

Harestanes West

Windfarm

**Environmental Impact Assessment
Report**

Volume 2

Chapter 15: Schedule of Commitments



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Abbreviations

ACoW	Archaeological Clerk of Works
ATMP	Abnormal Load Transport Management Plan
BPM	Best Practicable Means
CMS	Construction Methodology Statement
CP	Compensatory Planting
CTMP	Construction Traffic Management Plan
DGC	Dumfries and Galloway Council
NERL	NATS (En Route) plc
NPF4	National Planning Framework 4
PC	Principal Contractor
PPP	Pollution Prevention Plan
PSR	Primary Surveillance Radar
SWMP	Site Waste Management Plan
SPR	ScottishPower Renewables UK Limited
TOPA	Technical and Operational Assessment
WMP	Water Management Plan
WSI	Written Scheme of Investigation

15. Schedule of Commitments

15.1. Introduction

1. The Schedule of Commitments provides a summary of good practice, mitigation measures and commitments that have been proposed throughout the Environmental Impact Assessment (EIA) Report to prevent, reduce, or offset the effects of the proposed Development on the environment.
2. Good practice and mitigation measures have been integral to the design evolution of the proposed Development as described in **Chapter 2**. A series of environmental and technical constraints-led design reviews were undertaken to minimise potential significant environmental impacts prior to finalising the final design of the proposed Development. Areas which were examined in depth include landscape and visual constraints, peat, sensitive habitats, cultural heritage, and hydrological constraints.

15.2. Schedule of Commitments

3. The mitigation measures and best practice commitments in **Table 15.1** are those which would be applied prior to construction, during construction and during operation of the proposed Development. A number of these measures are embedded mitigation, undertaken through good practice and a strict adherence to relevant legislation during all stages of the proposed Development.
4. Monitoring commitments, which would be applied prior to construction, during construction and during operation are detailed in **Table 15.2**.

15.3. Overall Statement of Significance

5. Provided that the proposed mitigation measures are successfully implemented, the adverse residual effects related to most environmental disciplines would not be considered significant in the context of the EIA regulations, with the exception of Landscape and Visual effects. Detailed information regarding the potential effects and magnitude of impact, included within EIA **Chapter 7 – Landscape and Visual Impact Assessment (LVIA)**.
6. As acknowledged in National Planning Framework 4 (NPF4), Policy 11 part E ii), all renewable energy developments incorporating wind turbines are likely to give rise to some significant Landscape and Visual effects. In the case of the proposed Development, due a series of proposed mitigation measures, design alterations and the topographic containment of the Forest of Ae, significant effects would be contained within a localised area of up to 7 km around the Site.



Table 15.1: Summary of Mitigation and Best Practice Commitments

EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
<p>Chapter 3: Proposed Development</p>	<p>Environmental Management</p>	<p>Construction</p>	<p>The Principal Contractor (PC) would ensure construction activities and procedures set out in the outline Construction Environmental Management Plan (CEMP) are carried out in accordance with the mitigation measures outlined in this EIA Report and any planning conditions, and this would be monitored by SPR and the appointed Ecological Clerk of Works (ECoW).</p> <p>The construction of the proposed Development would be based on the adoption of good practice, supported by robust project management and the supervision of an ECoW. Details of the good practice and the role of the ECoW is set out in the outline CEMP (Technical Appendix 3.1).</p> <p>Good practice includes the adoption of Pollution Prevention Guidelines (PPGs) and replacement Guidance for Pollution Prevention (GPPs). The services of other specialist advisors would be retained as appropriate, such as an Archaeological Advisor, to be called on as required to advise on specific environmental issues. The Principal Contractor (PC) would ensure construction activities and procedures set out in the CEMP are carried out in accordance with the mitigation measures outlined in this EIA Report and any planning conditions, and this would be monitored by SPR and the ECoW.</p> <p>To ensure all mitigation measures outlined within this EIA Report are carried out on site, contractors would be required to develop a site-specific CEMP which would form an overarching document for all site management requirements, including:</p> <ul style="list-style-type: none"> • a Construction Traffic Management Plan (CTMP); • a Construction Methodology Statement (CMS); • a Pollution Prevention Plan (PPP) (including monitoring, as appropriate); • a Site Waste Management Plan (SWMP); and



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			<ul style="list-style-type: none"> • a Water Management Plan (WMP). <p>The construction of the proposed Development would be based on the adoption of good practice, supported by robust project management and the supervision of an ECoW. Good practice includes the adoption of Pollution Prevention Guidelines (PPGs) and replacement Guidance for Pollution Prevention (GPPs). The services of other specialist advisors would be retained as appropriate, such as an Environmental Advisor, to be called on as required to advise on specific environmental issues.</p> <p>Further details of the good practice and the role of the ECoW is set out in the outline CEMP (Technical Appendix 3.1). The outline CEMP provides an overview of the following aspects of environmental management required to mitigate any potential environmental incidents during construction:</p> <ul style="list-style-type: none"> • surface water management; • oil and chemical delivery storage; • wastewater and water supply monitoring control; • waste and resource management; • air, noise, vibration, land and flora and fauna; • emergency environmental spill response; • spill kits; • method statements and risk assessments; and • traffic and transport. <p>Dumfries and Galloway Council (DGC) and other stakeholders, as required, would be consulted on these documents prior to commencement of construction, and performance against the CEMP would be monitored by SPR, the ECoW and PC throughout the construction period.</p>



