds, substation, battery storage, entrances to the bogs and amenity carparks) with peat depths greater than 0.5 m, see Chapter 9 (Land, Soils and Geology) of the EIAR for details of peat depths. These works will require monitoring by a suitably qualified archaeologist working under licence as issued by the minister (DHLGH) under section 26 of the National Monuments Acts (1994-2014). In the event of archaeological features, finds and/or deposits been encountered during the course of the monitoring and/or testing, the relevant authorities should be notified immediately. Preservation by record (through archaeological excavation) will only occur if it is established that preservation in situ cannot be achieved, and such excavations are agreed with National Monuments Service. 		
	Construction Phase				





			All activities carried out by the appointed Contractor on the proposed development will be in accordance with the requirements of the <i>Safety, Health and Welfare at Work Act 2005</i> as amended and Regulations made under this Act.
	Health and Safety	EIAR Chapter 3 and Chapter 6	Health and safety plans will be developed before any construction commences. A Health and Safety Plan covering all aspects of the construction process will address the Health and Safety requirements in detail. This will be prepared on a preliminary basis at the procurement stage and developed further at construction stage. All hazards will be identified, and risks assessed.
MM12			The proposed TDR to allow for the transport of the turbines to the wind farm site will involve some minor works as discussed in Chapter 3 (Description of the Proposed Development) of the EIAR. These works will be carried out to the relevant construction and road safety guidelines. When the turbine components are being transported, they will have a Garda escort and will be carried out at night when there is less traffic on the road. The proposed turbine delivery works will allow for the proposed turbine dimensions.
			Once appropriate health and safety guidelines are adhered to and the CEMP is complied with throughout the construction phase, the potential for health and safety related issues are greatly minimised.
			The proposed development will be designed, constructed, operated and decommissioned in accordance with all relevant Health and Safety Legislation, including:
		/ CEMP	• Safety, Health and Welfare at Work Acts 2005 to 2014;
		Jection 2.4	 Safety, Health and Welfare at Work (General Application) Regulations 2007 to 2020;
			Safety, Health and Welfare at Work (Construction) Regulations 2013; and
			• Safety, Health and Welfare at Work (Work at Height) Regulations 2006.
			Aspects of the proposed development that will present health and safety risks include:
			Health and safety aspects of construction activities;
			General construction site safety (e.g. slip/trip, moving vehicles etc);
			• On site traffic safety (during construction and operational phases) associated with high road embankments;
			Traffic safety during the transport of oversized loads to the site;
			Lifting of heavy loads overhead using cranes;
			Working at heights; and Working with electricity during commissioning.





Health and Safety: PSDP	EIAR Chapter 3 / CEMP	 Welfare at Work (Construction) Regulations. These duties include (but are not limited to): Development of the Safety and Health Plan for the construction stage with updating where required as work progresses; Compile and develop safety file information; Reporting of accidents / incidents; Weekly site meeting with PSCS; Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	 Development of the Safety and Health Plan for the construction stage with updating where required as work progresses; Compile and develop safety file information; Reporting of accidents / incidents; Weekly site meeting with PSCS; Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	 Compile and develop safety file information; Reporting of accidents / incidents; Weekly site meeting with PSCS; Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	 Reporting of accidents / incidents; Weekly site meeting with PSCS; Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	 Weekly site meeting with PSCS; Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	Coordinate arrangements for checking the implementation of safe working procedures.
Health and Safety: PSDP	EIAR Chapter 3 / CEMP	
Safety: PSDP		Ensure that the following are being carried out;
	Section 2.3	 Induction of all site staff including any new staff enlisted for the project from time to time;
		Toolbox talks as necessary;
		 Maintenance of a file which lists personnel on site, their name, nationality, current Safe Pass number, current Construction Skills Certification Scheme (CSCS) card (where relevant) and induction date;
		 Report on site activities to include but not limited to information on accidents and incidents, disciplinary action taken and PPE compliance;
		Monitor the compliance of contractors and others and take corrective action where necessary; and
		Notify the Authority and the client of non-compliance with any written directions issued.
ty / Ecology		
Best Practice/Indu stry Standards/G uidance	EIAR Chapter 7 / NIS	 All works and activities to be undertaken during the proposed development's Construction and Operation Phases will fully comply with Best Practice/Industry Standards, such as from IFI (2016), Irish Wind Energy Association (Fehily Timoney & Company, 2012), Construction Industry Research and Information Association (CIRIA), and 'Guidance for Pollution Prevention' documents (GPPs), particularly in respect of the protection of water quality, and the reduction of emissions, such as: CIRIA Report C502 Environmental Good Practice on Site; CIRIA Report C532 Control of Water Pollution from Construction Sites; CIRIA Report C648 Control of Pollution from Linear Construction Project; Technical Guidance; CIRIA Handbook C650 Environmental good practice on site; CIRIA Handbook C651 Environmental good practice on site checklist; CIRIA Report C609 - SuDS - hydraulic, structural & water quality advice; CIRIA Report C697 - The SuDS Manual; GPP 1: Understanding your environmental responsibilities - good environmental practices; GPP 5: Works and maintenance in or near water; GPP 6: Working at construction and demolition sites;
F	y / Ecology Best Practice/Indu stry Standards/G uidance	Safety: PSDP 3 / CEMP Section 2.3 y/Ecology Practice/Indu stry Standards/G uidance EIAR Chapter 7 / NIS





			 GPP 13: Vehicle Washing and Cleaning; GPP 21: Pollution incident response planning; and GPP 22: Dealing with spills.
MM15	Ecological Clerk of Works (ECoW)	EIAR Chapter 7 / NIS	 An Ecological Clerk of Works (ECoW), experienced in the management of peatland habitats, will be employed by the appointed contractor to oversee construction works and monitor any possible sources for significant effects on European sites. The ECoW will guarantee the Construction Phase of the proposed development will be undertaken in strict agreement with the methods described in Appendix A of the NIS, and the mitigation measures in set out in Chapter 7 (Biodiversity) of the EIAR, the NIS and the CEMP, and will have the power to stop the works in case any activities/works are not compliant. The supervision and implementation of all of these mitigation measures will be supervised, noted, and approved by the assigned ECoW.
			 Storage of contaminants at the Construction Compounds - Designation of Storage Area:
			 Fuels storage will be minimised onsite:
	Aquatic Ecology - Contaminatio n	EIAR Chapter	 However, because it might not be practical to refuel all vehicles and machinery offsite, areas will be designated for contaminant storage at each Construction Compound;
			• The designated areas for contaminant storage will be enclosed, appropriately signed, and demarked from the remainder areas of the Construction Compounds;
			• Any diesel, fuel, hydraulic oils, paints or any other type of contaminant that will require to be kept onsite, will be stored in bunded storage tanks, only at the designated areas within each of the four Construction Compounds;
			• Each bund area will have a volume of at least 110% of the volume of the respective stored contaminant(s);
			Each container within the bund area will be appropriately labelled and sealed;
MM16			Only authorised and appropriately trained personnel may access the contaminant storage designated area;
		7/1015	• The designated area for contaminant storage will be provided with a log book. The log book will be a register of:
			 the number of containers for each contaminant;
			 volume of each container;
			 approximate volume of each contaminant stored;
			 date/time contaminants are taken off/stored in the designated area, and respective destination;
			 Signature of the authorised person responsible for the log entry;
			• Stock of spillage containment material (e.g. spill kits).
			• The ECoW will make a daily verification of the log books, confirming the accuracy of the information logged in;
			• The designated contaminant storage areas will also keep a stock of absorbent materials (e.g. oil binder granules), pads/mats, and drip trays to be made available if needed.





•	Refuelling at the Construction Compounds:
•	At each Construction Compound, an area will be designated as "Refuelling Area";
•	The Refuelling Area will be delineated at an easily accessible location by vehicles and mobile machinery, and in the immediate vicinity of the designated area for contaminant storage;
•	The Refuelling Area will be appropriately demarked and signed, for easy identification;
•	When refuelling, drip trays and fuel absorbent mats will be used to capture any potential spills.
•	Refuelling with mobile bowser - Specific Characteristics:
•	The mobile bowser will be custom-built, and consist of a double skinned, double-axel fuel bowser;
•	It will be towed around the site by a 4x4 vehicle to where machinery is located;
•	It will be re-filled at the designated Refuelling Area at the Construction Compound, or off site;
•	The 4x4 vehicle will be provided with a log book, where every refuelling operation will be noted:
	 Date and time;
	 Refuelled vehicle/machinery unique identification;
	 Description of any spillages;
	 Description of containment measures;
	 Any inspection of the bowser itself.
•	Refuelling with mobile bowser -Operation Conditions:
•	The fuel bowser will be parked on a level area in the construction compound when not in use;
•	The fuel bowser will be inspected by the ECoW at the end of each day for leaks and fitness for purpose;
•	No refuelling of machinery will occur within 50 m of surface water features. Refuelling of machinery will be carried out using a mobile double skinned fuel bowser to allow for ease of work. The fuel bowser will be re-filled off site or at the contractors site compound and will be towed around the site by a 4x4 jeep to where machinery is located;
•	Only designated, trained and competent operatives will be authorised to refuel vehicles and machinery on site;
•	The 4x4 vehicle will carry fuel absorbent material (e.g. oil binder granules) and pads/mats in the event of any accidental spillages;
•	While refuelling, drip trays and fuel absorbent mats will be used to capture any spills;
•	The vehicle logbook will be inspected by the ECoW every day, and any spillage incidents will be verified by the ECoW as soon as possible. The ECoW will determine the efficacy of the containment measures employed, or decide if further measures are required.
•	Machinery and vehicle movement and operation:





