15. SCHEDULE OF MITIGATION AND MONITORING PROPOSALS

15.1 Introduction

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

All mitigation which will be implemented during the various phases of the project are presented in Table 15-1 below. The mitigation measures have been grouped together according to their environmental field/topic and are presented under the following headings:

- Construction Management
- Drainage Design and Management
- Felling
- Peat, Subsoils and bedrock
- Biodiversity
- Noise
- Air Quality/Dust
- Landscape and Visual
- Traffic
- Cultural Heritage

The mitigation proposals in the below format provides an easy to audit list that can be reviewed and reported on during the future phases of the project. The proposal for site inspections and environmental audits are set out in the Construction and Environmental Management Plan (CEMP) which is included as Appendix 4-3 and in the Decommissioning Plan (DP) which is included as Appendix 4-7 of this EIAR. The tabular format in which the below information is presented, can be further expanded upon during the course of future project phases to provide a reporting template for site compliance audits.

All monitoring measures which will be implemented during the pre-commencement, construction, operational and decommissioning phases of the project are outlined in Table 15-2. All monitoring measures were set out in the relevant chapters of this EIAR. The monitoring proposals are presented in terms of the monitoring requirement, frequency of monitoring and the mechanism for reporting results where applicable. By presenting the monitoring proposals in the below format, it is intended to provide a monitoring schedule that can be reviewed and tracked during all phases of the project to ensure all the required monitoring is completed as required.

It is intended that the CEMP will be updated where required prior to the commencement of construction to include all mitigations and monitoring measures, conditions and or alterations to the EIAR and application documents should they emerge during the course of the planning process and would be submitted to the Planning Authority for written approval.