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	Micrositing	Pre-construction, Construction	During the construction process there may be a requirement to microsite elements of the proposed Development infrastructure (e.g. due to unsuitable ground conditions, environmental constraints). It is proposed that a 50 m micrositing tolerance of all site infrastructure would be applied to the proposed Development. Within this distance any changes from the consented locations would be subject to approval of the Ecological Clerk of Works (ECoW) as required and in consideration of other known constraints.
	Compensatory Planting	Construction / Pre-Operation / Operation	<p>The construction of the proposed Development is predicted to result in a net loss of woodland development area. Thus, the area available for stocked woodland in the study area would decrease by 199.19 ha. Further details regarding the woodland area for removal are provided in Chapter 14 and Technical Appendix 14.1.</p> <p>The Applicant is committed to providing appropriate Compensatory Planting (CP) in accordance with the criteria of the Scottish Government's Control of Woodland Removal Policy. The extent, timing, location and composition of such improvements are to be agreed with Scottish Forestry and the landowner in the form of a restoration plan. This will take into account any revision to the felling and restocking plans prior to the commencement of operation of the proposed Development.</p>
Chapter 9 Ecology and Biodiversity	Protected species; Otter and water vole, badger, squirrels, pine marten, wildcat	Pre-Construction	<p>Protected mammal species baseline information collected through desk study and terrestrial mammal surveys have identified the Site as not being important for the following protected terrestrial mammal species:</p> <ul style="list-style-type: none"> • badger; • otter • water vole; and • red squirrel <p>Pre-construction checks for badgers will be undertaken and used to inform a species protection plan and excavations will be provided with a means of escape.</p> <ul style="list-style-type: none"> •



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	Bats	Pre-Construction / Operation	<p>Sensitive ecological receptors, including habitats present within the Site and species which use the Site and appropriate buffers, have been avoided as far as possible. The recommended habitat standoff distances from blade swept path to key habitat features have been incorporated into the design to reduce collision risk to bats.</p> <p>A minimum 86 m and 98 m buffer (for 220 m turbines and 200 m turbines respectively) between turbine locations and the edges of conifers (see Technical Appendix 14.1), and 55 m from watercourses has additionally been included to achieve a minimum 50 m 'standoff' from bat commuting (forest edge) and habitat features (watercourses) and turbine blade tips in accordance with current good practice mitigation outlined in NatureScot (2021) guidance; and operational lighting would be limited to aircraft warning thus minimising light related impacts on nocturnal or crepuscular species such as bats.</p>
	Fish	Pre-Construction / Construction	<p>Fish rescue and translocation operations to be conducted prior to works on the watercourse crossing points to be undertaken. The isolation of the watercourse at the footprint of the crossing point working area using nets, subsequent removal of all fish from the area and their translocation to suitable habitat downstream will be undertaken during the construction phase.</p> <p>As part of the required CEMP, pollution prevention measures would be implemented. These measures would ensure the protection of the water environment and the fauna they contain.</p> <p>In addition, the requirement of eight new watercourses crossings (further details in Technical Appendix 10.5), will be of a design to maintain hydraulic connectivity and allow the free passage of fish and other wildlife beneath.</p> <p>Given the predicted fatality rates of common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule and Leislars, additional mitigation measures will include the curtailment of wind turbine operations under specific weather conditions. This curtailment will start</p>



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			<p>30 minutes before sunset and finish 30 minutes after sunrise, between 1 April and 31 October each year, for the duration of the proposed Development. The curtailment strategy will be supported by a comprehensive monitoring programme to evaluate its effectiveness and to assess if adjustments to the curtailment parameters are warranted. Further details of these measures are provided in Technical Appendix 8.10: Bat Mitigation Plan. Carcass searching will be undertaken using sniffer dogs trained to locate bat carcasses within accessible areas within a 50 m radius at the same six turbines between mid-July to mid-September. Searches will be completed every two weeks which will result in seven days search effort per turbine. Searcher efficiency trials will be included throughout the carcass search period, and in order to be appointed for this work search dog teams must be able to demonstrate a minimum searcher efficiency rate of 80%.</p> <p>A license from NatureScot will be applied for any bat roosts which cannot be avoided and suitable mitigation and compensation will be put in place based on the type of roost located and species present.</p>
	Wet and Dry modified bog	Construction	<p>A review of the peat depth data and habitat mapping, in conjunction with slope gradients, allowed areas of deep peat and those areas of less modified peat to be avoided where possible through the evolution of the design. Where possible, proposed wind turbines and site infrastructure would be located within area with no peat or with peat less than 1.0 m deep.</p> <p>The access track has utilised an existing track where practicable, with only a small new section being require along with some upgrading of the existing track, sections of floating access track will also be used to protect degraded blanket bog habitat.</p>
	Reptiles	Construction	<p>To ensure compliance with the provisions of the Wildlife and Countryside Act 1981 (as amended in Scotland) measures to avoid and reduce the potential for inadvertently killing or injuring individual reptiles and amphibians during construction works would be implemented.</p>



