

15 Schedule of Mitigation

15.1 Introduction

- 15.1.1 The Schedule of Mitigation 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.
- 15.1.2 Good practice and mitigation measures have been integral to the design evolution of the proposed development as described in **Chapter 2: Design Evolution and Alternatives**. A series of environmental and technical constraint lead 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

- 15.2.1 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 to adhere to relevant legislation during all stages of the proposed development.

15.3 Overall Statement of Significance

- 15.3.1 Provided that the proposed mitigation measures are successfully implemented, the residual effects related to most environmental disciplines would not be considered significant effects in the context of the EIA regulations, with the exception of some localised landscape and visual effects on the Scottish Borders LLA6 Lammermuir Hills Local Landscape Area, however, the proposed development would not compromise the overall integrity of this LLA. Localised significant night time effects on the LLA6 Lammermuir Hills and LCT90 - Dissected Plateau Moorland would be experienced due to the introduction of new light sources into the area.
- 15.3.2 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, significant landscape character effects would be confined to a distance of approximately 5km of the proposed wind turbines. It is considered that

the landscape can accommodate the proposed development, alongside other existing operational, consented and proposed wind farms.

- 15.3.3 Moderate impact has been identified with regard to Addinston, Fort (SM362), Longcroft, Fort (SM372) and Longcroft Hill, Homestead, (SM4480) while Moderate/Major impact has been identified with regard to Glenburnie, Fort (SM4473).
- 15.3.4 These impacts might reduce the ability to experience the inter-relationship between these assets. The aforementioned assets contribute to the contextual characteristics of their significance as they enhance the understanding of the Iron Age landscape and the people that occupied this area's economy and society.
- 15.3.5 These contextual characteristics only make up a portion of these assets' significance and as such large elements of their setting would be retained and their integrity would largely be preserved. Therefore, it is considered that with the proposed design mitigation in place, the proposed development will be in line with Policy 7 (h) of NPF4 (2023).

Table 15.1: Summary of Mitigation and Commitments

EIAR Chapter	Matter/Effect requiring mitigation	Timing / Phase	Mitigation Measure
Chapter 3: Proposed Development Description	Environmental management	Construction	<p>The applicant would engage an Environmental Clerk of Works (ECOW) on-site during the construction phase. The Principal Contractor (PC) will ensure construction activities are carried out in accordance with the mitigation measures outlined in this EIA Report and any planning conditions, this will be monitored by the applicant and the ECOW.</p> <p>An outline Construction Environmental Management Plan (CEMP) is provided as Technical Appendix 3.1. This sets out the applicant's requirements for inclusion within a detailed CEMP and other documents including guidance and best practice for adoption during construction of the proposed development. 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"> • design philosophy and construction methodologies; • surface and ground water management; • water quality monitoring; • flood risk management; • private water supply management; • waste and resource management; • wastewater and water supply monitoring and control; • noise and vibration control; • dust and other emissions to air control. • spoil management; • peat slide monitoring and control; • oil and chemical delivery and storage; • temporary lighting management; • existing on-site utilities management; • post construction reinstatement; • construction traffic management; • health and safety management; • public liaison provision; and • decommissioning and restoration methodologies. <p>To ensure all mitigation measures outlined within this EIA Report are carried out on-site, contractors will be required to develop a Construction Environmental Management Plan (CEMP) which will form an overarching document for all site management requirements, including:</p> <ul style="list-style-type: none"> • a Pollution Prevention Plan; • a Soils Management Plan; • a Construction Traffic Management Plan; • a Site Waste Management Plan; • a Borrow Pit Management Plan; • a Outdoor Access Management Plan; and • a Water Quality Monitoring Plan. <p>The final CEMP would be agreed in advance with Scottish Borders Council (SBC) in consultation with other stakeholders, prior to commencement of construction. Performance against the CEMP would be monitored by the applicant, the ECOW and PC throughout the construction period.</p>
Chapter 6: Landscape and Visual Impact Assessment	Wind turbine layout and height of wind turbines	Operation	The design of the wind turbine layout has taken into account the local and wider landscape and visual receptors to best design a scheme which minimises the impact on the landscape. This takes account of adjacent and nearby windfarms and those in the planning system.
	Aviation Lighting	Operation	<p>The applicant is committed to reducing significant environmental effects predicted during the development of its sites and the following mitigation measures will be deployed at the proposed development as part of the reduced Aviation Lighting Scheme agreed with the Civil Aviation Authority (CAA).</p> <ul style="list-style-type: none"> • Intermediate level 32 candela lights are not required to be fitted on the turbine towers; • Medium intensity steady red (2000 candela) lights will only be required on the nacelles of turbines T01, T03, T06, T08, T11, T13, T15, T17 and T19; and