			Regular Maintenance of vehicles and machinery -
			• The ECoW will undertake weekly checks for spillages to all machinery and vehicles used onsite;
			• The ECoW will maintain a logbook to register all checks undertaken, and required maintenance to eliminate leaks,
			Spill containment equipment -
			All vehicles and machinery will be provided with emergency drip trays and spill kits.
			Earthworks, excavations, general construction - Creation and management of alternative habitat:
MM17	Habitat Loss	EIAR Chapter 7	 As compensation for the loss of Hedgerow and Treelines habitats, the edges of the tracks will be planted with native shrub and tree species, i.e. Blackthorn, Grey Alder, Grey Willow, Elder, Hawthorn, Holly, Hazel; The new linear habitat should have a minimum extension of 1,200m in total; These linear habitats will be managed and maintained until the end of the Construction Phase, or until the planted shrubs and trees will be considered sustainable by the ECoW; No fertilisers will be used.
			All construction works in the proximity of the Rhododendron stand:
			Biosecurity Area -
	Spread of IAPS	EIAR Chapter 7	 A strict biosecurity demarcation area will be installed by the ECoW within the zone where scheduled IAPS (e.g. Rhododendron) are present - 10m from each stand (unless it is not feasible for Health & Safety reasons – e.g. roadside);
			Only works outside the biosecurity area will be allowed to proceed.
			Invasive Species Management Plan (ISMP) -
			 If any of the proposed works will be required to break the biosecurity area mentioned above, a specific and detailed Invasive Species Management Plan (ISMP) will be developed by the contractor;
MM18			• The ISMP will detail a strategy of uprooting the Rhododendron plants, currently present at the proposed wind farm site, the most effective management measure for the control of this species (NRA, 2010).
			Vehicles and machinery accessing the site:
			Vehicle and machinery cleaning -
			 Prior to arrival on site, the contractor's vehicles and equipment will be thoroughly cleaned and then dried using high- pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material;
			• Items difficult to soak/spray will be wiped down with a suitable disinfectant (e.g. solution of 1% Virkon® Aquatic);
			 The contractor will establish and clearly delineate a bunded cleaning/washing areas at the Construction Compounds, where gravity will not drive untreated washed material towards local drains;



			 Evidence that all machinery has been cleaned will be required to be on file for review by the statutory authorities and the appointed ECoW. The level of evidence required of the Contractor will be, registration plates of vehicles onsite and a register of when, how and where each of these were cleaned before they arrived on site; Spot checks on the adequacy of cleaning will be carried out by the ECoW
			• Spot checks on the adequacy of cleaning will be carried out by the Leow.
			Any construction works - Monitoring, exclusion and/or evacuation:
			 In case a Badger sett is found during the pre-construction survey (or at any time during the Construction Phase), confirmation of its activity will be carried out. Trial camera(s) pointing at the sett entrance(s) will be placed for a minimum of 7 days.
		EIAR Chapter 7	• For the setts recorded during the field surveys, or if a sett is recorded during the pre-construction survey, the methodology prescribed by the NRA (2009b) will be followed, in which:
MM19	Badger Habitat Loss		 If within the period between July to November (inclusive), and the sett recorded during the pre-construction survey is deemed inactive, the sett will then be 'soft-blocked', i.e. the sett entrance will be lightly blocked with vegetation and a light application of soil. If after a minimum of five days the vegetation and soil have not been moved, the sett will be destroyed using a mechanical digger;
			• If still in the period between July to November, but the sett recorded during the pre-construction survey is deemed active, the sett will need to be evacuated. One-way gates (system that allows individuals to exit, but not to get in) will be installed at any active entrances for three days, while inactive entrances will be soft (initially) and they hard-blocked (as above);
			 If a sett is recorded during the period of January to May, or deemed active (upon confirmation with the trial cameras) during this period, any construction works within 150m of the sett will be halted until the end of this period. In the following June, trial camera(s) will be installed to confirm the sett's activity, and one of the procedures detailed above will be followed.
			 All monitoring, exclusion and/or evacuation actions will be undertaken by the ECoW, who will report any actions and findings to the contractor, and file them in the form of a report.
			Refuelling:
	Otter -		Similar to measures proposed to prevent effects to aquatic ecology.
MM20	Pollution,	EIAR Chapter	Movement of vehicles and machinery:
10110120	Siltation/Con	7	 Similar to measures proposed to prevent effects to aquatic ecology.
	Lammation		Storage of contaminants:
			Similar to measures proposed to prevent effects to aquatic ecology.
MM21	Otter – Direct mortality	EIAR Chapter 7 / NIS	Movement of vehicles and machinery - Onsite speed limit:





			• A temporary speed limit of 20km/h will be set for all vehicles transiting the proposed wind farm site for the duration of the Construction Phase;
			• Appropriate signs will be placed at the tracks used by vehicles and machinery, with the following specifications (adapted from Department of Transport, 2024):
			 Sign reference: RUS 065;
			 Normal sign diameter: 450mm;
			 Repeater sign diameter: 300mm;
			 Spacing between repeaters: 500m.
			Buffer Zone around Turbines:
		FIAD Chanter	 A zone of >92.76m around the wind turbines (from the tip of the blade) will be cleared of tall vegetation (shrubs, trees, scrub, etc.) to reduce favourability of this zone for foraging and commuting bats (see Figure 7.22 of chapter 7 of this EIAR). The vegetation clearance as a mitigation measure for the prevention of likely significant effects on bats requires further assessment of the significance of the loss of these habitats for bats;
			• Complete clearance works at least six months prior to installation of wind turbines. Studies have shown that bats are attracted to clear felled forestry areas due to increase insect loading. This has been shown to occur for a period of 3-6 months before the insect loading reduces to pre-cleared felled levels (Kirkpatrick <i>et al.</i> , 2017).
MM22	Collison risk	7	Bat Roost Survey:
			The ECoW will undertake a Potential Bat Roost (PBR) survey of any trees proposed to be felled.
			Curtailment:
			• Operate the High Risk wind turbines from 30 minutes prior to sunset to 30 minutes after sunrise at a cut-in speed of 5.5 m/s during specified weather conditions and during the active bat season (April to October) when air temperatures are 10oC or more at the nacelle;
			• Undertake a carcass search for 3 years post operation of the wind farm to determine whether a higher cut-in speed of the blades is required.
Ornitholo	ogy		
MM22	Ornithology: General	EIAR Chapter	• The proposed development has been designed to incorporate current industry best practice with regards to construction and operation of wind farms, which is described in detail in Chapter 3 (Description of the Proposed Development) of this EIAR.
MM23		8	• Best practice measures incorporated into the design aim to avoid significant effects on the surrounding biodiversity. A CEMP has been developed to provide a framework for how significant effects on the environment will be avoided during the construction phase.





			• A suitably qualified Ecological Clerk of Works (ECoW) with extensive experience in ornithology, will be appointed by the Contractor and will be required full time on site during the construction works. The ECoW will ensure that all mitigation measures outlined within this Chapter are implemented correctly during the construction phase.
			 Regular toolbox talks with construction staff on disturbance to relevant bird species during construction will be organised. These will be of mandatory presence to staff members and will be run at the beginning of each season: in February, in preparation to the breeding season; and in August, in preparation to the non-breeding season. These toolbox talks will include the description of the main ecological features staff should note, particularly the identification of KARs and signs of proximity to sensitive locations (e.g. raising awareness to alarm calls during the breeding season; description of ground- nesting species), and the processes of reporting any findings to the ECoW.
			Restriction of period for vegetation clearance -
			The vegetation clearance during the Construction Phase of the proposed wind farm will be timed to avoid the breeding birds nesting season, from 1 st of March to 31 st of August, if possible;
			Interruption of works -
	Habitat Loss; Disturbance/ displacement	EIAR Chapter 8	 In the event of any bird nest(s) being found within the works areas during the Construction Phase, the finding will be immediately reported to the ECoW;
			• The works will immediately cease, and the ECoW will survey the nest(s) (avoiding disturbance);
			• The nest will be clearly marked, and a protection zone with a radius equal to the respective MAD extent (Table 8.20 of Chapter 8 of the EIAR) will be clearly demarked, if possible;
			• The ECoW will report the survey findings to the competent authority and the developer will engage with NPWS;
			The ECoW will log the finding(s0 in the logbook.
MM24			Development of grassland habitat (Section 8.9.2.1.1) - ~100ha
			• A total of approximately 100ha will be managed for grassland habitat creation (Figure 7.25 of Chapter 7 of the EIAR), in line with McCorry et al. (2012):
			• Any scrub will be cleared from these areas. No vegetation will be cleared outside the areas in Figure 7.25 of Chapter 7 of the EIAR:
			Scrub clearance will be undertaken yearly, in September, extending into the Operation Phase;
			• In the first year, the scrub clearance will be undertaken with the use of an excavator (for larger shrubs/trees), and chainsaw (form smaller plants);
			• Felled scrub will be placed in existing onsite drains, and on the boundaries of the plots;
			• The clearance works will be carried out under the supervision of the ECoW/Suitably qualified Ecologist. The ECoW/Suitably qualified Ecologist will identify the plants to be removed, direct the excavator/chainsaw operator, and the staff transporting the felled scrub to the drains and boundaries; and





• The ECoW/Suitably qualified Ecologist will also confirm the requirement of the excavator use in subsequent years, having in consideration that manual/chainsaw clearance would be a preferable method to avoid ground disturbance.
Development of Hedgerows (~1,300m)
• Hedgerows (Figure 7.24) will be planted with native shrub and tree species, i.e. Blackthorn, Grey Alder, Grey Willow , Elder, Hawthorn, Holly, Hazel;
• The new linear habitat will have a total extension of 1,337m;
• These linear habitats are managed and maintained until the end of the Construction Phase, or until the planted shrubs and trees will be considered as fully established by the ECoW/Suitably qualified Ecologist (if it extends into the Operation Phase);
No fertilisers will be used.
Development of woodland habitat (~3.20ha)
• An area of 3.23ha in the Lough Bannow bog is selected for the management of 'Oak-ash-hazel woodland' habitat:
Only Pedunculate Oak (Quercus robur), Ash (Fraxinus excelsior), and Hazel (Corylus avellana) trees will be planted;
• All planting material must be derived from seed sources within Ireland and accompanied by a Plant Passport attesting the good health status of the plant(s), compliant to the EU Plant Health Regulation (2016/2031). This measure is of particular importance in view of the control of the Ash dieback disease (DAFM, 2022);
• However, if it is not possible t source planting material from within Ireland, acceptable plant origins must follow the order of preference set by the Department of Agriculture, Food and the Marine (DAFM, 2024b, sec. 2.7.1);
• The planting material (bare-rooted trees - whips) will be 0.45 to 100cm tall;
The planting procedure will be a simple process, consisting of:
• Digging a hole sufficiently large and deep (i.e. planting depth is indicated by the soil on the root collar) as to allow the whole root of the plant to be spread out evenly. Topsoil will be placed aside; and
Place the soil over the roots ensuring no roots or bark are damaged.
• If the location of the hole for plantation is occupied by ruderal scrub species (e.g. Holly, Bramble), these plants will be cleared before the tree plantation;
 No other trees and/or vegetation will be cleared to accommodate the tree plantation;
No herbicides and/or fertilisers will be used.
Screen Fencing
 Visual screening fences will be installed at selected locations along the amenity roads and tracks (illustrated in Figure 8.11), to prevent disturbance to breeding and non-breeding birds using the site during the operation phase (occasional movement of people, dogs); The screen fences will be specifically targeted to stretches of the tracks holding no screening vegetation (e.g. bedgerows);