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			<p>Given the low numbers of reptiles and amphibians likely to be present, the large areas of suitable habitat that would remain unaffected by the works, and given also the spatial scale of the works, fencing and translocation are not considered appropriate. Proposed mitigation would therefore involve vegetation management and the identification, and controlled removal of potential refugia and hibernacula, where necessary, under a watching brief by an project ecologist where present.</p> <p>Where appropriate and safe to do so, potentially suitable habitats for reptiles located within construction working areas would be hand-cut, under the supervision of the project ecologist, prior to construction works commencing in that area, in order to encourage reptiles and amphibians to leave the area. Suitable habitat within working areas would also be searched by the project ecologist prior to construction commencing and any potentially suitable refuges would be removed. These works would take place during the active season for reptiles and amphibians (typically April to October, although this is dependent upon the weather conditions in any one year).</p>
Chapter 9: Ornithology	Birds	Pre-Construction / Construction	<p>Prior to the commencement of felling and construction works, pre-construction Schedule 1 listed raptor/owl surveys of the Application Boundary and a surrounding buffer of at least 1km would be carried out, focussing largely on goshawk but also species known to breed in the vicinity such as barn owl, short-eared owl and red kite. The surveys would broadly follow the methods detailed in Hardey <i>et al.</i> (2013) and would involve a combination of watches followed by walkovers of the forest (and outbuildings) to identify active nest site locations.</p> <p>The watches would be carried out in the late winter/early spring months when goshawks engage in display flight activity and observations at this time can help to target certain areas during the forest searches. A detailed survey protocol would be prepared and agreed with NatureScot prior to the commencement of surveys to ensure appropriate intensity and coverage by the survey.</p>



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			<p>The survey programme should be undertaken in the breeding season immediately preceding the commencement of construction works. For example, if construction works were programmed to commence in the autumn, surveys should be undertaken in the preceding breeding season of that year. The purpose of these surveys would be to confirm the continued presence of goshawks (and identify the presence of any other specially protected raptor species) in the vicinity of the proposed Development and establish whether any breeding pairs are present and where the current nest sites are located (i.e. in relation to the proposed Development).</p> <p>The surveys would be supplemented by consultation with Dumfries and Galloway Raptor Study Group and FLS who may hold information on goshawk (or other raptor/owl) nesting activity which may have taken place in the intervening years between the submission of this EIA Report and the commencement of construction works. These surveys would identify whether there are any other nest sites in the vicinity of the windfarm site which could pose a constraint to the construction works and help to inform the scheduling of works.</p>
		Operation	<p>Although no significant adverse effects are predicted during the operational phase of the proposed Development. Post-construction monitoring is proposed. A breeding goshawk survey of the proposed Development and 2 km buffer would be carried out in the year immediately after construction in order to ascertain whether there are any impacts on the distribution of the species and if territories become vacant. The extent of post -construction monitoring would be agreed with consultees and secured as a condition of the development.</p>
Chapter 10: Hydrology, Hydrogeology, Geology and Soils	Soil and Peat Management	Construction / Pre-Operation / Operation	<p>Soil stripping would be undertaken by the Principal Contractor and would be restricted to as small a working area as practicable.</p> <p>Topsoil would be removed and laid in a storage bund up to 2 m in height, on unstripped ground adjacent to the working area. It would be attempted to retain the turf layer vegetation-side-up where possible.</p>



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			<p>Subsoils and superficial geological deposits would be removed subsequently and laid in storage bunds up to 2 m in height, clearly separated from the topsoil bund. Care would be taken to maintain separate bunds for separate soil types in order to preserve the soil quality.</p> <p>Work within area of peat, acrotelmic peat would be removed. It would be attempted to retain the acrotelm vegetation-side-up where possible.</p> <p>Underlying catotelmic peat would be stored in bunds up to 1 m in height. Catotelmic peat would be transported as short a distance as possible to its storage location.</p> <p>Limited smoothing or balding of stockpiled soils and catotelmic peat would be undertaken by the Principal Contractor to help shed rainwater and prevent ponding of water on the stockpile. Bunds on notably sloping ground would have sediment control measures installed near the base, on the downslope side to collect and retain any sediment mobilised by rainfall. Stockpiles would be located on flat or nearly flat ground where possible.</p> <p>Excavated soil and peat would be used in restoration and rehabilitation at the end of the construction period, to promote fast re-establishment of vegetation cover on worked areas and areas of bare soil or peat that are not required for the operational phase. Soil and peat would be stored for as short of a time as practicable, to minimise degradation through erosion and desiccation.</p> <p>Should prolonged periods of dry weather occur, a damping spray would be employed to maintain surface moisture on the soil and peat bunds. This would help to maintain vegetation growth in the turves and to retain the soil structure.</p>