15.2 Mitigation Measures

Table 15-1 Schedule of Mitigation

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
Pre-Commencement Phase				
MM1	EIAR Section 4	All proposed site activities will be provided for in a Construction Environmental Management Plan (CEMP), prepared prior to the commencement of any operations onsite. The CEMP will set out all measures necessary to ensure works are carried out in accordance with the mitigation measures set out in the EIAR and will set out the monitoring and inspections procedures and frequencies.		
MM2	EIAR Section 4	The ECoW will maintain responsibility for monitoring the construction works and audit the implementation of the CEMP. In addition, a Project Ecologist, Project Hydrologist, Project Archaeologist, Project Geotechnical Engineer will visit the site regularly and report to the ECoW.		
MM3	CEMP Section 4	A Site ECoW will oversee the site works and implementation of the CEMP, and provide on-site advice on the mitigation measures necessary as necessary to ensure the project proceeds as intended. The level, detail and frequency of reporting expected from the ECoW for the Construction Manager, developer's project manager, and any Authorities or other Agencies, will be agreed by parties where required prior to commencement of construction, and may be further adjusted as required during the course of the project.		
MM4	CEMP Section 4	Baseline water quality field testing and laboratory analysis will be undertaken where required prior to commencement of felling and construction at the site. The baseline monitoring programme will be subject to agreement with Kerry and Cork County Councils.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		Baseline laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will also be undertaken as per water monitoring programme for the Proposed Development and each primary watercourse along the route.		
MM5	CEMP Section 5	A Project Ecologist will be appointed. The responsibilities and duties of the Project Ecologist are set out in section 4.1.4.		
MM6	EIAR Section 4 CEMP Section 3	The arrangements for concrete deliveries to the site will be discussed with suppliers before work starts, agreeing routes, prohibiting on-site washout of trucks and discussing emergency procedures.		
MM7	EIAR Section 4 CEMP Section 4	The Project Hydrologist will prepare detailed drainage design before construction commences.		
MM8	EIAR Section 4 CEMP Section 3	The detailed drainage design will specify all materials and equipment necessary to implement the drainage measures effectively, which will be brought on site in advance of any works commencing. An adequate quantity of straw bales, clean stone, terram, stakes, etc. will be kept on site at all times to implement the detailed drainage design measures as necessary. The detailed drainage measures will be installed prior to, or at the same time as the works they are intended to drain.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM9	EIAR Section 9 CEMP Section 3	The works programme for the groundworks part of the construction phase of the project will also take account of weather forecasts and predicted rainfall in particular.		
MM10	CEMP Section 3	Prior to commencement of works in sub-catchments across the site main drain inspections will be competed to ensure ditches and streams are free from debris and blockages that may impede drainage.		
MM11	EIAR Section 4 CEMP Section 4	An inspection and maintenance plan for the drainage system on site will be prepared in advance of commencement of any works. Regular inspections of all installed drainage systems will be necessary, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water at parts of the systems where it is not intended. The inspection of the drainage system will be the responsibility of the site ECoW or the Project Hydrologist.		
MM12	CEMP Section 3	Drainage and associated pollution control measures will be implemented onsite before the main construction works commence. Where possible drainage controls will be installed during seasonally dry ground conditions. This will reduce the possibility of impact on surface waters by suspended sediment released during construction and entrained in surface run-off.		
MM13	EIAR Section 8 NIS Section 5	A 50-metre buffer zone will be maintained around hydrological features during construction where possible. With the exception of road crossings of streams and associated culvert construction, no development infrastructure, vehicle or plant movement, construction activity or stock-piling of construction materials or construction waste will take place within this zone, and no vegetation will be removed from within this zone.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM14	EIAR Section 4	Construction will not commence during the Breeding Bird season from March to August inclusive. If breeding activity is identified, the nest site will be located, and no works shall be undertaken within a 500m buffer (Forestry Commission Scotland 2006; Ruddock & Whitfield 2007). No works shall be permitted within the buffer until it can be demonstrated that the nest is no longer occupied.		
MM15	EIAR Section 6 CEMP Section 3	A pre-construction invasive species survey will be undertaken a part of the proposed project. This will provide updated data in advance of any construction given the intervention time period between the original survey work and any future grant of permission/ construction. Measures will be in place to prevent the spread of these species during the proposed works. In addition, all necessary precautions will be taken to prevent the introduction of invasive species to the site from elsewhere.		
MM16	EIAR Section 4	The proposed procedures for the implementation of the mitigation measures outlined in such a CEMP and their effectiveness and completion is typically audited by way of a Construction and Environmental Management Plan Audit Report. The CEMP Audit Report effectively lists all mitigation measures prescribed in any of the planning documentation and all conditions attached to the grant of planning permission and allows them to be audited on a systematic and regular basis.		
MM17	EIAR Section 11	Archaeological monitoring of all ground works associated with the Proposed Development during the construction stag. A report on the results of the monitoring shall be compiled and submitted to the relevant authorities on completion of the project.		
Construction Phase				
Construction Management				
MM18	EIAR Section 4	On-site refuelling will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double axel custom-built refuelling trailer, will be re-filled off site		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
	CEMP Section 3 NIS Section 5	and will be towed around the site by a 4x4 jeep to where machinery is located. It is not practical for all vehicles to travel back to a single refuelling point, given the size of the cranes, excavators, etc. that will be used during the construction of the Proposed Development. The 4x4 towing vehicle will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction when not in use		
MM19	EIAR Section 4 CEMP Section 3 NIS Section 5	No batching of wet-cement products will occur on site. Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Only ready-mixed concrete will be used during the construction phase, with all ready-mixed concrete being delivered from local batching plants in sealed concrete delivery trucks.		
MM20	EIAR Section 4, CEMP Section 3 NIS Section 5	No washing out of any plant used in concrete transport or concreting operations will be carried out onsite. When concrete is delivered to site, only the chute of the delivery truck will be cleaned, using the smallest volume of water necessary, before leaving the site. Concrete trucks will be directed back to their batching plant for washout.		
MM21	EIAR Section 4	No concrete will be transported around the site in open trailers or dumpers so as to avoid spillage while in transport.		
MM22	EIAR Section 4	Clearly visible signs in prominent locations will be placed close to concrete pour areas specifically stating washout of concrete lorries is not permitted on the site.		
MM23	EIAR Section 4	Main pours will be planned days or weeks in advance. Large pours will be avoided when prolonged periods of heavy rain are forecast.		
MM24	EIAR Section 4	Concrete pumps and machine buckets will be restricted from slewing over watercourses while placing concrete.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM25	EIAR Section 4	Excavations will be sufficiently dewatered before concreting begins. Dewatering will continue while concrete sets.		