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			<ul style="list-style-type: none"> The lights on these turbines to be capable of being dimmed to 10% of peak intensity when the lowest visibility as measured at suitable points around the wind farm by visibility measuring devices exceeds 5km.
Chapter 7: Cultural Heritage & Archeology	Protection of on-site assets	Construction	<p>The proposed development has the potential to result in direct impacts to heritage assets as a result of any groundworks or ground disturbance undertaken as part of the construction phase of the proposed development. As outlined in paragraph 7.5.6 and shown in Table 7.7 of Chapter 7, mitigation is proposed for those heritage assets where there is the potential for direct impacts, subject to agreement with the SBC archaeologist.</p> <p>The following mitigation is proposed for those assets which may be present within the footprint of any ground disturbance:</p> <ul style="list-style-type: none"> SLR16, SLR17 and SLR18 - No mitigation proposed; SLR57 - watching brief; SLR36 - watching brief; Unknown Prehistoric remains - watching brief or archaeological recording; Unknown buried remains - watching brief or archaeological recording. <p>The precise scope of the proposed mitigation measures would be agreed with the SBC archaeologist on behalf of the applicant and the agreed mitigation programme would be outlined and carried out following a Written Scheme of Investigation.</p>
Chapter 8: Ecology	General	Pre-construction	<p>The applicant has committed to the production of a CEMP to the satisfaction of NatureScot and other relevant stakeholders, before construction commences, and would follow Windfarm Good Construction Guidance, Scottish Renewables et al (2010). An outline CEMP is included within Technical Appendix 3.1.</p> <p>A Species Protection Plan (SPP) will be required to ensure compliance with the Wildlife and Countryside Act (a) to avoid any impacts to species specially protected under Schedule 5 of that Act and (b) to avoid any damage to active setts/holts/hibernacula. The SPP would be agreed in writing with SBC, in consultation with relevant stakeholders, prior to the commencement of development.</p>
	Protected Species	Pre-Construction	<p>Though no species specially protected under Schedule 5 of the Wildlife and Countryside Act or the Badgers Act were found within the potential impact zone of the proposed development, species such as badger, otter and water vole could move into that area in the future. Further surveys for these species will therefore be undertaken immediately prior to construction. If any were found, then appropriate mitigation would be implemented and/or licence sought from NatureScot.</p>
	Bats	Pre-Construction	<p>Evidence of bats using buildings B and C as roosts and features on one ash tree (TN43) that could be used by multiple bats will require further presence/likely absence surveys pre-construction to establish use, species and individual number estimates (since the features exist just within a 30m zone of influence of potential indirect disturbance effects) resulting from access track works. See Technical Appendix 8.3 for more details. No direct impacts of habitat loss/ damage to any confirmed/ suspected roosts are predicted based on current survey evidence. Therefore, there is potential for works to disturb roosting bats if they create a higher level of noise, vibrations and dust than current use of access track. Presence/likely absence surveys should be conducted pre-construction in the optimal months (May - August inclusive) to add to the baseline data collated. These surveys will provide evidence to support a bat species licencing application to NatureScot (to permit what would be otherwise unlawful acts within 30m of these features). Licensed bat ecologist supervision and mitigation will be prescribed in a mitigation plan (e.g., restricting timing of works seasonally and at dusk/dawn plus lighting considerations within 30m of the features) to support the licence application accordingly and will require to be strictly adhered to, to protect the legal status of the roost and individual bats.</p>
	Wild Pansy	Pre-Construction / Construction	<p>To mitigate and compensate for the loss of any wild pansy plants during construction, plant rescue and relocation should be carried out prior to construction. In addition, seed should be carried out to allow seeds to be used in reinstatement works where suitable soil conditions exist for this species.</p>
	River Tweed SAC Watercourse Crossings	Construction	<p>The watercourse crossing at location 12 which is likely associated with bog pools (Priority peatland communities- NVC M1 or M2) will be bottomless and designed to avoid negative impacts on the pools or their hydrology.</p>
	Bats	Operation	<p>No tree clearance will be required so turbines are set within locations that will reduce the risk of collision to bat species that do not tend to fly across open space. A distance of at least 95m between turbine blade tip and the nearest woodland (i.e., coniferous plantation woodland as compared to Turbine 18) will be established during the construction phase of the proposed development and maintained as per current bat guidance (NatureScot, 2021, see Chapter 8, Section 8.6.1).</p>