			The screening fence will be approximately 1m high, mounted with Willow and Chainlink;
			The screening fence will be regularly inspected regularly by a Suitably qualified Ecologist, who will determine necessary maintenance actions to be employed (e.g. erection of fallen posts; reinstating of damaged mounted panels).
			Restriction of period for vegetation clearance -
MM25	Habitat Loss: TDR	EIAR Chapter 8	• The vegetation/tree clearance for the works at the POIs of the TDR will be timed to avoid the breeding birds nesting season, from 1st of March to 31st of August.
Land, Soi	ls and Earthwork	S	
			Many of the mitigation measures have been based on CIRIA (Construction Industry Research and Information Association, UK) technical guidance on water pollution control and on current accepted best practice, (CIRIA report ref. C532, 2001).
			General construction mitigation includes:
MM26	General Construction	EIAR Chapter 9	 Good site practice will be applied to ensure no fuels, oils, wastes or any other substances are stored in a manner on site in which they may spill and enter the ground;
	Miligation		Dedicated, bunded storage areas will be used for all fuels or hazardous substances; and
			• All works will be managed and carried out in accordance with this Construction and Environmental Management Plan (CEMP), which will be updated by the civil engineering contractor and agreed prior to any site works commencing.
MM27	Vehicle Washing	EIAR Chapter	Wheels or vehicle underbodies are often washed before leaving sites to prevent the build-up of mud on public (and site) roads. Site roads will be already formed using on-site materials before other road- going vehicles begin to make regular or frequent deliveries to the site (e.g., with steel, ducting or concrete). The site roads will be well finished with compacted hardcore, and so the public road-going vehicles will not be travelling over soft or muddy ground where they might pick up mud or dirt. Refer to Planning Drawing 11399-2041 for details.
			However, in the interest of best practice and to avoid the potential for the transfer of invasive plant species into the site, it is proposed to install a self-contained wheelwash systems at the proposed wind farm site. Planning Drawing 11399-2041 includes typical details of a proposed self-contained wheelwash system which will be installed as part of the construction phase of works. Wheelwash systems will be located at all construction and delivery entrances of the site (Site Access A, B and C), off the R392, N63 and R398, as shown on Planning Drawings 11399-2012 and 11399-2015.
			A road sweeper will be available if any section of the surrounding public roads becomes soiled by vehicles associated with the proposed development.
MM28	Peat Stability Risk Assessment (PSRA)	ility EIAR Chapter	Risks are outlined in the Peat Stability Risk Assessment (PSRA) and CEMP and any identified risks will be minimised by applying the principles of avoidance, prevention and protection. Slope stability will be addressed in greater detail with site specific measures identified during the detailed design phase. A detailed method statement will be prepared prior to any element of work being carried out and the methods are outlined in the CEMP.
		Assessment (PSRA)	,





			including any proposed mitigation measures and/or works exclusion areas are outlined in the PSRA report in Appendix 9.3 of the
			EIAR.
			The peat stability risk assessment has yielded a negligible risk rating for each infrastructure location. The Scottish Government Best Practice Guidelines (2017) states the following for areas with negligible risk level: "Project should proceed with monitoring and mitigation of peat landslide hazards at these locations as appropriate."
			All earthworks shall be designed by a competent geotechnical designer which shall be informed where necessary by a post consent detailed ground investigation campaign which will need to include intrusive methods such as trial pitting and borehole locations with a specified suite of insitu and geotechnical laboratory testing to further assessment the engineering characteristics of the infrastructure locations.
			Possible mitigation measures in relation to peat instability are considered below. Additional mitigation measures relating the handling and deposition of peat are outlined in the Peat and Spoil Management Plan (PSMP) in Appendix 9.2 of the EIAR.
			Where excessive movement has been observed in the installed monitoring, the following measures will be taken;
			All construction activities will be suspended in the area;
	Movement or Instability Observed in Monitoring Areas	EIAR Chapter 9	 The Contractors Geotechnical Engineer shall carry out an assessment of the peat instability including drainage. The Contractors Geotechnical Engineer shall compile a report outlining the surveys undertaken, the potential cause of the instability, assessment of any increased risk caused by the instability, and the further measures required to manage this risk;
MM29			 An increased monitoring regime shall be specified including increase in number of monitoring post lines, decrease on monitoring post spacing and an increase in the frequency of monitoring post observations;
			 Should no further movement be detected, construction activities will be recommenced while maintaining the increased monitoring regime;
			 Should further excessive movement be detected, the Contractors design and project geotechnical engineer will need to be informed and the design of further reinstatement works will be required such as excavation of the disturbed material, installation of a granular berms or similar.
			If the scenario of a landslide, bog burst or peat slide occurring at the site the following steps shall be carried out by the contractor:
			• All member of the project will be alerted immediately or as it is safe to do so;
	Emergency Response to a Landslide Event	FIAR Chapter	 All site works will be ceased, and all available resources will be used for the management and mitigation of the risks posed by the event;
MM30		9	 The key initial activity will be to prevent displaced materials from reaching any watercourses or sensitive environments. Given the terrain of the Proposed Development Site, the key risk is the development of a propagation landslide or slip within topographic valleys and watercourses. Where possible, check barrage structures or catch ditches on land or within these topographic valley and watercourses shall be constructed to aid prevent further run out of the disturbed peat or spoil material.





MM31	Check Barrages / Catch Ditches	EIAR Chapter 9	Check barrages are permeable granular structures constructed within the path of a landslide to prevent the further downhill or downstream movement of the disturbed material. Typically, these will be constructed of locally generated stone material, often of large sizing. The large material sizing will allow water to pass through the check barrage material, avoiding a build-up in hydrostatic pressure while containing the debris within the slide. Check barrage will typically be a dam structure between 1 and 1.5m high, with slopes between 1(V):1.5(H) or 2(H), and constructed across the full section of topographic valley and/or water course.
			The check barrage is an emergency preventative measure only to restrict or reduce the movement of displaced material downslope and away from a watercourse. Further assessment and reinstatement works will likely be required should a landslide occur, and engagement and reporting of the incident will be required by all parties involved in the project. Should the check barrage no longer be required it may be removed and the area reinstated.
			The use of check barrages is only proposed for use in the unlikely event of a large landslide event. The proposed locations are only indicative, targeting potential topographic channels but will vary depending on the location and nature of the slide event. The Contractors will need to include an assessment of potential check barrage locations and method for their construction within the emergency procedures in their associated Method Statement documentation.
			Similarly, ditches may also slow or halt runout, although it is preferable that they are cut in non-peat material. Simple earthwork ditches can form a useful low-cost defence. Paired ditches and barrages have been observed (Tobin, 2003) to slow peat landslide runout at failure sites.
MM32	Vehicular Movements	EIAR Chapter 9	Vehicular movements will be restricted to the footprint of the proposed development boundary, particularly with respect to the newly constructed access roads. Vehicular movements will not be permitted outside of the proposed wind farm site boundary and will not move onto areas that are not permitted for the development. The soft ground nature of the site will inhibit vehicles deviating from access roads and tracks due to the low bearing capacity of the peat.
			Vehicular traffic on site is reduced through the use of extracting material from borrow pits on site as opposed to sourcing from external quarries.
MM33	General Site Management	EIAR Chapter 9 / CEMP Section 3.0	The CEMP will also include 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. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on- site batching. When concrete is delivered to site, only the chute of the delivery truck will require cleaning, using the smallest volume of water necessary, before leaving the site. Concrete trucks will be washed out fully at the batching plant, where facilities are already in place.
	Management	FIAR Chapter	Fuel management measures have been prepared (and included in this CEMP) which incorporates the following elements:
MM34	of Fuel and Oil	uel and 9/CEMP	watercourses;
		5000000	• Fuel containers will be stored within a secondary containment system e.g. bund for static tanks or a drip tray for mobile stores;





			 Fuels, lubricants and hydraulic fluids for equipment used within the proposed development, as well as any solvents, oils, and paints will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to best codes of practice. All materials will be sufficiently bunded;
			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;
			 The contractor will have a dedicated area within the compound for refuelling plant or any other equipment that is bunded and has the necessary spill kit equipment and adsorbents available as and when required in line with any statutory IEPA & H&S legislations. Refuelling of machinery will be carried out using a mobile double skinned fuel bowser to allow for ease of work. The fuel bowser will be re-filled off site or at the contractors site compound and will be towed around the site by a 4x4 jeep to where machinery is located. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations;
			All machinery will be serviced before being mobilised to the proposed development;
			Only designated trained operators will be authorised to refuel plant on site;
			• Procedures and contingency plans will to be set up to deal with an 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. All site operatives will be trained in its use;
			 Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised in the proposed development are in good working condition. Any equipment not meeting the required standard will not be permitted for use within the proposed development. This will minimise the risk of soils and bedrock becoming contaminated through the proposed development activities;
			 The highest standards of site management will be maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the Site and surrounding environment during construction. A named person will be given the task of overseeing the pollution prevention measures agreed for the Site to ensure that they are operating safely and effectively; and
			 In the highly unlikely event that ground contamination is encountered beneath the site during the construction works, all works will cease. Advice will be sought from an experienced contaminated land specialist and a phased environmental risk assessment (specifically to assess any associated potential environmental and/ or human health risks) will be undertaken in accordance with relevant EPA guidance 'Guidance On The Management Of Contaminated Land And Groundwater At EPA Licensed Sites' (EPA, 2013) and UK Environment Agency Guidance 'Land contamination risk management (LCRM)' (UK EA, 2021).
MM35	Drainage and the Management	EIAR Chapter 9	The permanent road works will require a drainage network to be in place for the construction and operation phases of the proposed wind farm site. Fundamental to any construction phase is the need to keep water (i.e. runoff from adjacent ground upslope of the permitted development footprint) clean and manage all other run off and water from construction in an
	or Sealment		appropriate manner. This will necessitate the implementation of a Sediment and Erosion Control Plan, with associated settlement