MM26	EIAR Section 4	Covers will be available for freshly placed concrete to avoid the surface washing away in heavy rain.		
MM27	EIAR Section 4	Disposing of surplus concrete after completion of a pour in suitable off-site locations away from any watercourse or sensitive habitats.		
MM28	EIAR Section 4 & 5 CEMP Section 3	If necessary, water will be taken from stilling 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.		
MM29	EIAR Section 5 CEMP Section 3	All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.		
MM30	CEMP Section 4	A road sweeper will be available if any section of the public roads were to be dirtied by trucks associated with the Proposed Development		
MM31	EIAR Section 5	During construction of the Proposed Development, all staff will be made aware of and adhere to the Health & Safety Authority's *'Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. 291 of 2013), as amended'*. This will encompass the use of all necessary Personal Protective Equipment and adherence to the site Health and Safety Plan		
MM32	CEMP Section 2	Any area where excavations are planned will be surveyed and all existing services will be identified prior to commencement of any works. Liaison will be held with the relevant sections of the Local Authority including all the relevant area engineers to ensure all services are identified. Excavation permits will be completed and all		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		plant operators and general operatives will be inducted and informed as to the location of any services.		
Drainage Design and Management				
MM33	EIAR Section 8 CEMP Section 3 NIS Section 5	A 50-metre buffer zone will be maintained around watercourses during the windfarm construction. With the exception of road crossings of streams and associated culvert construction, no development infrastructure, vehicle or plant movement, construction activity or stockpiling of construction materials or construction waste will take place within this zone, and no vegetation will be removed from within this zone.		
MM34	EIAR Section 4 CEMP Section 3 NIS Section 5	Swales will be used to intercept and collect run off from relevant construction areas of the site during the construction phase, and channel it to stilling ponds for sediment attenuation.		
MM35	EIAR Section 4	Interceptor drains will be installed upgradient of relevant works areas to collect surface flow runoff and prevent it reaching excavations and construction areas of the site. It will then be directed to areas where it can be re-distributed over the ground as sheet flow.		
MM36	EIAR Section 4 CEMP Section 3 NIS Section 5	Check dams will not be used in any natural watercourses, only artificial drainage channels and interceptor drains. The check dams will be left in place when the interceptor drains are backfilled at the end of the construction phase to limit linear flow in the backfilled drain. The check dams will be installed at regular intervals along interceptor drains to restrict flow velocity, minimise channel erosion and promote sedimentation behind the dam. The check dams will be installed as the interceptor drains are being excavated. The spacing and frequency of the check dams will be dependent on the gradient of the interceptor drain or swale in which they are being installed.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM37	EIAR Section 4 CEMP Section 3 NIS Section 5	A level spreader will be constructed at the end of each interceptor drain to convert concentrated flows in the drain, into diffuse sheet flow on areas of vegetated ground. The levels spreaders will be located downgradient of any proposed works areas where possible in locations where they are not likely to contribute further to water ingress to construction areas of the site. The water carried in interceptor drains will not have come in contact with works areas of the site, and therefore should be free of silt and sediment. The level spreaders will distribute clean drainage water onto vegetated areas where the water will not be re-concentrated into a flow channel immediately below the point of discharge. The discharge point will be on level or only very gently sloping ground rather than on a steep slope so as to prevent erosion.		
MM38	EIAR Section 4	Vegetation filters are the existing vegetated areas of land that will be used to accept surface water runoff from upgradient areas. The selection of suitable areas to use as vegetation filters will be determined by the size of the contributing catchment, slope and ground conditions.		
MM39	EIAR Section 4 NIS Section 5	Stilling ponds will be used to attenuate runoff from works areas of the site of the Proposed Development during the construction phase and will remain in place to handle runoff from roads and hardstanding areas of the Proposed Development during the operational phase. The purpose of the stilling ponds is to intercept runoff potentially laden with sediment and to reduce the amount of sediment leaving the disturbed area by reducing runoff velocity. Reducing runoff velocity will allow larger particles to settle out in the stilling ponds, before the run-off water is redistributed as diffuse sheet flow in filter strips downgradient of any works areas.		
MM40	CEMP Section 4	Baseline laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will be undertaken as per water monitoring programme for the Proposed Development. This will not be restricted to just these locations around the Proposed Development site with further sampling points added as deemed necessary by the ECoW in consultation with the Project Hydrologist and Site Manager.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM41	EIAR Section 4, 8. NIS Section 5	› Off-site refuelling will occur at a controlled fuelling station where possible. › On-site refuelling will be carried out using a mobile double skinned, bunded fuel bowser. The fuel bowser will be re-filled off site and will be towed around the site by a 4x4 jeep to where machinery is located. The 4x4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction when not in use. Refuelling operations will be carried out only by designated trained and competent operatives. Mobile anti-pollution measures such as drip trays and fuel absorbent mats will be used during all refuelling operations. › Fuels stored on site will be minimised. Storage areas where required will be bunded appropriately for the fuel storage volume for the time period of the construction and fitted with a storm drainage system and an appropriate oil interceptor; › The plant used during construction will be regularly inspected for leaks and fitness for purpose; An emergency plan for the construction phase to deal with accidental spillages is contained within Section 5.1.6 of this CEMP.		
MM42	EIAR Section 4	Silt fences will be installed as single, double or a series of triple silt fences, depending on the space available and the anticipated sediment loading. The silt fence designs follow the technical guidance document '*Control of Water Pollution from Linear Construction Projects'* published by Construction Industry Research and Information Association (CIRIA, No. C648, 1996). Up to three silt fences may be deployed in series.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		All silt fencing will be formed using Terrastop Premium or equivalent silt fence product. Silt fences will be inspected regularly to ensure water is continuing to flow through the fabric, and the fence is not coming under strain from water backing up behind it.		
MM43	EIAR Section 8 CEMP Section 4	During the construction phase field testing and laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will be undertaken for each primary watercourse, and specifically following heavy rainfall events. See section 4.2.2.4 of the CEMP.		
MM44	EIAR Section 8	Mitigation measures which will reduce the risk of entrainment of suspended solids and nutrient release in surface watercourses comprise best practice methods, which are outlined in section 8.5.2.1 in the EIAR, include using suitable machinery, 50 metre buffer zones, sediment and silt traps downstream of felling areas, use of brash mats, working during periods of low rainfall and ensuring that refuelling occurs more than 100 metres away from watercourses:		