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			<p>Construction work would make use of the current best practice guidance relating to developments in peatland areas. A risk management system, such as a geotechnical risk register, would be compiled and maintained at all stages of the proposed Development and developed as part of the post-consent detailed design works, and would be updated as new information comes available.</p> <p>Micrositing would be used to avoid possible problem areas identified during ground investigation or other detailed design works. This would be assisted by additional verification of peat depths, to full depth, in any highlighted areas where construction work is required.</p> <p>Track drainage would be installed in accordance with published good practice documentation and would be minimised in terms of length and depth in order to minimise concentration of flows.</p> <p>Construction activities would be restricted during periods of wet weather, particularly for any work occurring within 20 m of a watercourse or within areas of identified deeper peat. Careful track design would ensure the volume and storage timescale for excavated materials would be minimised as far as practicable during construction works.</p> <p>Vegetation cover would re-established as quickly as possible on track and infrastructure verges and cut slopes, by-relaying of excavated peat acrotelm and topsoil turf, to improve slopes stability and provide erosion protection. Additional methods, including hydroseeding and/or use of biodegradable geotextile, would be considered if necessary.</p>
	Surface Surface Watercourses and Groundwater	Construction	Silt fencing or appropriate alternative sediment control protection would be installed on the downhill side of excavations to prevent inadvertent discharge of silty water into, or towards, any watercourse within the application boundary.



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			<p>All engineering works adjacent to watercourses, including access tracks and watercourse crossing structures, would have appropriate sediment control measures established prior to any groundworks.</p> <p>Vegetation would be retained along watercourse banks to act as additional protection to the watercourses.</p> <ul style="list-style-type: none"> • Water quality monitoring would begin prior to any construction works, to allow pre-construction baseline quality to be determined. Details would be agreed with SEPA, but are anticipated to include at least the following: • visual checks for entrained sediment; and • in-situ measurements of pH, temperature and specific conductivity <p>In situ measurement of turbidity and dissolved oxygen may be recommended by SEPA or the Environmental Clerk of Works (ECoW) for locations with particular sensitivity, such as upstream of PWS intakes, if relevant.</p> <p>Pre-construction monitoring would be undertaken by the Principal Contractor on a monthly basis for a minimum period of three months prior to any work taking place.</p> <p>During construction, the monitoring would be undertaken by the ECoW or suitably experienced alternative individual nominated by the ECoW. Any change from baseline conditions of pH and/or specific conductivity would potentially indicate an incident and additional investigation would be required in order to identify the origin of the change. Control Locations are intended to help differentiate between incidents arising from, and those unrelated to, the proposed Development.</p> <p>No new borrow pits are planned for the proposed Development. Only existing FLS borrow pits would be used. As these are already extant, there would be no requirement for groundwater monitoring at the</p>



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			<p>locations as there are no plans to lower the borrow pit floors beyond their current level. Any water collecting within a borrow pit area would be managed in line with best practice, with discharge via a settlement pond to allow any entrained sediment to be removed prior to discharge.</p> <p>Any required discharge licence would be obtained prior to excavation commencing.</p> <p>All works through and adjacent to wetland areas would be supervised by the ECoW.</p> <p>Targeted monitoring would be put in place to provide a check on the identified wetland areas and to ensure that mitigation and protection measures are in place and effective.</p> <p>All areas of sensitive habitat would be visited and assessed by the ECoW prior to any construction work. Assessment would include collection of representative photographs of the areas which are most likely to be affected by the works. Regular assessment visits would be undertaken throughout the construction period and for a minimum of 12 months after reinstatement to ensure that habitat protection is effective, and any restoration and recovery works become established.</p> <p>Proposed habitat monitoring would begin at least 6 months prior to construction work, would continue throughout the construction period and for at least 12 months following reinstatement.</p>
	Infrastructure and man-made drainage	Construction	<p>Trackside drainage would be no longer or deeper than necessary to provide the required track drainage.</p> <p>The surface of access tracks would have a cross-fall in order to encourage runoff to drain into trackside ditches along the side of the track where necessary, and lateral and cross-drains would also be installed where required. Drainage outlets would be carefully located with erosion protection if required.</p>