	and Geological material		ponds and silt traps. The Sediment and Erosion Plan is part of the CEMP for the site. The good management of material on site will reduce any indirect risk to water. Drainage measures are considered in further detail in Chapter 10 (Hydrology and Hydrogeology) of the EIAR.
			The handling, storage and re-use of excavated materials are of importance during the construction phase of the proposed wind farm. Excavated topsoil will not be stored in excessive mounds on the site. Seeding of the work affected areas with indigenous species will occur, only where natural revegetation or the reuse of the upper vegetated layer is unsuccessful. The revegetation of these areas promotes stability, reduces desiccation, run-off erosion and susceptibility to freeze/thaw action.
			Wherever there are vehicles and plant in use, there is the potential for a hydro-carbon release in the form of a spill that has the potential to directly pollute soil, and indirectly pollute water.
MM36	Hydrocarbon	EIAR Chapter	This is due to the fact that soil may act as a pathway for the contamination. Any spill of fuel or oil would potentially present a moderate, long-term negative effect on the soil and geological environment.
	Kelease	9	Good site practice as outlined in 9.5.3.7 above will mitigate any effect. Good site management by means of regular checks on plant, and diligent housekeeping of machinery reduce the potential of hydrocarbon release on site. It is important for personnel on site to have the correct training and expertise in the event that a hydrocarbon leak occurs.
MM37	Borrow Pits	EIAR Chapter 9	The PSMP attached as Appendix 9.2 of the EIAR sets out the guidelines for the construction and reinstatement of the on-site borrow pits. Upon the removal of the required volumes of granular material (for the construction of the infrastructure elements at the wind farm) from the borrow pits it is proposed to reinstate the pits using excavated peat and spoil. The borrow pits are designed and will be constructed in a way which will allow the excavated peat and spoil to be placed safely, with areas within the borrow pits designated for the storage of excavated peat. Other mitigation measures included in the design of the borrow pits are as follows:
			Borrow pits will be developed with stable ground inclinations;
			• Exposed slopes will be left with irregular faces to promote re-vegetation; and,
			 Infilling of peat should commence at the back of the borrow pit and progress towards the pit entrance.
MM38	Natural Resources	EIAR Chapter 9	Bord na Móna has permanently ceased peat extraction at Derryadd since 2019. The potential for long term sterilisation of the borrow pit resource will be mitigated by diligent borrow pit design and appropriate material management. This would include detailed assessment of the material resource and borrow extent to ensure efficient exploitation of any borrow pits.
			The drainage measures outlined in Chapter 10 (Hydrology and hydrogeology) of the EIAR. Surface water drainage plans will be implemented to account for modified flows created by construction, which in turn may affect peat stability, pollution and wildlife interests. Drainage measures need to be carefully planned to minimise any negative impacts.
MM39	Drainage Measures	EIAR Chapter 9 / Chapter 10	Runoff will be maintained at the existing runoff rates. Controlled discharge will be maintained at existing pumping rates. The layout of the proposed wind farm site has been designed to collect surface water runoff from hard standing areas within the development and discharge to associated surface water attenuation lagoons adjacent to the proposed infrastructure. It will then make its way into the existing field drains and existing settlement ponds infrastructure before being discharged through existing discharge points by pump or gravity flow. From here the water will outfall at the appropriate existing run off rates. Where temporary excavations for turbines and borrow pits, water will be stored within the existing topographical depressions.





			If karstic void features are identified within the footprint of infrastructure, the following mitigation measures will be implemented:
			Access Road/Track Cuttings
			 Slope Buttressing; Choking and infilling of fissures and small sinkholes;
			 High strength geotextiles for larger sinkholes;
NAN 440		EIAR Chapter	Bolting and meshing.
111140	Karst Risk	9	Access Road/Track Embankments
			Choking and infilling of fissures and small sinkholes;
			High strength geotextiles for larger sinkholes.
			Turbine/Substation Foundations
			Piling through the void / karstified zone;
			Foundations to span voids.
			The disturbance of soil, subsoil and bedrock is an unavoidable effect of the proposed wind farm, but every effort will be made to
			ensure that the amount of earth materials excavated is kept to a minimum to limit the effect on the geological aspects of the site.
		EIAR Chapter 9	following mitigation measures will be implemented:
	Soil and		• Excavated peat will only be moved short distances from the point of extraction and will be used locally for landscaping;
MM41	Excavations		• Landscaping areas will be sealed and levelled using the back of an excavator bucket to prevent erosion. Where possible,
10110171	Management		of plants and vegetative layer will be stored with the vegetation part of the sod facing the right way up to encourage growth
			and long term;
			• Construction of settlement ponds will be volume neutral, and all excess material will be used locally to form pond bunds
			and surrounding landscaping; and Peat overburden and rock will be reused where possible on site to reinstate borrow nits and other excavations where
			appropriate. A PSMP has been prepared for the proposed development which is included in Appendix 9.2 of the EIAR.
			Excavation for Turbine Foundations
	Excavations		Three main foundation solutions have been identified:
	(Turbine,		Gravity Foundations;
MM42	Hardstands,	EIAR Chapter	Concrete driven piles; and
	Substation	7	Bored piles.
	Foundations)		Mitigation measures to be adopted during excavation for the turbine foundations include:
			• A temporary works design for foundation excavations will be carried out by a competent designer;





			• The materials encountered in the trial pits across the GI phases are likely to be unstable during the excavation for the turbine bases. Where battering back of excavations to a safe angle (as determined by a detailed slope stability assessment by the competent designer) is not feasible, a physical barrier will be applied where required between the excavations and the potentially unstable material in the form of a granular berm or sheet piles.
			• The long-term stability of the area around the wind turbine foundations will be achieved by filling the area back up to existing ground level following installation of the foundation;
			• The design will be carried out by a suitably qualified and experienced geotechnical engineer and the management of the ground stability will be ongoing throughout the construction phase;
			• Each turbine foundation will be investigated before and during construction to identify any potential karst features;
			 Excavation works will be monitored by a suitably qualified and experienced geotechnical engineer or engineering geologist;
			• The earthworks will not be scheduled to be carried out during severe weather conditions; and
			• Any piling works will not produce significant volumes of spoil as the proposed piling system will be driven or bored piles.
			Excavation for Hardstanding Foundations
			The mitigation strategies for the hardstanding foundations follow similar procedures as the excavations for turbine and substation foundations (see Section 9.5.2.8 of Chapter 9 (Land, Soils and Geology) of the EIAR). All works will be monitored by suitably qualified and experienced geotechnical engineer or engineering geologist.
			Excavation for Substation Foundations
			The mitigation strategies for the substation foundations follow similar procedures as the excavations for turbine and hardstanding foundations (see Section 9.5.2.8 of Chapter 9 (Land, Soils and Geology) of the EIAR). All works will be monitored by suitably qualified and experienced geotechnical engineer or engineering geologist.
	Peat and	EIAR Chapter 9 / Peat and	Inappropriate storage of excavated peat and overburden, as well as uncontrolled loading of peat material is considered one of the main causes of peat instability and landslide event triggers during the wind farm construction process. The management and control of these activities is key to de-risking peat stability at the proposed wind farm site. It is required that the construction method statements for the project also take into account, but not be limited, to the guidance documents listed and the recommendations and requirements outlined throughout Chapter 9 (Land, Soils and Geology) of the EIAR.
MM43	Spoil	Spoil Management	A PSMP has been developed and is included in Appendix 9.2 of the EIAR. The PSMP outlines the guidelines and methodologies for
	Plan	Plan Appendix	the careful management, handling and storage of peat on the site. These mitigation measures include:
		9.2	• Appointment of experienced and competent contractors and designers - A competent Project Geotechnical Engineer shall be appointed for the construction phase to oversee peat excavation and management;
			• The construction works on site will be supervised by experienced and qualified personnel;
			Allocate sufficient time for the project to be constructed safely with all peat stability mitigation measures included in the programme;





•	Prevent undercutting of slopes and unsupported excavations;
•	Prevent placement of loads/overburden on marginal ground;
•	Peat related works will be subject to additional detailed designed and checked by the relevant professionals, for example
	by a qualified geotechnical engineer, hydrologist, and/or drainage engineer;
•	Manage and maintain a robust drainage system. This will be the responsibility of the appointed contractor and their
	designer;
•	Uncontrolled placement of peat or loading of peat material must be avoided;
•	Placement of peat and spoil material, including temporary and side casting, will be carried out in the permitted peat deposition areas only;
•	Storage of peat material including temporary and side casting be carried out in the permitted areas only.
•	Excavated peat and spoil will be immediately moved short distances to the designated peat deposition area or borrow pit
	areas with the exception of the storage required for the opening of the initial borrow pit. Acrotelm (upper) peat material
	will be used as landscaping material where the topography allows, and the detail designer has assessed the stability risk;
•	Peat and spoil will only be placed in the proposed deposition area or re-used for landscaping purposes. Peat deposition
	areas are outlined in the PSMP in Appendix 9.2 of the EIAR and have been located only in areas where the peat instability
	risk allows;
•	water flows within drainage systems will be controlled. The velocity of water flows within drainage systems will be
	controlled using check dams, and the uncontrolled release of water onto slopes can create a landslide risk and must be avoided;
•	All construction requiring cut and fill earthworks requires a robust monitoring and inspection programme. The details of
	this inspection programme will depend on the purpose and methodologies of the works and the ground conditions;
•	A method statement and risk assessment (RAMS), which considers the potential causes and mitigations of peat instabilities
	and landslides, is required and must be regularly communicated to all site staff. An observational approach by all site staff
	to the ground conditions and the risks will be promoted, and any changes in the ground or site conditions will be reported
	and the risk dynamically assessed. The RAMS will be reviewed for compliance with the PSRA, prior to acceptance by the
	developer;
•	Set up, maintain and report findings from monitoring systems, including sightline monitoring;
•	Maintain vigilance and awareness through Tool-Box-Talks (TBTs) on peat stability. Regular briefing of all site staff (e.g.
	toolbox talks) to provide feedback on construction and ground performance and to promote reporting any observed
	change in ground conditions.
•	Frequent monitoring of slopes associated with the proposed wind farm shall be undertaken during the construction phase,
	and where required, additional monitoring undertaken following heavy and/or prolonged rainfall events;
•	Installing movement monitoring posts is recommended for areas where works occur on or adjacent to identified peat
	depths greater than 2m and existing slope angles exceeding 5°. At those locations, monitoring posts are recommended to
	be installed upslope and downslope of the works areas;
•	Movement monitoring posts shall be observed at least once daily during the construction phase, with more frequent
	inspections where adjacent works are ongoing. Should movements be recorded, the frequency of these inspections will be
	increased. A record of all monitor post inspections will be kept with reference to date, time and relative movement