MM45	EIAR Section 4	Piped slope drains will be used to convey surface runoff from diversion drains safely down slopes to flat areas without causing erosion. Once the runoff reaches the flat areas it will be reconverted to diffuse sheet flow. Level spreaders will only be established on slopes of less than 6% in grade. Piped slope drains will be used to transfer water away from areas where slopes are too steep to use level spreaders. The piped slope drains will be semi-rigid corrugated pipes with a stabilised entrance and a rock apron at the outlet to trap sediment and dissipate the energy of the water. The base of drains leading into the top of the piped slope drain will be compacted and concavely formed to channel the water into the corrugated pipe. The entrance at the top of the pipe will be stabilised with sandbags if necessary. The pipe will be anchored in place by staking at approximately 3-4 metre intervals or by weighing down with compacted soil. The bottom of the pipe will be placed		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		on a slope with a grade of less than 1% for a length of 1.5 metres, before outflowing onto a rock apron. Piped drains will be inspected weekly and following rainfall events. Inlet and outlets will be checked for sediment accumulation and blockage.		
MM46	EIAR Section 4 CEMP Section 3 NIS Section 5	The effectiveness of drainage measures designed to minimise runoff entering works areas and capture and treat silt-laden water from the works areas, will be monitored continuously by the ECoW or supervising hydrologist on-site. See section 3.2.4.6 of the CEMP for more details		
MM47	EIAR Section 4	A "siltbuster" or similar equivalent piece of equipment will be available to filter any water pumped out of excavation areas if necessary, prior to its discharge to stilling ponds or swales.		
MM48	EIAR Section 8	The mitigation measures proposed for the completion of Proposed Development culvert upgrades are outlined in section 8.5.2.8 and include no instream excavation works, incorporating guidance proposed by OPW and Inland Fisheries Ireland such as conducting such works between May and September and installing double row silt fencing downstream of works areas when necessary. The following mitigation in particular will be undertaken along off-road sections of the 33kV and 110kV underground cabling routes where the cabling and proposed access roads will cross open watercourses including the use of bog mats, a 10 metre vegetative buffer (if present), double silt fencing upslope of the buffer, clay bunds within the trenching backfill to prevent ingress of water and ensuring that disturbance of bankside soils and watercourse sediments are kept to a minimum. Mitigation Measures relating to the use of a mixture of a natural, inert and fully biodegradable drilling fluid such as Clear Bore™ and water for directional drilling include:		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		› The area around the Clear Bore™ batching, pumping and recycling plants will be bunded using terram and sandbags in order to contain any spillages; › One or more lines of silt fences will be placed between the works area and adjacent rivers and streams on both banks; › Accidental spillage of fluids will be cleaned up immediately and transported off site for disposal at a licensed facility; and, › Adequately sized skips will be used for temporary storage of drilling arisings during directional drilling works.		
MM49	EIAR Section 4	Sediment that is removed from settlement ponds, check dams, silt bags etc. as part of routine maintenance will be carefully disposed of away from all aquatic zones or will be transported off-site for disposal		
MM50	EIAR Section 8	Ground works excavations may lead to seepage of groundwater or surface water. Mitigation measures that will be taken to deal with this are outlined in section 8.5.2.4 of the EIAR and these include appropriate interceptor drainage, to prevent upslope surface runoff from entering excavations, pumping of excavation inflows into sediment ponds adjacent to excavations and daily monitoring of excavations by the ECoW during the construction phase. If high levels of seepage inflow occur, excavation work will immediately be stopped and a geotechnical assessment undertaken;		
Felling				
MM51	EIAR Section 4	Felling will be carried out under the terms of a licence application to the Forest Service, as per the Forest Service's policy on granting felling licenses for wind farm developments.		
MM52	EIAR Section 8	Silt traps will be strategically placed down-gradient within forestry drains near streams. The main purpose of the silt traps and drain blocking is to slow water flow, increase residence time, and allow settling of silt in a controlled manner		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM53	EIAR Section 8	The following items, will be carried out during pre-felling inspections and after: › Communication with tree felling operatives in advance to determine whether any areas have been reported where there is unusual water logging or bogging of machines; › Inspection of all areas reported as having unusual ground conditions; › Inspection of main drainage ditches and outfalls. During pre-felling inspections, the main drainage ditches will be identified. Ideally the pre-felling inspection will be carried out during rainfall; › Following tree felling all main drains will be inspected to ensure that they are functioning; › Extraction tracks within 10m of drains will be broken up and diversion channels created to ensure that water in the tracks spreads out over the adjoining ground; › Culverts on drains exiting the site, if impeded by silt or debris, will be unblocked; and, › All accumulated silt will be removed from drains and culverts, and silt traps, and this removed material will be deposited away from watercourses to ensure that it will not be carried back into the trap or stream during subsequent rainfall		
MM54	EIAR Section 8	Sampling will be completed before, during (if the operation is conducted over a protracted time) and after the felling activity. The 'before' sampling will be conducted within 4 weeks of the felling activity commencing, preferably in medium to high water flow conditions. The "during" sampling will be undertaken once a week or after rainfall events. The 'after' sampling will comprise as many samplings as necessary to demonstrate that water quality has not been impacted by the felling activity. › Avoid man-made ditches and drains, or watercourses that do not have year round flows		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Select sampling points upstream and downstream of the forestry activities; › It is advantageous if the upstream location is outside/above the forest in order to evaluate the impact of land-uses other than forestry; › Downstream locations will be selected: one immediately below the forestry activity, the second at exit from the forest, and the third some distance from the second (this allows demonstration of no impact through dilution effect or contamination by other land-uses) › The above sampling strategy will be undertaken for all on-site sub-catchments streams where tree felling is proposed Also, daily surface water monitoring forms will also be utilised at every works site near any watercourse. These will be taken daily and kept on site for record and inspection		
Peat, Subsoils and Bedrock				
MM55	EIAR Section 8	The works programme for the entire construction stage of the development will also take account of weather forecasts, and predicted rainfall in particular. Large excavations and movements of soil/subsoil or vegetation 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.		
MM56	EIAR Section 7	A Peat Management Plan has been prepared for the development which details management of peat during construction works and long-term storage thereafter. Peat removed during the excavation works will be deposited in the proposed on-site borrow pits and also used for landscaping around the site. Drainage and erosion prevention measures will be put in place at the peat storage areas		
MM57	EIAR Section 4	Mitigation proposed for the completion of peat and subsoil extraction on the Proposed Development site is included in the Risk Assessments for the Proposed Development (FT, July 2022). The measures outlined involve:		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		› Placement of infrastructure in areas with shallower peat; › Localising the peat and subsoil which will be removed during the construction phase to the infrastructure location; › Avoiding sensitive habitats within the application area as much as possible; › Reusing excavated peat and soil from the site for landscaping; › Construction of settlement pond bunds with excess material from the settlement pond construction › Reinstating peat removed from the development locations and access roads within the Proposed Development site; › Re-seeding and spreading/planting will also be carried out in the peat storage areas.		