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			<p>For tracks parallel or sub-parallel to contours, best practice recommendations are for a ditch along the uphill side only, with cross-drains installed at regular intervals below the track to minimise flow concentration.</p> <p>Cross-drains under tracks would be installed at an appropriate frequency to mimic natural drainage patterns and to minimise concentration of flows.</p> <p>Cross-drains would discharge onto vegetated ground where possible, to encourage spread of surface flow rather than focused flow and the consequent development of new drainage channels.</p> <p>Tracks crossing contours may require ditches or swales on both sides.</p> <p>All drainage infrastructure would be designed with a capacity suitable for a rainfall intensity of a 1-in-200 year storm event plus allowance for climate change.</p> <p>Where track sections cross wetland or bog areas, cross-drainage would be provided within the track construction to ensure continuity of flow. This may take the form of a drainage layer within the track, suitably closely-spaced drainage pipes, or both as appropriate. These would be determined on a case-by-case basis to suit each individual area.</p> <p>All required licences for watercourse crossings and construction works would be in place prior to construction commencing.</p> <p>All long-term and temporary drainage infrastructure would be established on a running-basis ahead of excavation works. This includes temporary bunding and cut-off drains around turbine bases, hardstanding areas and borrow pits. Where possible, trackside drainage would be laid up to 100 m ahead of construction works for new track on a running basis.</p>



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			<p>All earthmoving activity would be restricted during periods of wet weather, particularly for work occurring within 20 m of a watercourse, to minimise mobilisation of sediment in heavy rainfall.</p> <p>Long-term drainage infrastructure would have a monitoring and maintenance programme established, to include regular visual inspection of drainage infrastructure to check for blockages, debris or damage that may impede flow. Remediation would be undertaken immediately by the Principal Contractor. Routine maintenance would be scheduled where possible for dry weather.</p>
	Excavations	Construction	<p>Excavation of catotelmic peat has been limited has been limited by careful infrastructure design. Catotelmic peat would be extracted as close to intact as is feasible within the constraints of the area. Remoulding of the peat by the excavator would be kept to a minimum.</p> <p>Any water collecting within excavations would be pumped out prior to further work within the excavation. The water is likely to require treatment to remove suspended solids prior to discharge to ground.</p> <p>Cables would be laid in disturbed trackside material. In areas where cable routes cross up or down slopes, clay bunds or alternative impermeable barriers would be placed for every 0.5 m change in elevation along the length of the trench to minimise in-trench groundwater flow.</p> <p>Vegetation cover would be re-established as quickly as possible on all areas of stripped ground, once activity involving these areas is complete. This would include track verges, screening bunds, cut slopes and much of the site and site access during reinstatement and restoration works. Where possible this would be achieved using excavated peat acrotelm and topsoil turf. Additional measures including hydroseeding and/or use</p>



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			<p>of a biodegradable geotextile would be considered if insufficient peat and topsoil turf is available and for areas of particular sensitivity that require immediate protection.</p> <p>Rock testing would be undertaken by the Principal Contractor on appropriate samples from the borrow pit areas to determine its suitability for unbound track and hardstanding construction. This would include testing to determine likely degradation patterns during the lifespan of the proposed Development. Should the tests identify problems with parts of the rock within the borrow pit footprints, care would be taken to ensure that unsuitable material is not used for construction, but would be retained for use in borrow pit restoration.</p> <p>Any unused or remaining unsuitable aggregate material, plus any spare rock material arising from hardstanding or track reinstatement, may be used to reinstate borrow pits to a suitable profile, and capped with soil or turf to promote re-establishment of natural vegetation cover.</p> <p>Only tracked or low ground pressure vehicles would be permitted access to unstripped ground.</p>
	Traffic	Construction	<p>Tracks and hardstanding areas would be monitored on a regular basis by the Principal Contractor, or by the Site Operator during the operation of the proposed Development, particularly following periods of heavy or prolonged rainfall or after snow clearance. Any sections of track or hardstanding showing signs of excessive wear would be repaired as necessary with suitable rock from borrow pits or external sources.</p> <p>The bridge structure at watercourse crossings would have appropriate splash control measures as part of their design, to prevent silty water splashing into the watercourses from vehicle movements. The splash controls would be monitored regularly by the Principal Contractor and Site Operator to ensure they remain effective and have not become damaged in any way.</p>