			 between posts, if any. Any movement identified in the posts shall be recorded with reference to the post numbering system. The monitoring regime will be further developed and assessed during the detailed design phase; and, The Contractor shall also develop a routine inspection of all areas surrounding work in peat, not just exclusively on the monitoring posts. These inspections shall include an assessment of ground stability and drainage conditions. These inspections will identify any cracking or deformation on the peat surface, an excessive settlement on structures, drain blockages or springs etc
MM44	Peat & Spoil Management - General Construction Practice	EIAR Appendix 9-2	 Care will be taken during peat excavation to ensure it is segregated from other soil types; therefore, particular care will be taken to review recorded peat depths. Peat will be separated and stored by type, namely the acrotelmic and catotelmic layers, where acrotelm is encountered. Given the nature of the historic peat extraction at the site, it is anticipated that nearly all of the peat excavation will consist of catotelmic peat: Acrotelm (defined in Section 2.1) is generally required for landscaping and will be stripped and temporarily stockpiled for re-use as required. Acrotelm stripping will be undertaken before the main excavations; Where possible, the acrotelm will be placed with the vegetation part of the sod facing the right way up to encourage the growth of plants and vegetation; All catotelm peat (defined in Section 2.1) will be transported immediately on excavation to the designated Peat Deposition Area or borrow pit reinstatement area; The careful handling and segregation of peat types will help to optimise the re-use of peat, aiding in the retention of structure and integrity of the excavated peat material must be avoided. Depending on what vegetation is found on site, more fibrous material may be placed on steeper angles, up to 10%. Unconsolidated peat excavated must only be used for reinstatement where such re-use poses no risk of polluting water courses and evidence can be provided that the required water table at the chosen location can be maintained; Construction sequence planning will minimise the time peat is stockpiled before re-use; however, some temporary peat placement may be required to manage spoil and separate spoil horizons before it can be placed in its reinstatement location. The principles on which the temporary placement of excavated peat will be reinstated must be sade upon the placement and handling methodologies set out wit





			 Material repositories will be located at least 50m away from watercourses to reduce the potential for sediment to be transferred into the wider hydrological system; If possible, excavation will be timed to avoid very wet weather; Peat and spoil deposition locations have been selected to limit re-handling as far as reasonably possible; Excavated peat and spoil will be placed and re-used as close to the immediate area as possible; The disruption of flow pathways will be minimised, and drainage will be designed to limit the risk of changing flow pathways and subsequently increasing peat slide risk; All construction requiring cut and fill earthworks requires a robust monitoring and inspection programme. The details of this inspection programme will depend on the purpose and methodologies of the works and the ground conditions; A method statement and risk assessment (RAMS), which considers the potential causes and mitigations of peat instabilities and landslides, is required and must be regularly communicated to all site staff. An observational approach by all site staff to the ground conditions and the risks should be promoted, and any changes in the ground or site conditions should be reported and the risk dynamically assessed; Regular briefing of all site staff (e.g. toolbox talks) to provide feedback on construction and ground performance and to promote report will consult the ECOW to agree on locations for material stockpiles and consider minimising impacting sensitive ecological receptors; All works will be supervised by a competent Geotechnical Engineer. The Contractor will consult the fisk of peat instability in peat excavations, peat stockpiling and all material stockpiling in areas underlain by peat; Ruor off rom Peat Deposition Areas will be directed through the site drainage system, including silt fences, settlement ponds and other drainage measures as appropriate; <l< th=""></l<>
MM45	Peat & Spoil Management – Access	EIAR Appendix 9-2	 Access Roads, Hardstands and Other Infrastructure Controlled quantities of peat and spoil will be side-cast adjacent to access roads and other infrastructure only where it
	Roads,		can be placed in a stable formation, i.e. where the topography and ground conditions allow;





	Hardstands and Other Infrastructur e		 Side cast peat material will consist of the acrotelm (upper layer) only, and it will be landscaped and shaped to aid in reinstating the construction into the surrounding environment; Peat and spoil will only be cast to safe heights and slope angles, considering the topography and the ground conditions. This height will be no more than 1m, and the slopes will be not greater than 1 (V): 3 (H) unless a site-specific assessment during detailed design indicates a greater height and angle is safe; The effect of drainage or water runoff will be considered when placing landscaping rising adjacent to access roads. Landscaping material will not interfere with drainage, risk blocking of drainage systems or runoff into drainage systems.
			Permanent Peat Deposition Area
MM46	Peat & Spoil Management Plan (PSMP) - Permanent Peat Deposition Area	EIAR Appendix 9-2	 The permanent Peat Deposition Area (1) location has been designed by Tobin (Appendix D of the PSMP). The proposed location has been identified in an area where the topography (slope angle <5°), peat depth, resulting stability assessment (FoS of >1.3 for 1.0m peat surcharge) and other environmental constraints (including 50m buffer from all watercourses) have allowed. The area is free of existing peat and drainage cuttings within the internal structure and is designated for the permanent placement of up to 1m of peat material. However, the Contractor will be required to conduct their own local and global stability assessment considering the influence of the existing drainage excavations outside of the stricture and any influence these could have on the proposed construction; A cell berm will be constructed similarly to the Peat Deposition Area details outlined in Appendix D of the PSMP. This cell berm will help to prevent the flow of saturated peat material. The stone berm will be constructed with a sufficiently coarse granular material or rock to enable the drainage of the placed peat material and prevent any instabilities within the Peat Deposition Area; The stone cell berm will require a geotextile separator. The stone cell berm should be constructed using low-ground pressure machinery working from bog mats where necessary. A competent engineer should inspect and approve the founding stratum for each stone buttress; The height of the cell berm constructed will be greater than the height of the placed peat & spoil to prevent any surface peat runoff. Berms up to 1.25m in height will be required, subject to detailed design; The cell berm is subject to the detail designer's specification; however, some peat excavation or installation of a shear key may be required to prevent global instabilities within the stored material. The shear key will comprise an excavation below existing ground level beneath the cell berm to provide resistance against lateral forces; W





MM47	TDR	EIAR Chapter 9	Any temporary accommodation works required along the turbine delivery route such as hedge or tree cutting, temporary relocation of powerlines/poles, lampposts, signage and local road widening (See Chapter 15 (Traffic and Transport) of the EIAR) will be carried out in advance of turbine deliveries and following consultation and agreement with Longford County Council. All temporary accommodation works will be designed by and monitored by suitably qualified and experienced geotechnical engineer or engineering geologist.
Water Q	uality Manageme	nt	
			Dewatering will be required intermittently during the 2-year construction period. The anticipated dewatering for borrow pits is 1 year and 2-3 months for turbine bases.
MM48	Groundwater	EIAR Chapter	Groundwater inflows to excavations will need to be pumped out, resulting in short term localised drawdown of the water table and potential discharges to the surface water.
	Management	10	Interceptor cut-off drains around the borrow pits will be provided to divert overland flows and prevent these flows from entering the borrow pits. These flows will discharge diffusely overland, creating a buffer before entering the existing surface water management infrastructure
MM49	Surface Water Management	EIAR Chapter 10	The surface water drainage system will require regular inspection during construction works and during operations to ensure that it is working optimally. The surface water management plan (Appendix 10-3 of the EIAR) details the monitoring procedures to be followed during the construction phase. Where issues arise, the works should be stopped immediately and the source of potential impacts on the surface water quality investigated.
			site.
			Hydrocarbon and Concrete:
MM50	Surface Water Quality: Hydrocarbon and Concrete	EIAR Chapter 10 ete	Concrete is required for the construction of the turbine bases, met masts and substation foundations. After concrete is poured at a construction site, the chutes of ready mixed concrete trucks must be washed out to remove the remaining concrete before it hardens. Wash out of the main concrete bottle will not be permitted on site; wash out is restricted only to chute wash out. Wash down and washout of the concrete transporting vehicles will take place at an appropriate facility offsite i.e., at the premises of the concrete supplier.
			The best management practice objectives for concrete chute washout are to collect and retain all the concrete washout water and solids in leakproof containers or impermeable lined washout pits so that the wash material does not reach the soil surface and then migrate to surface waters or into the groundwater. The collected concrete washout water and solids will be emptied on a regular basis at a waste licence facility.
			With regard to on-site storage and handling of potentially pollutant materials:
			 All on-site refuelling will be carried out by a trained competent operative; Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations;





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	• The contractor will have a dedicated area within the compound for refuelling plant or any other equipment that is bunded and has the necessary spill kit equipment available:
	 The production, transport and placement of all cementitious materials will be strictly planned and supervised. Site batching/production of concrete will not be carried out onsite and therefore these aspects will not pose a risk to the waterbodies or sensitive receptors present, namely any exposed groundwater, the onsite surface water settlement ponds or onsite groundwater monitoring wells;
	 Mixer washings and excess concrete will not be discharged directly into the drainage network, or any drainage ditches, surface water bodies, the onsite surface water settlement pond or onsite groundwater monitoring well; Surplus concrete will be returned to batch plant after completion of a pour:
	 No refuelling will take place within 50 m of any water body. Refuelling of machinery will be carried out using a mobile double skinned fuel bowser to allow for ease of work. The fuel bowser will be re-filled off site or at the contractors site compound and will be towed around the site by a 4x4 jeep to where machinery is located. Spill kits (fuel absorbent material and pads) will be stored in the event of any accidental spillages. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations. Only designated trained and competent operatives will be authorised to refuel plant on site.
	• All equipment and machinery will have regular checks for leakages and quality of performance, and will carry spill kits;
	• Any servicing of vehicles will be confined to designated and suitably protected areas such as construction compounds;
	 Additional drip trays and spill kits will be kept available on site, to ensure that any spills from vehicles are contained and removed off site;
	 Fuels, lubricants, and hydraulic fluids for equipment used on the construction site, as well as any solvents, oils, and paints will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to best codes of practice;
	 Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the proposed development for disposal or re-cycling;
	 All fuel /oil deliveries to the onsite storage tanks will be supervised with records of delivery dates and volumes retained on site; and
	 Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised on-site is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the site. This will minimise the risk of groundwater becoming contaminated through site activity.
	Generators and associated fuel tanks to be used at the site will either be placed within bunds as per fuel storage tanks or will be integrated units (i.e., fuel tank and generator in one unit) that are intrinsically bunded. No external tanks and associated fuel lines will be permitted on the proposed wind farm site unless these are housed within a fixed bund with the generator.
	The temporary contractor's compounds will incorporate a bund for the storage of small vehicles and oil filled equipment, such as hand portable generators, pumps, etc. Storage of small volume oils or chemicals, in barrels, IBCs, etc, will be stored in a covered bunded area. Where barrels or other containers are required at work locations these shall be stored in enclosed bunded cabinets, and drip trays shall be used where distribution of the material is required.