MM58	EIAR Section 7	Incorporate lessons learned from previous known peat slide events. These lessons show for example that it is important that the existing site drainage is maintained. The following control measures incorporated into the construction phase of the project are expanded on in the Risk Assessments for the Proposed Development (FT, July 2022) and they include the appointment of experienced and competent contractors, allocating sufficient time for the project, prevent undercutting of slopes and unsupported excavations, maintain a managed robust drainage system, prevent placement of loads/overburden on marginal ground, set up and maintain monitoring systems, ensure construction method statements are developed and agreed before commencement of construction and revise the Construction Risk Register as construction progresses;		
Biodiversity				
MM59	EIAR Section 6	Areas of partially degraded and cut over Upland blanket bog (PB2)/ Wet heath (HH3) habitat will be disturbed during the laying of the 110kV cabling. The 110kV cable will be located immediately adjacent to an existing track and will follow		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		disturbed ground along its edge and will closely follow degraded habitats that lie adjacent to the existing cable and the degraded peatland that surrounds it. Whilst no significant habitat loss or deterioration is predicted, the following mitigation will be employed to minimise the impact of the proposed works in peatland habitats: › Temporary fences will be erected surrounding the proposed works area to prevent encroachment outside this area. › An existing track and the route of the existing cable that lies adjacent to the proposed cabling will be used as part of the working area in order to minimise impacts on the surrounding peatlands. › Suitable machinery will be used and will be operated adjacent to the cabling trench and existing track. › At the outset, the turves with their existing vegetation will be stripped and stored the right way up on the adjacent track and disturbed habitat. › The cable will be laid as per the methodology set out in Chapter 4 of this EIAR, Description. › The turves will be replaced on top of the newly installed cabling and the temporary fence removed.		
MM60	EIAR Section 6	Whilst no significant effects on bird species are anticipated, in order to minimise any effect all felling and cutting of woody vegetation will take place in strict accordance with Section 40 of the Wildlife Acts, which refers to the protection of wild birds. Additionally, a pre-commencement ecological walkover of the site will be undertaken to determine if any protected faunal species have moved into the site in the intervening period between the submission of the EIAR and the commencement of construction. Should any such species be present at that stage, they will be treated in accordance with the relevant guidelines and legislation (e.g. the Wildlife Acts and the NRA Guidance		
MM61	EIAR Section 6	The welfare of Otters will be ensured primarily through the provision of continued safe access for Otters along the river corridor. Adequate provision for Otters at the		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		River crossing is required to allow the species to retain continued access to their foraging areas.		
MM62	CEMP Section 3	The measures proposed to establish good site hygiene in the event of discovering invasive species and to ensure the control of any potential spread of them during construction works are outlined in section 3.12.2 of the CEMP and include erecting fences around infested areas, marking and isolating stockpiles of material and the use of a designated wash down area to contain contaminated material.		
Noise				
MM63	EIAR Section 10	Measures to control noise levels associated with the works include: › Limiting the hours during which site activities likely to create high levels of noise or vibration are permitted; › Establishing channels of communication between the contractor/developer, Local Authority and residents; › Appointing a site representative responsible for matters relating to noise and vibration; › Monitoring typical levels of noise and vibration during critical periods and at sensitive locations; and › Keeping the surface of the site access roads even to mitigate the potential for vibration from lorries. Furthermore, a variety of practicable noise control measures will be employed. These include: › Selection of plant with low inherent potential for generation of noise and/ or vibration; › Placing of noisy / vibratory plant as far away from sensitive properties as permitted by site constraints.		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM64	EIAR Section 10	The most appropriate method used to minimise effects of blasting shall be identified by the engineers responsible for the blasting and may consist of some or all the following: › Restriction of hours within which blasting can be conducted. › A publicity campaign undertaken before any work and blasting starts (e.g., 48 hours written notification) to all properties within 1km of the proposed blast location. › The firing of blasts at similar times to reduce the 'startle' effect. › On-going circulars informing people of the progress of the works. › The implementation of an onsite documented complaints procedure. › The use of independent monitoring by external bodies for verification of results. › Trial blasts in less sensitive areas to assist in blast designs and identify potential zones of influence.		
MM65	EIAR Section 10 CEMP Section 3	Plant will be selected taking account of the characteristics of noise emissions from each item. The timing of on- and off-site movements of plant near occupied properties will be controlled. Plant machinery will be turned off when not in use and all plant and equipment for use will comply with the Construction Plant and Equipment Permissible Noise Levels Regulations (SI 359/1996).		
MM66	EIAR Section 5 & 10 CEMP Section 3	The operation of plant and machinery, including construction vehicles, is a source of potential impact that will require mitigation at all locations within the site. Proposed measures to control noise are outlined in section 3.11 of the CEMP and include limiting the hours of construction, turning off vehicles and machinery when not in use, fitting and using silencers on vehicle exhausts and maintaining the haul route. Measures will also be implemented in relation to rock breaking:		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM67	EIAR Section 10	All construction operations shall comply with guidelines set out in British Standard documents British Standard 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise.		
Air Quality and Dust				
MM68	EIAR Section 4, 5 & 10 CEMP Section 3	Measures to control dust levels associated with the works and activities that could potentially impact on air quality include: › Truck wheels will be washed to remove mud and dirt before leaving the site where appropriate. › All plant and materials vehicles shall be stored in the dedicated compound area. › Areas of excavation will be kept to a minimum, and stockpiling will be minimised by coordinating excavation, spreading and compaction. › Construction traffic will be restricted to defined routes and a speed limit will be implemented. › Water misting or bowsers will operate on-site as required to mitigate dust in dry weather conditions.		
MM69	EIAR Section 10	All construction machinery will be maintained in good operational order while on-site, minimising any emissions that are likely to arise.		
MM70	EIAR Section 10	In periods of extended dry weather, dust suppression may be necessary along haul roads and around the overburden storage areas 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		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		bowser movements will be carefully monitored, as the application of too much water may lead to increased runoff.		
Landscape and Visual				