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			<p>Mitigation will be implemented during operation in order to reduce the risk of turbine-related bat mortality specifically for Pipistrellus and Nyctalus species, though this will also further mitigate for all bat species. The mitigation measures will comprise curtailment of the operation of all wind turbines during certain weather conditions at certain times of year (in particular spring and summer). In the event the scheme is consented, a Bat Mitigation and Monitoring Plan will require to be provided pre-construction.</p> <p>Based on work done at other operational windfarms in upland forested sites (in south-west Scotland), 90% of Pipistrellus bat activity occurs when wind speeds are below 5.5 m/s and temperatures are above 11°C at nacelle height. The curtailment will therefore apply between 30 minutes post-sunset and 40 minutes pre-sunrise and will be implemented at each turbine between 1st April - 31st October each year. The mitigation will be implemented for the lifetime of the proposed development, unless monitoring results necessitate a change in curtailment regime.</p> <p>The implementation of the curtailment will be via software which will automatically send a “pause” command to the relevant turbine, when the parameters are met, initiating a feathering of the blades. This will slow the rotation speed of the blades to below 1 RPM (i.e., slower than the second hand of a clock). This is a tried and tested method, already being successfully applied on other wind farm sites in Scotland.</p> <p>Monitoring would comprise measurement of bat activity and fatality rates and would be undertaken annually until validation of the initial curtailment parameters and any amendments are established in consultation with NatureScot. Bat activity monitoring would comprise the use of static bat detectors (based at ground level) at six randomly selected wind turbines during July - September inclusive which is when most fatalities are found to occur. This represents a precautionary approach, because if bat fatality rates are sufficiently low during this period, they are unlikely to be greater at other times of year - if the mitigation is effective during this period, it will also be effective during periods of lower levels of activity. The use of six turbines is considered to provide a representative sample (37.5% of turbines to be sampled) and is coincident with the number of turbines which can reliably be searched by a dog team in a single day.</p> <p>Carcass searching would be undertaken within a 50 m radius at the same six turbines every two weeks from 1st July until end of September i.e., seven searches in total. The estimate of two weeks persistence of corpses, and therefore the intervals between search dates will be further confirmed by undertaking a carcass persistence trial at the site prior to undertaking carcass searching. Carcass searching will be undertaken using dogs, so that an effective observer efficiency rate of 80% or more can be achieved.</p> <p>Following each annual monitoring period, if the number of bat fatalities is less than two bats per turbine per year, the operator may propose amendments to reduce the curtailment parameters. If the number of bat fatalities is greater than two bats per turbine per year, the operator shall be obligated to propose amendments to strengthen the mitigation. Any changes proposed will be consulted on with NatureScot and implemented the following year with repeated monitoring using the methods described above unless otherwise varied (e.g., to investigate condition in which fatalities are occurring).</p> <p>No other specific mitigation measures are required for the operational phase. However, compensation and enhancement measures provided as part of the outline BERP (Technical Appendix 8.6) would remain in place during the operational phase.</p>
Chapter 9: Ornithology	Birds	Pre-construction / Construction	<p>The applicant has committed to the production of a CEMP to the satisfaction of NS and other relevant stakeholders, before construction commences, and would follow Windfarm Good Construction Guidance, Scottish Renewables et al. (2019). An outline CEMP is included as Technical Appendix 3.1. An Environmental Clerk of Works (ECOW) will be appointed to monitor the implementation of the CEMP, the Breeding Bird Protection Plan (BBPP) and the Biodiversity Enhancement and Restoration Plan. Several species specially protected from disturbance during breeding under Schedule 1 of the Wildlife and Countryside Act were recorded during the surveys, including merlin and common crossbill. It will be essential to ensure that no Schedule 1 species are disturbed during the breeding season, particularly during the construction phase, therefore, a BBPP will be developed and implemented. Further surveys for merlin and common crossbill and any other Schedule 1 species will be undertaken to inform the BBPP at fortnightly intervals through the breeding season (March-August) during the construction period. If any nesting Schedule 1 birds are found then potentially disturbing activities would be suspended for the breeding season within an appropriate zone (dependent on the location of the birds and the species involved, to be agreed with NS and the Scottish Borders Council, following Ruddock and Whitfield 2007). The BBPP will also include measures to ensure the protection of all other nesting birds.</p> <p>Where works affecting habitats that could be used by nesting birds take place between March and August (inclusive), they will only be carried out following an on-site check for nesting birds by an experienced ecologist. If this indicates that no nesting birds are likely to be harmed by the works, then the works will proceed. If nesting birds are found to be present, work will not take</p>