			The main storage areas for oil filled equipment, vehicles, plant, etc, shall be impermeably surface and the discharge of surface water from these areas will be via oil interceptors. An oil spill response plan will be developed for the construction works and appropriate containment equipment will be available at work locations in the event of a spillage. Oil spill response will form part of site personnel induction and training at the site.
			A response procedure will be put in place by the Contractor to deal with any accidental pollution events. Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the contamination removed from the proposed development and disposed of in accordance with all relevant waste management legislation.
			Relevant Material Safety Data Sheets along with oil absorbent materials will be kept on site in close proximity to any fuel storage tanks or bowsers during proposed site development works.
			The works programme for the construction phase of the development will also take account of weather forecasts and predicted heavy rainfall events in particular. Large excavations and movements of peat/subsoil or peat stripping 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 the amount of rainfall forecast.
MM51	Surface Water Quality: Wastewater	EIAR Chapter 10	The presence of construction workers at the proposed wind farm site will lead to the generation of foul sewage from toilets and washing facilities. Welfare facilities will be provided at the temporary construction compounds during the construction phase. Wastewater will be contained in an alarmed and sealed wastewater tank.
	Flow Alteration	Flow EIAR Chapter teration 10	As required by the IPC Licence (P0504-01) there are existing IPC settlement / slit ponds upstream or downstream of the external pumping stations to allow sediment to settle out of the water before it is discharged to the external streams and rivers which ultimately flow into the River Shannon and Lough Ree. These will remain in operation during the proposed construction and operational phase. There are no streams within 50 m of proposed turbines or borrow pits. Interceptor drainage will be provided on the upgradient side of the road to collect the drains crossed by the proposed internal access site roads and amenity access tracks.
MAAEO			All stockpiled material will be side cast, battered back and profiled to reduce the rainfall erosion potential. The stockpiling of materials will be carefully supervised as per the mitigation measures listed in Chapter 9 (Lands, Soils and Geology) of the EIAR.
MM52			Traffic on site will be kept to a minimum. No haul roads will be used other than the proposed access tracks and roads. Where haul roads pass close to watercourses, silt fencing will be used to protect the streams. This will be utilised for the crossing of the Rappareehill and Derrygeel streams to the west and southwest of Derryadd Bog.
			As stated previously, to maximise the erosion and sediment control benefits of natural vegetation soil cover, stripping of peat is to be kept to a minimum and confined to construction areas only. Where practical, construction works will be staged to minimise the extent and duration of disturbance, e.g. plan for progressive site clearance, only disturbing areas when they are scheduled for construction work.
MM53	Dewatering	EIAR Chapter 10	Dewatering will be required intermittently during the 2-year construction period. The anticipated dewatering for borrow pits is <1 year and 3 months for turbine bases. Groundwater levels on the proposed wind farm site are between 1 and 5 mbgl based on the



	2018, 2021 and 2022 and 2023 Site Investigations (see Appendix 9.1.1, 9.1.5 to 9.1.10 of the EIAR). Based on the ground investigation the proposed foundations will be a combination of piled, bored and gravity foundations.
	The mitigation strategies for the borrow pits follow similar procedures as the excavations for turbine and hardstanding areas. Interceptor cut-off drains around the borrow pits will be provided to divert overland flows and prevent these flows from entering the borrow pits. These flows will discharge diffusely overland, creating a buffer before entering the existing surface water management infrastructure.
	Dewatering of borrow pits and turbine bases will be required on site. Borrow pit areas for example, which are up to ca. 5.5 m deep, will encounter groundwater. Gravity, bored or piled turbine bases will be 3.6 – 4m bgl. Groundwater inflows to excavations will need to be pumped out, resulting in short term localised drawdown of the water table and potential discharges to the surface water.
	The water pumped by sumps will first pass through silt bags before being discharged into swales and settlement ponds ensuring no net loss of water from the hydrological system. The quantities that will be managed at turbine bases will generally be less than 10 m3/hr, although shorter term pumping can be higher, especially after significant rainfall events. Based on the above principles and a Transmissivity value of 20 to 50 m2/day, the upper rate of groundwater discharge rates of 1,800 m3/day to 2,300 m3/day are obtained for the borrow pits.
	Gravity turbine, bored foundation and piled foundation bases will be ca. 3.6 - 4 m bgl. Groundwater inflows to excavations will need to be pumped out, resulting in short term localised drawdown of the water table and potential discharges to the surface water.
	Based on a drawdown of 3.5 m, the empirical estimate calculates a 0m drawdown at 100 m. Where deep soils are present such as T03, T05, T06, T15-T21, the drawdown distance is <25 m. Average depth to bedrock on the site is ca. 5 m. There are no wells within 500 m of the turbines or the borrow pits.
	Therefore, the pre mitigation potential effect is localised, temporary, slight and likely. There are no significant effects of the proposed piling works.
	The overflow areas are self-contained basins and of sufficient cross-sectional area to minimise erosion. As foundations are excavated, water will enter the excavations by direct rainfall and via groundwater seepage once the groundwater level is reached/intercepted. The water inside the excavations will collect in sumps and the water will be pumped out using sump pumps. The pumped water will be directed to swales which will lead the water to settlement ponds before overland flow to the surface water ponds.
	The discharge water from sumps may contain suspended sediments and concentrations of ammonia will be elevated since the water originates from the surrounding peat and shallow
	groundwater environment. Groundwater quality monitoring indicated ammonium concentrations are <0.1 mg/l. The swales and settlement ponds will serve to significantly attenuate ammonium and suspended solids. A summary of the mitigation measures are included in Table 10-26 of Chapter 10 (Hydrology and Hydrogeology) of the EIAR.





			Potential effects on surface water flow during the construction phase of the proposed wind farm site are mitigated by the proposed drainage design, which has been designed to minimise disturbance to the current hydrological regime, by maintaining diffuse flows.
			All access tracks will utilise the existing roads/culverts including the crossing of Derrygeel stream (26_593) to the east of T15.
		EIAR Chapter 10	Culverts are to be of a size adequate to carry expected peak flows. Culverts will be installed to conform to the natural slope and alignment of the stream or drainage line. Where required, culverts will be buried at an appropriate depth below the channel bed and the original bed material placed in the bottom of the culvert. Embedded culverts should be buried to a depth of 0.3 m or 20% of their height (whichever is greatest) below the bed. No culverts are required on an EPA waterbody.
MM54	Watercourse crossings		No instream works are proposed. There will be no discharge of suspended solids or any other deleterious matter to watercourses. Water crossings are to be constructed in accordance with the requirements of the Office of Public Works (OPW) Section 50 Consent requirements (if required) and in accordance with the CEMP.
			Crossing construction will be carried out, in so far as is practical, with minimal disturbance to the drainage bed and banks. If they have to be disturbed, all practicable measures will be taken to prevent soils from entering the watercourse. Cement and raw concrete will not be spilt into watercourses. Where practicable, crossings should be adequately elevated with low approaches such that water drains away from the crossing point. Existing stream crossings must be protected against erosion e.g. by re-vegetation or rock surfacing etc
			Table 10-25 of Chapter 10 (Hydrology and Hydrogeology) of the EIAR details measures agreed to manage the hydrological environment associated with each component of the proposed development.
			Only ready-mixed concrete will be used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on-site batching. When concrete is delivered to site, only the chute of the delivery truck will require cleaning, using the smallest volume of water necessary, before leaving the site. Concrete trucks will be washed out fully at the batching plant, where facilities are already in place.
MM55	Concrete Management	Concrete nagement 3.10 EIAR Chapter 3 CEMP Section	The small volume of water that will be generated from washing of the concrete lorry's chute will be directed into a temporary lined impermeable containment area, or a concrete wash unit. This type of unit catches the solid concrete and filters and holds wash liquid for pH adjustment and further solids separation. The residual liquids and solids can be disposed of off-site at an appropriate waste facility. Where temporary lined impermeable containment areas are used, such containment areas are excavated and lined with an impermeable membrane.
			The areas are generally covered when not in use to prevent infill of rainwater. In periods of dry weather, the areas can be uncovered to allow much of the water to be lost to evaporation. At the end of the concrete pours, any of the remaining liquid contents is tankered off-site. Any solid contents that will have been cleaned down from the chute will have solidified and can be broken up and disposed of along with other construction waste.
			Due to the volume of concrete required for each turbine foundation (approximately 950 m3), and the requirement for the concrete pours to be continuous, deliveries are often carried out outside normal working hours in order to limit the traffic impact