MM71	EIAR Section 12	The following measures have been included in the project design in order to avoid or reduce direct effects on habitats: › In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible. › Where the borrow pits are constructed, subsoil excavated from the site should be piled on site and re-used after construction works. Should any medium planting be removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate. › Where the cable trench is to be located in vehicular track's verge, subsoil should be piled on site and re-used after cabling works. Should any medium planting be removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate. › If required, new topsoil should be provided should the existing topsoil not be of sufficient standard (to comply with BS 3882:2015). › Any areas of bare soil remaining after the landscaping phase will be reinstated by natural revegetation. › Poor drainage on site to be considered when excavating ditches for cabling works.		
Traffic				
MM72	EIAR Section 5	A Traffic Management Plan will be developed and implemented to ensure any impact is short term in duration and slight in significance during the construction of		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		the Proposed Development. Prior to commencement of any works, the occupants of dwellings in the vicinity of the proposed works will be contacted and the scheduling of works will be made clear A programme of deliveries will be submitted to Cork and Kerry County Councils in advance of deliveries of oversized component loads to site. Aggregate materials for the construction phase will be obtained from onsite borrow pits. This will significantly reduce the number of delivery vehicles required to access the site.		
MM73	EIAR Section 13	Selection of the most appropriate delivery route to transport development components and material supplies, requiring the minimum remedial works to accommodate the vehicles. Construction traffic will need to adhere to the agreed upon routes		
Cultural Heritage				
MM74	EIAR Section 11	One recorded monument KE076-086— Fulacht Fia is located in the vicinity of the southern end of the proposed TDR and associated works. It is located c. 77m to the east of the proposed temporary access road and 210m west-north-west of the proposed temporary hardstand area at the south end of the TDR › Archaeological monitoring of ground works of the temporary access road during the construction stage of the development. A report on the results of the monitoring shall be compiled and submitted to the relevant authorities on completion of the project.		
MM75	EIAR Section 11	Three standing stones (St st 3, 4 and 5) are located c. 15m-17m to the north-west of the proposed 33kV underground grid connection cable route which extends along an existing track. The stones were noted during a previous archaeological walk-over survey of the Permitted Development (Ref. No. 19/4972 › A 10m buffer zone should be established around the stones prior to the commencement of development. The buffer shall comprise		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		durable temporary fencing with 'Keep Out' signage and should be maintained for the duration of the construction stage of the project. › Archaeological monitoring of ground works associated with the 33kV underground grid connection route where it extends past the standing stones. A report on the results of the monitoring shall be compiled and submitted to the relevant authorities on completion of the project		
		Operational Phase		
MM76	EIAR Section 4 CEMP Section 2	The removal and disposal of wastewater from the Electrical Substation will be carried out by a fully permitted waste collector holding valid Waste Collection Permits as issued under the Waste Management (Collection Permit) Regulations, 2007.		
MM77	EIAR Section 4 & 8 CEMP Section 3	The electrical substation will be bunded appropriately to 110% of the volume of oils that will be stored, and to prevent leakage of any associated chemicals to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;		
MM78	EIAR Section 5	Staff associated with the Proposed Development will conduct frequent visits, which will include inspections to establish whether any signs have been defaced, removed, or are becoming hidden by vegetation or foliage, with prompt action taken as necessary. Signs will also be erected at suitable locations across the site as required for the ease and safety of operation of the development. These signs include: › Buried cable route markers; › "No access to Unauthorised Personnel" at appropriate locations; › Speed limits signs at site entrance and junctions;		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		› "Warning these Premises are alarmed" at appropriate locations; › "Danger HV" at appropriate locations; › "Warning – Keep clear of structures during electrical storms, high winds or ice conditions" at site entrance; › "No unauthorised vehicles beyond this point" at specific site entrances; and › Other operational signage required as per site-specific hazards.		
MM79	EIAR Section 5	An operational phase Health and Safety Plan will be developed to fully address identified Health and Safety issues associated with the operation of the site and providing for access for emergency services at all times.		
MM80	EIAR Section 8 CEMP Section 3	The operational phase drainage system of the Proposed Development will be installed and constructed in conjunction with the site construction works as outlined in sections 3.2.4.2 and 3.2.4.3 of the CEMP. This will include check dams, swales, interceptor drains and settlement ponds. The drainage system will be monitored in the operational phase until such a time that all areas that have been reinstated become re-vegetated and the natural drainage regime has been restored		
MM81	EIAR Section 4	Drainage swales and silting ponds will remain in place to collect runoff from roads and hardstanding areas of the Proposed Development during the operational phase		
MM82	EIAR Section 4 CEMP Section 3	The frequency of drainage system inspections will be reduced following completion of the construction phase of the Proposed Development. The project hydrologist will inspect and review the drainage system after construction has been completed to provide guidance on the requirements of an operational phase drainage system.		
MM83	CEMP Section 4	Monthly sampling for laboratory analysis for a range of parameters adopted during pre-commencement and construction phases will continue for six months after construction, in particular after large excavation and heavy civils works. The Project Hydrologist will monitor and advise on the readings being received from the testing laboratory		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
MM84	EIAR Section 9	i. Any vehicles or plant brought onsite during the operational phase will be maintained in good operational order that comply with the Road Traffic Acts 1961 as amended, thereby minimising any emissions that arise. ii. When stationary, vehicles will be required to turn off engines.		
MM85	EIAR Section 7	Aggregate from authorised quarries to be used in road and hardstand maintenance		
Decommissioning Phase				
MM86	EIAR Section 4	Prior to the end of the operational period the Decommissioning Plan will be updated in line with decommissioning methodologies that may exist at the time and will agreed with the competent authority at that time.		EIAR Section 4
MM87	DP Section 3	Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey of the proposed decommissioning works area. Any invasive species discovered will be dealt with in accordance with the invasive species management plan		DP Section 3
MM88	EIAR Section 4 DP Section 3 NIS Section 5	The effectiveness of drainage measures in the natural drainage regime that will have resumed by the time of decommissioning will be monitored continuously by the ECoW or supervising hydrologist on-site. The ECoW or supervising hydrologist will respond to changing weather, ground or drainage conditions on the ground as the project proceeds, to ensure the effectiveness of the drainage design is maintained in so far as is possible. This may require the installation of additional check dams, interceptor drains or swales as deemed necessary on-site.		EIAR Section 4 DP Section 3 NIS Section 6
MM89	EIAR Section 4 DP Section 3	The mitigation measures proposed to avoid release of hydrocarbons at the site during the decommissioning phase are outlined in section 3.2 of the decommissioning plan and include refuelling vehicles offsite whenever possible, regularly inspecting plant and machinery for leaks, allowing only designated personnel to carry out refuelling and minimising fuel volumes onsite		EIAR Section 4 DP Section 3