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			<p>Routine monitoring checks of project infrastructure, including track hardstanding surfaces and all drainage infrastructure, would be undertaken by the Principal Contract or Site Operator on a quarterly basis throughout project construction and operation. Monitoring would involve visiting the infrastructure and undertaking a visual inspection to identify the following:</p> <ul style="list-style-type: none"> • areas where track surfaces or hardstanding areas were showing evidence of erosion or surface damage; • any areas where surface water was ponding or collecting on tracks or hardstanding areas; and • any areas where drainage infrastructure was damaged, blocked or inadequate. <p>Any areas of track or hardstanding surface showing signs of damage, erosion or excessive wear would be repaired as necessary. Drainage features would be repaired, reinstated or replaced as necessary to ensure continued efficient operation.</p> <p>Site-specific mitigation, including track drainage segregation to avoid ‘flushing’ from excavated works, and micro-siting to avoid areas of high sensitivity, would be identified and established where appropriate.</p> <p>All traffic routes would be clearly demarcated, and vehicles would not be permitted access outwith these areas.</p>
	Pollution Prevention	Construction	<p>Oil and fuel storage and handling on-site would be undertaken by the Principal Contractor in compliance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended).</p> <p>Risk assessments would be undertaken by the Principal Contractor and all Hazardous Substances and Non-Hazardous Pollutants that would be used and/or stored within the proposed Development would be identified. Hazardous substances likely to be within used on Site include</p>



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			<p>oils, fuels, hydraulic fluids and anti-freeze. No non-hazardous pollutants have been identified as likely to be used.</p> <p>All deliveries of oils and fuels would be supervised by the Principal Contractor.</p> <p>All storage tanks would be located within impermeable, bunded containers where the bund is sufficient to contain 110% of the tank's capacity. For areas containing more than one tank, the bund would be sufficient to contain 110% of the largest tank's capacity or 25% of the total capacity, whichever is the greater.</p> <p>Any valve, filter, sight gauge, vent pipe or other ancillary equipment would be located within the containment area.</p> <p>Waste oil would not be stored within the application boundary, but would be removed to dedicated storage or disposal facilities.</p> <p>Management procedures and physical measures would be put in place to deal with spillages, such as spill kits and booms.</p> <p>Maintenance procedures and checks would ensure the minimisation of leakage of fuels or oils from plant.</p> <p>Refuelling and servicing would be undertaken by the Principal Contractor in a designated area or location with adequate precautions in place, such as a dedicated impermeable surface with lipped edges to contain any contaminants.</p> <p>Where vehicle maintenance is necessary in the field, owing to breakdown, additional precautions would be taken to contain contaminants, such as spill trays or absorbent mattresses.</p>



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			<p>The access track would be designed and constructed to promote good visibility where possible and two-way access where visibility is restricted, to minimise risk of vehicle collisions.</p> <p>It is anticipated that the construction phase welfare facilities would use a suitably sized holding tank with wastewater removed from the proposed Development by tanker for disposal at a licensed disposal facility. Operational phase welfare facilities may use a similar procedure or would install a waste treatment package plant with associated discharge. All relevant water environment authorisations would be put in place should there be any requirement for these.</p> <p>The Site Spillage and Emergency Procedures would be prominently displayed at the Site office and staff would be trained in their application. The Procedures document would incorporate guidance from the relevant SEPA Guidance Notes.</p> <p>In the event of any spillage or discharge that has the potential to be harmful to or to pollute the water environment, all necessary measures would be taken to remedy the situation. These measures would include:</p> <ul style="list-style-type: none"> • Identifying and stopping the source of the spillage. • Containing the spillage to prevent it spreading or entering watercourses by means of suitable material and equipment. • Absorbent materials, including materials capable of absorbing oils, would be available within the Site to mop up spillages. These would be in the form of oil booms and pads and, for smaller spillages, quantities of proprietary absorbent materials. • Sand bags would also be readily available for use to prevent spread of spillages and create dams if appropriate. • Where an oil/fuel spillage may have soaked into the ground, the contaminated ground would be excavated and removed from the Site by a licensed waste carrier to a suitable landfill facility. • The emergency contact telephone number of a specialist oil pollution control company would be displayed within the Site.



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			<ul style="list-style-type: none"> Sub-contractors would be made aware of the guidelines for handling of oils and fuels and of the spillage procedures at the Site. <p>SEPA would be informed of any discharge or spillage that may be harmful or polluting to the water environment. Written details of the incident and its resolution would be forwarded to SEPA no later than 14 days after the incident.</p> <p>All works through and adjacent to wetland areas would be supervised by the ECoW.</p>
	Peat landslide hazard	Construction	<p>During construction, construction staff would undertake advance inspections and carry out regular monitoring for signs of peat landslide indicators. A geotechnical specialist would be on call to provide advice should any peat landslide indicators be identified.</p> <p>Constructions staff would be made aware of peat slide indicators and emergency procedures. Emergency procedures would include measures to be taken in the event that an incipient peat slide is detected.</p>
Chapter 11: Archaeology and Cultural Heritage	Protection of on-site assets	Pre-construction, Construction	<p>The following heritage assets will, in the first instance, be fenced off prior to construction and avoided during any micrositing activities to avoid accidental damage: MDG16887, MDG9667 and LB10382, Garvald Churchyard.</p> <p>Any micrositing or road widening works required for the proposed access track leading to the turbine area in the vicinity of LB10382, Garvald Churchyard should be planned to avoid any direct impact on the adjacent asset and its associated wall</p>
	Excavation and recording of assets	Pre-construction, Construction	Should any impacts arising from micrositing be unavoidable on MDG16887, MDG9667 these will be offset by excavation and recording these assets.