			on other road users, particularly peak period school and work commuter traffic. Such activities are limited to the day of turbine
			foundation concrete pours.
			The risks of pollution arising from concrete deliveries will be further reduced by the following:
			 Concrete trucks will not be washed out on the site but will be directed back to their batching plant for washout other than the delivery chutes;
			 Site roads will be constructed to a high standard to allow transport of the turbine components around the site, and hence, concrete delivery trucks will be able to access all areas where the concrete will be needed. No concrete will be transported around the site in open trailers or dumpers so as to avoid spillage while in transport. All concrete used in the construction of turbine bases will be pumped directly into the shuttered formwork from the delivery truck. If this is not practical, the concrete will be pumped from the delivery truck into a hydraulic concrete pump or into the bucket of an excavator, which will transfer the concrete to the location where it is needed;
			• The arrangements for concrete deliveries to the site will be discussed with suppliers before work starts, agreeing routes, prohibiting on-site full washout and discussing emergency procedures;
			Clearly visible signage will be placed in prominent locations close to concrete pour areas specifically stating washout of concrete lorries is not permitted on the site.
	Concrete Pouring	EIAR Chapter 3 CEMP Section 3.10	Because of the scale of the main concrete pours that will be required to construct the proposed wind farm, the main pours will be planned weeks in advance and refined in the days leading up to the pour. Special procedures will be adopted in advance of and during all concrete pours to minimise the risk of pollution. These may include:
			 Using weather forecasting to assist in planning large concrete pours and avoiding large pours where prolonged periods of heavy rain is forecast;
MM56			Restricting concrete pumps and machine buckets from slewing over watercourses while placing concrete;
			 Ensuring that excavations are sufficiently dewatered before concreting begins and that dewatering continues while concrete sets;
			• Ensuring that covers are available for freshly placed concrete to avoid the surface washing away in heavy rain;
			Disposing of surplus concrete after completion of a pour will be off-site.
	Refuelling	EIAR	Wherever possible, vehicles will be refuelled off-site. This will be the case for regular, road-going vehicles. However, for construction machinery that will be based on-site continuously, a limited amount of fuel will have to be stored on site.
MM57		Chapter 3 and Chapter x / CEMP Section 3.10	No refuelling of machinery will occur within 50 m of surface water features. Refuelling of machinery will be carried out using a mobile double skinned fuel bowser to allow for ease of work. The fuel bowser will be re-filled off site or at the contractors site compound and will be towed around the site by a 4x4 jeep to where machinery is located. Spill kits (fuel absorbent material and pads) will be stored in the event of any accidental spillages. Mobile measures such as drip trays and fuel absorbent mates will be used during all refuelling operations. Only designated trained and competent operatives will be authorised to refuel plant on site.
Noise & V	'ibration		



MM58	Noise	EIAR Chapter 12 / CEMP Section 3.1.9	The contract documents will specify that the Contractor undertaking the construction works will be obliged to adopt best practice noise abatement measures contained in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration.
Air Quali	ty / Dust		
MM59	Dust Suppression and Exhaust Emissions Management	EIAR Chapter 11	Best practice (including industry recognised dust suppression techniques/equipment) will be used to minimise the potential for dust production during construction including, but not limited to, IAQM (2024) and the Good Practice Guide for Construction and Demolition (Dublin City Council, 2018). The main contractor will be responsible for the coordination, implementation and ongoing monitoring of dust management measures.
			In periods of extended dry weather, dust suppression may be necessary along haul roads and around the borrow pit area(s) to ensure dust does not cause a nuisance. If necessary, water will be taken from settlement ponds in the site's drainage system and will be pumped into a bowser or water spreader to dampen down haul roads and site compounds to prevent the generation of dust. Silty or oily water will not be used for dust suppression, because this would transfer the pollutants to the haul roads and generate polluted runoff or more dust. Water bowser movements will be carefully monitored, as the application of too much water may lead to increased runoff.
			Good site management will also include the ability to respond quickly to adverse weather conditions through effective control measures or restricting operations on-site before the potential for nuisance occurs. During periods of high wind (gales) particular care should be taken as these are conditions are where potential for significant dust emissions is most high.
			In general the prevailing meteorological conditions in the area of the proposed wind farm are favourable for dust suppression for significant part of the year. However, there will be times when care is needed to ensure no dust nuisance occurs.
	General Site	EIAR Chapter	The Principal Contractor will be responsible for adherence to all dust control measures contained here and ensure that any other contractors working onsite demonstrate full compliance. The following measures shall be taken to ensure no dust nuisance at the site and site entrances:
MM60	Management	11	 Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses;
			• The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head/regional office contact details;
			• A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out;
			• Daily inspections by site personnel to identify potential sources of dust generation along with implementation measures to remove causes where found;





			• Review of the measures across the site to ensure they are appropriate and working.
MM61	Site Activities	EIAR Chapter 11	 The movement and storage of materials are important aspects to consider when managing site activities with regard to potential source of dust nuisance. The moisture content of materials stored and moved within the wind farm site should also be considered. The following measures shall be taken during construction within the proposed wind farm site: Minimisation of the extent of working areas; Stockpiling of excavated materials will be limited to the volumes required to practically meet the construction schedule; Only ready-mix concrete will be used on site and all concrete will be delivered in enclosed trucks which will reduce the potential for dust emissions; Soil and rock excavation and rock breaking during periods of high winds and dry weather conditions can be a significant source of dust. During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and rock and thus suppress dust. During periods of very high winds (gales), construction activities likely to generate significant dust emissions should be postponed until the gale has subsided; Drop heights of excavated materials into haulage vehicles will be minimised to a practicable level; Provision of dust suppression measures (e.g., sweeps/covers/water bowsers) will be used on stockpiles and the road surface during periods of extended dry weather; Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods; Onsite borrow pits will be used to minimise quantities of stone material being brought to site; Sporadic wetting of loose stone surface in the borrow pits around the site will be undertaken in tarpaulin or similar covered vehicles, where necessary; Vehicles a
			where possible, which will further reduce potential emissions.
MM62	Site Traffic on Public	EIAR Chapter 11	Movement of vehicles along the road network to the proposed wind farm site and on the site roads are considered a potential source of dust nuisance and the following measures are to be take:





	Road and Site Entrance		 Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic;
			 Any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions;
			Traffic coming to site will only use the specified haul routes;
			• Vehicles using site access tracks will have their speed restricted, and this speed restriction must be enforced rigidly. On any unsurfaced site access track, this will be 20 kph, and on hard surfaced access tracks as site management dictates;
			• The use of a wheelwash near the site entrance (will prevent the transfer of dust from the construction works onto public roads). Vehicles exiting the site shall make use of the wheel wash facility where appropriate, prior to entering public roads;
			Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary; and
			• During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
			At all times, these procedures and those outlined within the CEMP will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust will be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.
Traffic M	anagement		
MM63	Haul Routes	ul Routes EIAR Chapter 15	To mitigate the effects of the construction traffic, the proposed development will utilise all available resources within the existing site to reduce the requirement for importation of materials to site. Excavation of stone material from the borrow pits within the proposed wind farm site to provide construction material will reduce the HV volumes as described in the Chapter 3 (Description of the Proposed Development) of the EIAR.
			The largest traffic volume effect is associated with the haulage of the materials for the combined construction activities for Month 3 of the proposed construction programme. Key deliveries during this period are aggregate and stone. The internal site access roads have been designed to utilise existing access tracks where feasible, reducing the volume of materials required for importation to the proposed wind farm site.
			The second largest volume traffic effect is associated with the concrete pours for the turbine foundations. Other scheduled construction activities, per the proposed construction program will continue during these concrete pours, but only essential deliveries will be scheduled to occur on the same days as the concrete pours. To mitigate this effect, liaison with local authorities and the community in advance of the foundation pours will occur as well as minimising other works/deliveries as noted.
MM64	Post- Construction Pavement Surveys	EIAR Chapter 15	The proposed development will result in slight increase in traffic volume in particular HVs during the construction phase. The weighted loading of the HVs to the proposed wind farm site has the potential to impact on the road network surface (i.e. the N63) causing deterioration of the road pavement.
	Juiveys		I o capture suitable mitigation works the developer will undertake post-construction visual pavement surveys on the N63. Where



			the surveys conclude that damage to the road surface is attributable to the construction phase of the proposed development, the developer will fund the appropriate reinstatement works to bring the road surface back to pre-construction condition as a minimum, details for which will be agreed with the Local Authorities Roads Department.
			The successful completion of the proposed development will require co-ordination and planning in order to minimise the effects of the additional traffic generated by the proposed development which are outlined in the Traffic Management Plan (TMP). The TMP is a comprehensive set of mitigation measures that will be put in place by the Contractor before and during the construction phase of the proposed development to minimise effects. The purpose of the TMP is to capture the mitigation measures in this EIAR as discussed with RCC and LCC during scoping and any future traffic mitigation as they may arise during the proposed development. The TMP proposed for the Derryadd Wind Farm is included as Appendix 15-2 of the EIAR. The following mitigation measures has been incorporated into the TMP:
MM65	Traffic Management	EIAR Chapter 15 / TMP	 Haul route selection to avoid sensitive receptors and preference for national road infrastructure over regional and local road.
l	Plan (TMP)	Appendix 15-2	• The existing and widened internal access roads facilitate queuing of construction vehicles off the public road.
			• Traffic Management Operatives (TMOs) will be provided by the principal contractor in accordance with their Traffic Management Plan at the site access during peak construction traffic activities, refer to the TMP.
			• Traffic Management Operatives (TMOs) will be provided by the principal contractor in accordance with their Traffic Management Plan for the turbine delivery, refer to the TMP.
			A wheel wash will be provided within the site.
			• Passing bays on the internal access roads and a loop layout within the proposed wind farm site to facilitate safe passing of vehicles, vehicles travelling in a forward direction (reducing higher risk reversing manoeuvres)
MM66	Road Opening Licenses and Agreements	EIAR Chapter 15	To avoid delays to the proposed programme all required road opening licenses and agreements with the Local Authorities and an Garda Síochána to facilitate movement of AILs will be sought by the appointed Contractor in a timely manner.
Cultural I	Heritage and Arc	haeology	
MM67	Protection of the Archaeologic al Heritage	EIAR Chapter 14	The current state policy as detailed in the Framework and Principles for the Protection of the Archaeological Heritage (1999), is that preservation in situ of archaeological material is the preferred option. Where this cannot be achieved then appropriate measures need to be adopted to ameliorate the impacts that the proposed development may have on features of archaeological, architectural and/or cultural heritage within the study area during both the construction and operational phases of the works. Following consultations with the National Monuments Service, DHLGH, it was recommended that a Post Consent Advance Stage Works be implemented.
MM68	Ground Disturbance /	EIAR Chapter 14	The following mitigation measures will be implemented during the construction phase:





	Encountering Archaeologic al Features, Finds Or Deposits		 All ground disturbance associated with the construction of the proposed development will be monitored by a suitably qualified archaeologist working under licence as issued by the minister (DoHLGH) under section 26 of the National Monuments Acts (1994-2014). In the event of archaeological features, finds and/or deposits been encountered during the course of the monitoring and/or testing, the relevant authorities should be notified immediately. Preservation by record (through archaeological excavation) will only occur if it is established that preservation in situ cannot be achieved and such excavations are agreed with National Monuments Service.
Waste M	anagement		
		EIAR Chapter 16	The Contractor will prepare a detailed Construction Resource and Waste Management Plan (RWMP) in accordance with the relevant following guidance 'Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects' (EPA, 2021). The Construction RWMP will provide a mechanism for monitoring and auditing waste management performance and compliance for the duration of the proposed development. The document will also provide a detailed overview of key waste management considerations for the proposed development and will be fully implemented onsite for the duration of the construction phase of the proposed development. The Waste Management Act 1996 and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.
ММ69			The Act requires that any waste related activity must have all necessary licenses and authorisations. It will be the duty of the Resource and Waste Manager on the site of the development to ensure that all contractors hired to remove waste from the site have valid Waste Collection Permits. It will then be necessary to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits/licenses and authorisations.
			system will enable the contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The RWMP can then be adapted with changes that are seen through record keeping
MM70	Waste Management	EIAR Chapter 9 / Chapter 16 16 / CEMP Section 3.1.21	 The following mitigation measures will be implemented during the construction phase to manage effects on waste; A specific PSMP (Appendix 9.2 of the EIAR) is in place for the site for the management of peat and spoil generated during excavations; Excavated bedrock that will not be required will be stockpiled within the red line boundary and removed for offsite disposal to a suitably licenced / permitted waste facility and will be appropriately sampled and tested prior to offsite removal. This material will be classified in accordance with the EPA Guidance Document 'Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (2015). It will be the Contractors responsibility to ensure





that all waste soils are classified correctly and managed, transported and disposed of offsite in accordance with the requirements of the Waste Management Act 1996, as amended, the Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste and any relevant subsequent waste management legislation;
 Prior to construction commencement, the appointed Contractor will prepare a detailed C&D Resource and Waste Management Plan (RWMP) in accordance with the relevant following guidance 'Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects' (EPA, 2021);
 It will be the Contractors responsibility to ensure that a project specific Detailed Resource and Waste Management Plan (developed in accordance with relevant 2021 EPA Guidance) is fully implemented onsite for the duration of the project;
 The Construction RWMP will provide a mechanism for monitoring and auditing waste management performance and compliance for the duration of the proposed development. The document will also provide a detailed overview of key waste management considerations for the proposed development and will be fully implemented onsite for the duration of the construction phase of the proposed development;
 Segregation of waste will be carried out on site to maximise recycling potential and minimise potential effects on waste services. Waste streams (including material-related streams such as metals, paper and cardboard, plastics, wood, rubber, textiles, bio-waste and product-related streams such as packaging, electronic waste, batteries, accumulators and construction waste) will be managed, collected, segregated and stored in separate areas at the temporary compound and removed off site by a licensed waste management contractor at regular intervals during the works in line with condition 7 of the IPC Licence (P0504-01). Any waste generated from construction on site will be removed to the nearest appropriate licenced waste processing facility;
 All waste management procedures implemented onsite during the construction phase will be in accordance with the CEMP submitted as part of this planning application, The RWMP to be prepared by the Contractor, will take account of the relevant requirements of the CEMP, the EIAR, NIS and any relevant planning conditions etc., and will be prepared by the Contractor in advance of the commencement of any construction works;
• The contractor will supply all waste containers / skips, as required, for each of the identified waste streams. Waste will be segregated and removed to licenced facilities by licenced haulers and all containers will be emptied before they are full to avoid overflowing. The contractor is to provide a waste forecast for waste types and quantities expected to be generated.
 Good working practices and take back schemes will be used to reduce the amount of waste generated, as an initial step, with waste management routes for each waste stream to be recorded in the site Waste Management Plan. In order to reduce waste generation as far as possible, off cuts, surplus materials and packaging is to be returned to suppliers for closed loop recycling, single used plastics are to be avoided where possible and all materials are to be stored correctly to avoid waste generation from damage and contamination of incorrectly stored materials.
 All waste materials will be segregated onsite into the various waste streams, via. dedicated skips and storage areas. All waste will be removed from site by one or more waste haulage contractor(s) who hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). All waste materials generated during the construction phase will be removed offsite to an appropriately permitted or licenced waste disposal / recovery facility. All waste removed offsite will be appropriately characterised (under the correct LoW / EWC code), transported and disposed





			of in accordance with relevant waste management legislation (including but not limited to the Waste Management Act of 1996 and 2001, as amended and all subsequent waste management regulations). All waste management and disposal / recovery records will be maintained onsite throughout the proposed development and will be made available for viewing by the Client, Employer's Representative and statutory consultees (LCC, RCC, EPA) as required.
			• Scheduling and planning the delivery of materials will be carried out on an 'as needed' basis to limit any surplus materials;
			• Materials will be ordered in sufficient dimensions so as to optimise the use of these materials onsite, and will be carefully handled and stored so as to limit the potential for any damage;
			• Where feasible, sub-contractors will be responsible for the provision of any materials they require onsite in order to help reduce any surplus waste;
			• Secure lockable and controlled storage to be provided for the storage of chemicals and other hazardous materials; and
			The construction compounds will include adequate temporary welfare facilities;
			 A wastewater holding tank (twin-hulled) will be used for the temporary welfare facilities and managed by a licensed contractor. Any introduced seminatural (road building materials) or artificial (PVC piping, cement materials, electrical wiring) materials will be taken off site at the end of the construction phase. Any accidental spillage of solid state introduced materials will be removed from the site by the appropriate means. In the unlikely event that soil material is unsuitable for use/ excess soil is generated, all waste soils (including made ground) will be appropriately sampled and tested prior to offsite removal and classified in accordance with the EPA Guidance Document 'Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (2015). It will be the Contractors responsibility to ensure that all waste soils are classified correctly and managed, transported and disposed of offsite in accordance with the requirements of the Waste Management Act 1996, as amended, the Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste and any relevant subsequent waste management legislation.
Material	Assets – Utilities		
			The following mitigation measures will be implemented during the construction phase to manage effects on services (electrical/ESB, water/Uisce Éireann, gas/Gas Networks Ireland (GNI));
N4N474	1 1411141-	EIAR Chapter 16	 Prior to construction, Ground Penetrating Radar (GPR) surveys will be undertaken to accurately locate existing utilities along the boundaries, within the proposed wind farm site and within the public road network. Bord na Móna Powergen Ltd., will liaise with the service provider where such services are identified. Digging around existing services, if present, will be carried out by hand to minimise the potential for accidental damage;
MIM 7 1	Utilities		• All proposed works being carried out on overhead or underground electricity cables will be done in consultation with ESB/EirGrid, as required, and will comply with their guidance and best practice;
			Goal posts will be established under the overhead line for the entirety of the construction phase;
			• All staff will be trained in operating voltages of overhead electricity lines running within the proposed development. All staff will be trained to be aware of the risks associated with overhead lines. All contractors that may visit the sites are made aware of the location of lines before they come on to the proposed development;





			 Information on safe clearances will be provided to all staff and visitors; 	
			 Signage indicating locations and health and safety measures regarding overhead lines will be erected in canteens and on site; 	
			 All staff will be made aware of and adhere to the Health & Safety Authority's 'Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) (Amendment) Regulations 2021'. This will encompass the use of all necessary Personal Protective Equipment and adherence to the site Health and Safety Plan; 	
			• All newly installed utilities/ services will be assessed, tested and certified as required prior to being fully commissioned;	
			• A copy of all available existing, and as built utility plans will be maintained on site during the construction of the proposed wind farm. Any underground power lines and foul and water mains, located onsite will be clearly marked and all site personnel will be made aware of the known location of any onsite underground or over ground services during the construction phase.	
Material Assets - Aviation and Telecommunications				
			The findings from field and desktop surveys indicate that no significant mitigation measures would be required. The following construction phase mitigation measures will be implemented:	
MM72	Aviation	EIAR Chapter 16	Should the proposed development proceed, it would be a requirement to submit the as-constructed turbine locations (in WGS84 format) and height above ground level and sea level of each turbine (to blade tip) and met masts to the IAA so that they are added to the IAA Aeronautical Electronic Obstacle Data Set as soon as erected. The Applicant is also required to notify the Authority of intention to commence crane operations with at least 30 days prior notification of their erection.	
			In addition, in the event of a grant of planning consent the IAA-ANSP (Irish Aviation Authority – Air Navigation Service Provider) would require to be made aware of the detail on the lighting of the proposed wind turbines in the interest of aviation safe-guarding as the proposed development may be considered as an en-route obstacle. The applicant would be required to implement suitable aeronautical obstacle warning lights in agreement with the IAA-ANSP.	
			For civil aviation, it is recommended that lighting requirements should be in accordance with Chapter Q – Visual Aids for denoting Obstacles; CS ADR.DSN.Q.851 and GM.ADR.DSN.Q.851 (Pages 729/730) of the EASA Easy Access Rules for Aerodromes (Reg (EU) No. 139/2014).	
			In addition to the civil aviation light scheme requirements, the Department of Defence (DoD) have made specific observations regarding an Aeronautical Obstacle Warning Light Scheme for the Irish Air Corps (IAC). The appropriate IAC Aeronautical Obstacle Warning Light Scheme is subject to a detailed technical assessment and further consultations with the DoD/IAC should the proposed development be consented.	
MM73	Telecommuni cations	EIAR Chapter 16	No telecommunication effects are anticipated for the construction phase of the proposed development. Therefore, no specific mitigation measures related to telecommunications are proposed apart from the mitigation by avoidance which was	





carried out. In order to ensure there are no issues with construction, all telecom operators will be contacted in advance of construction to check that they have no new links in operation at that time. Prior to construction, Ground Penetrating Radar (GPR) surveys will be undertaken to accurately locate existing underground infrastructure. In the unlikely event that a communication underground cable or link is damaged or interfered with during construction, the operator will be contacted to agree to arrange a repair which will be carried out as soon as possible at the developers' cost.
In addition, the developer will sign an agreement with 2RN prior to construction to commit to restoring service to any end users that may have their service disrupted as a result of the proposed development. This is standard industry practice and will eliminate any potential effects in this regard.



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