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase.		
MM90	EIAR Section 13 DP Section 3	A Traffic Management Plan will be prepared in advance of any decommissioning works. The traffic management arrangements although similar to those that will be implemented for materials delivery as outlined in the EIAR will be agreed in advance of decommissioning with the competent authorities Kerry and Cork County Councils.		EIAR Section 13 DP Section 3

15.3 Monitoring Measures

Table 15-2 Schedule of Monitoring

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
Pre-Commencement Phase					
MX1	EIAR Section 4 & 8	An inspection and maintenance plan for the on-site drainage system will be prepared in advance of commencement of any works.	Ongoing	Monthly	ECoW
MX2	CEMP Section 3	Prior to commencement of works in sub-catchments across the site main drain inspections will be competed to ensure ditches and streams are free from debris and blockages that may impede drainage.	As Required	Monthly	Project Hydrologist
MX3	EIAR Section 6	Pre-commencement ecological walkover of the site will be undertaken to determine if any protected faunal species have moved into the site in the intervening period between the submission of the EIAR and the commencement of construction.	Once	As required	Project Ecologist
MX4	EIAR Section 8	Sampling will be completed before, during (if the operation is conducted over a protracted time) and after the felling activity. The 'before' sampling will be conducted within 4 weeks of the felling activity commencing, preferably in medium to high water flow conditions. The "during" sampling will be undertaken once a week or after rainfall events. The 'after' sampling will comprise as many samplings as necessary to demonstrate that water quality has not been impacted by the felling activity.	As Required	Monthly	ECoW
MX5	EIAR Section 6	A pre-commencement invasive species survey shall be completed for the site.	Once	As required	Project Ecologist