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
	Watching brief, Archaeological Clerk of Works and Written Scheme of Investigation	Pre-construction, Construction	<p>Impacts on currently undiscovered archaeological remains within the Site boundary may also occur during the construction phase. Preservation by record through archaeological monitoring (watching brief) is likely to be required over some or all of the construction groundworks of the turbine area, within the proposed parking area of the proposed access track leading to the turbine area and any ground breaking works associated with habitat management and enhancement works.</p> <p>Any archaeological remains found during any archaeological monitoring will be subject to excavation and recording. The full scope and nature of these works will be agreed through a Written Scheme of Investigation (WSI) and agreed with DGC in advance of construction. Depending on the extent of the areas requiring archaeological monitoring, an Archaeological Clerk of Works (ACoW) may be required to be present for the duration of the construction phase.</p>
Chapter 12: Access, Traffic and Transport	Construction Traffic Management Plan (CTMP)	Construction	<p>A Construction Traffic Management Plan (CTMP) would be in place to actively mitigate the effects as discussed above and an outline CTMP has been prepared at this stage and submitted as part of the Application to outline the mitigation measures recommended during the construction stage. This is provided as Technical Appendix 12.1.</p> <p>The following measures would be implemented through a CTMP during the construction phase. The CTMP would be agreed with DGC prior to construction works commencing:</p> <ul style="list-style-type: none"> • Where possible, further detailed design processes would minimise the volume of material to be imported to site to help reduce HGV numbers; • A site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times); • A Traffic Management Plan to control the operation of the access junctions;



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
			<ul style="list-style-type: none"> • All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads; • Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway; • Should there be evidence of this following this commencement of construction, suitable measures would be implemented within the Site to ensure deleterious materials are not transferred onto the highway; • Road cleaning would take place, if required, to remove any deleterious materials that are carried from the Site; • Normal site working hours would be limited to between 07:00 - 19:00 Monday to Friday and 08:00 – 13:00 on Saturdays, unless otherwise agreed with THC, though component delivery and turbine erection may take place outside these hours; • Provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the site; and • All drivers would be required to attend a detailed induction prior to undertaking any works on the Site. <p>Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).</p> <p>The location and numbers of signs would be agreed post-consent and would form part of the wider traffic management proposals for the proposed Development.</p> <p>The Applicant would also ensure information would be distributed through its communication team via project website, local newsletters and social media.</p>



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
			<p>Post-consent, the Applicant would establish a Community Liaison Forum, in collaboration with DGC and local Community Councils. The forum would allow the community to be kept up to date with project progress and allow communication on the provision of transport-related mitigation and publicise the timings of turbine component deliveries. The Community Liaison Forum would be maintained until construction is complete and the Proposed Development is operational.</p> <p>The Applicant would enter into a Section 96 (wear and tear) Agreement or a suitable alternative for the local adopted roads / routes to be used by construction vehicles. A pre-construction works inspection of the roads would be carried out with both parties in attendance with their condition recorded. Following completion of construction of the proposed Development, a further inspection would be carried out by both parties with repairs being agreed to return the roads to their pre-construction condition, to be carried out in a timely manner for approval by DGC. Notwithstanding, the Applicant would carry out regular monitoring of the carriageway condition during the construction of the proposed Development. Necessary repair works would be carried out in a timely manner to prevent further deterioration of the carriageway during the works. Priority would be given to any damage which would be dangerous to users of the road affected.</p>
	Abnormal loads	Construction	<p>An Abnormal Load Transport Management Plan (ATMP) would be prepared to cater for all movements to and from the proposed Development site. This would include:</p> <ul style="list-style-type: none"> Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
			<ul style="list-style-type: none"> • A diary of proposed delivery movements to liaise with the communities to avoid key dates such as popular local events, etc.; • A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and • Proposals to establish a Community Liaison Group to ensure the smooth management of the project / public interface with the Applicant, the construction contractors, the local community and, if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising. <p>A police escort would be required to facilitate the delivery of the abnormal loads, with two police cars at the front of the convoy and one at the back, unless they are slowing traffic on slips. The police escort would be further supplemented by a civilian pilot cars to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. one private pilot car will be assigned to each blade and tower vehicle. Each pilot car would be required to travel behind the abnormal loads vehicle. The escorts and convoy would remain in radio contact at all times, where possible.</p> <p>The abnormal load convoys would be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.</p> <p>The times in which the convoys would travel would need to be agreed with Police Scotland who have sole discretion on when loads can be moved.</p>