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
	CEMP Section 3				
Construction Phase					
MX6	EIAR Section 11	Archaeological monitoring of all ground works onsite in the area of any monuments will be undertaken at the construction phase of the development.	Once	As required	Project Archaeologist
MX7	EIAR Section 11	A highly visible buffer zone will be established around all areas containing monuments onsite.	Once	As required	Project Archaeologist
MX8	EIAR Section 4	Check dams will be inspected and maintained regularly to insure adequate performance. Maintenance checks will also ensure the centre elevation of the dam remains lower than the sides of the dam.	As Required	As Necessary	ECoW
MX9	CEMP Section 4	Daily general visual inspections of site operations and inspections of all watercourses within the site and in the surrounding area by the ECoW or a suitably qualified and competent person as delegated by the ECoW.	Weekly / As Required	As Necessary	ECoW
MX10	EIAR Section 4 CEMP Section 3	Inspections of the overburden storage areas will be made by a geotechnical engineer through regular monitoring of the works. The appointed contractor will review work practices at spoil deposition areas when periods of heavy rainfall are expected so as to prevent excessive dirty water runoff from being generated.	Weekly / Monthly	As Necessary	Contractor/ Geotechnical Engineer
MX11	EIAR Section 4	The effectiveness of drainage measures designed to minimise runoff entering works areas and capture and treat silt-laden water from the works areas, will be monitored continuously by the ECoW or supervising hydrologist on-site. The ECoW or supervising hydrologist will respond to changing weather,	As Required	As Necessary	ECoW / Project Hydrologist

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
	CEMP Section 3	ground or drainage conditions on the ground as the project proceeds, to ensure the effectiveness of the drainage design is maintained in so far as is possible. This may require the installation of additional check dams, interceptor drains or swales as deemed necessary on-site.			
MX12	EIAR Section 8 CEMP Section 3	The plant used should be regularly inspected for leaks and fitness for purpose.	Before Use	As Necessary	Drivers / ECoW
MX13	EIAR Section 4	Regular inspections of all installed drainage systems will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended.	Weekly/ Monthly	As Necessary	ECoW
MX14	EIAR Section 8 CEMP Section 4	Baseline laboratory analysis of a range of parameters with relevant regulatory limits and EQSs will be undertaken as per water monitoring programme for the Proposed Development. This will not be restricted to just these locations around the Proposed Development site with further sampling points added as deemed necessary by the ECoW in consultation with the Project Hydrologist and Site Manager In-situ field monitoring will be completed on a Monthly basis. In-situ field monitoring will also be completed after major rainfall events, i.e., after events of >25mm rainfall in any 24-hour period. The Project Hydrologist will monitor and advise on the readings collected by in-situ field monitoring.	Weekly, monthly and event based	As Necessary	ECoW / Project Hydrologist
MX15	CEMP Section 3	Training and supervision of drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.	As Required	As Necessary	ECoW

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
MX16	CEMP Section 3	A Project Ecologist will be appointed and will visit the site when requested to by the ECoW. The responsibilities and duties of the Project Ecologist are set out in section 4.1.4	As required	As required	Project Ecologist
Operational Phase					
MX17	EIAR Section 9	Any excess build-up of silt levels at dams, the settlement pond, or any other drainage features that may decrease the effectiveness of the drainage feature, will be removed. This will be part of the regular maintenance of the on-site drainage system.	As Required	Weekly	ECoW
Decommissioning Phases					
MX18	DP Section 3	Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey of the berms that will be temporarily removed during decommissioning at the delivery accommodation roadway and the junction upgrade adjacent and along the cable route to identify invasive species at joint bay locations where excavation to expose the cabling for removal will be required. Any invasive species discovered will be dealt with in accordance with the invasive species management plan.	As required	As required	Project Ecologist
MX19	DP Section 3	The Site Manager in consultation with the ECoW will be responsible for employing the services of a suitably qualified ecologist and any other suitably qualified professionals as required throughout the decommissioning works.	As required	As required	Site Manager
MX20	DP Section 3	The Site Manager and/or ECoW are the project focal point relating to decommissioning-related environmental issues and will maintain responsibility for monitoring the decommissioning works and Contractors/Sub-contractors from an environmental perspective	As required	As required	ECoW/ Site Manager

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
MX21	EIAR Section 8	Regular inspections of all installed drainage systems will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended	As Required	Weekly	ECoW
MX22	CEMP Section 3	Training and supervision of drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation during the decommissioning phase.	As Required	As Necessary	ECoW
MX23	CEMP Section 4	Daily general visual inspections of site operations and inspections of all watercourses within the site and in the surrounding area by the ECoW or a suitably qualified and competent person as delegated by the ECoW during the decommissioning phase.	Weekly / As Required	As Necessary	ECoW