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
<p>Chapter 13: Noise</p>	<p>Construction Noise</p>	<p>Construction</p>	<p>In line with BS 5228: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (BS 5228-1), a ‘Best Practicable Means’ (BPM) approach to noise and vibration control will be adopted during the construction phase.</p>
	<p>Blasting operations</p>	<p>Construction</p>	<p>There may be a need for blasting in the process of creating borrow pits for the construction activities. Regarding blasting and its potential effect on neighbours to site, BS 5228 states that: <i>“Vibration and air overpressure from blasting operations is a special case and can under some circumstances give rise to concern or even alarm to persons unaccustomed to it. The adoption of good blasting practices will reduce the inherent and associated impulsive noise: prior warning to members of the public, individually, if necessary, is important”.</i> BPM mitigation measures will be adopted in relation to blasting operations.</p>
	<p>Operational Noise</p>	<p>Operation</p>	<p>In addition, for the purposes of the assessment a +2 dB uncertainty factor has been applied to sound power level specifications. However, warranted sound power levels can often be obtained from manufacturers, which may include a lower uncertainty factor for the same given sound power level specifications, resulting in lower predicted noise levels.</p> <p>If required, many modern wind turbine models are able to operate in a range of noise-reduced or sound-optimised modes. These operational modes can be implemented at key wind speeds and/or directions, in order to reduce noise levels.</p>
<p>Chapter 14: Other Issues</p>	<p>Aviation</p>	<p>Pre-construction/ Construction / Operation</p>	<p>Technical mitigation measures are likely to be required for the Lowther Hill Primary Surveillance Radar (PSR). Optimisation of the Lowther Hill PSR to mitigate the impact of the proposed Development may be a feasible option. A potential further mitigation option would be to blank the area of clutter and use an infill radar feed.</p> <p>The NATS En Route Plc (NERL) Technical and Operational Assessment (TOPA) does not predict any impact on Great Dun Fell PSR from the</p>



EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
			<p>proposed Development. However, should NERL change their stance then mitigation may be required.</p> <p>Wind turbines exceeding 150m in height are required to have suitable aviation lighting installed in accordance with Article 222 of the ANO 2016/765 (CAA 2022) and DAP Policy 124 (CAA 2017). Visible lighting may be supplemented by infra-red lighting, as directed by the MOD. The CAA must be notified in writing of any enroute obstacle exceeding 100m in height at least eight weeks prior to construction, in accordance with Article 225A of the ANO. The obstacle information is shared with NATS Aeronautical Information Services for publication of obstacles in the AIP and the MOD Defence Geographic Centre for inclusion on military aeronautical charts.</p>
	Forestry		<p>71.3 Ha will be set aside for habitat improvements. A further area of new riparian and native woodland creation on shallow peat/ mineral soils of 15 Ha is also committed to in the Habitat Management Plan (Technical Appendix 8.9)</p>

Table 15.2: Summary of Monitoring Commitments

EIA Report Chapter	Matter / effect requiring mitigation	Timing / phase	Mitigation Measure
Chapter 3: Proposed Development	Environmental Management	Construction	<p>An Ecological Clerk of Works (ECoW) would be onsite during the construction phase to monitor the implementation of the following:</p> <ul style="list-style-type: none"> • a Traffic Management Plan (TMP); • a Construction Methodology Statement (CMS); • a Pollution Prevention Plan (PPP) (including monitoring, as appropriate); • a Site Waste Management Plan (SWMP); and • a Water Management Plan (WMP).



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Chapter 8: Ecology	Avoid negative effects on habitats, protected species and aquatic interests	Construction	Aquatic monitoring programme to be devised and submitted for approval prior to construction. The CEMP will include all good practice construction measures, pollution prevention controls and monitoring to be implemented during construction of the proposed Development in line with current industry and statutory guidance.
	Habitat restoration	Construction / Operation	An Outline Habitat Management Plan has been produced which details proposals for habitat enhancement. A Bat Mitigation and Monitoring Plan has also been produced which details mitigation and monitoring measures that will potentially drastically reduce negative impacts on this fauna.
Chapter 9: Ornithology	Habitat quality monitoring	Pre-Construction / Construction / Operation	Proposed habitat monitoring would begin at least 6 months prior to construction work, would continue throughout the construction period and for at least 12 months following reinstatement t
Chapter 10: Hydrology, Hydrogeology, Geology and Soils	Water quality monitoring	Pre-Construction / Construction	Potential effects from Windfarms in the operational phase are minimal compared to those in construction phase. Water quality monitoring at the proposed Development will determine any pollution sources arising during the construction phase
	Infrastructure	Construction / Operation	Routine monitoring checks of project infrastructure, including track hardstanding surfaces and all drainage infrastructure, would be undertaken by the Principal Contract or Site Operator on a quarterly basis throughout project construction and operation. Monitoring would involve visiting the infrastructure and undertaking a visual inspection



References

National Planning Framework 4: Scottish Government 2023. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf> [Accessed October 2024].