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			<p>place in that area until the adult birds and young have left the nest. A protection zone will be clearly marked around the nest site to prevent accidental disturbance or damage.</p> <p>A BBPP would therefore be developed and be in place prior to the onset of construction activities. The BBPP will describe survey methods for the identification of sites used by protected birds and will detail protocols for the prevention, or minimisation, of disturbance to birds as a result of activities associated with the proposed development. The final BBPP would be agreed in writing with SBC, in consultation with relevant stakeholders, prior to the commencement of development. Implementation of the BBPP would be monitored by the ECoW.</p>
	Breeding Birds	Operation	The outline BERP outlines proposals to increase the suitability of the upland habitats for breeding curlew and other breeding waders including snipe and lapwing, thus providing enhanced breeding habitat over 500m from the proposed wind turbines. The final BERP would be agreed in writing with SBC, in consultation with relevant stakeholders, prior to the commencement of development.
Chapter 10: Geology, Hydrology and Hydrogeology	Ground Investigation Water Quality	Pre-Construction	<p>Prior to construction being undertaken, relevant detailed site investigations would be conducted. This could include investigations of underlying deposits, in particular where the proposed development is sited, to inform detailed design and suitable micro-siting of the proposed development civil infrastructure.</p> <p>If there are assessed to be potential effects to surface watercourses or groundwater, baseline water quality monitoring will be undertaken as required. A Water Quality Monitoring Plan (WQMP) will be prepared and agreed with SBC, in consultation with SEPA, prior to commencement of construction. It is anticipated that this will include a programme of pre-construction monitoring, over a period to be set out in the plan.</p>
	Impacts on Surface Water Quality Impacts to Groundwater Flow Impacts to Groundwater Quality Compaction of Soils Private Water Supplies Impacts to Designated Sites (River Tweed SAC, SSSI) Removal and Impact on peat	Construction	<p>Specific mitigation measures as outlined in Chapter 10 include:</p> <ul style="list-style-type: none"> • Use of existing infrastructure as far as practicable. • Implementation of mitigation measures in CEMP. • PPP to be agreed and implemented. • Final design of watercourse crossings to be implemented. • Any PWS pipework will be marked and avoided with a detailed design strategy to ensure continuation of supply. • Dewatering undertaken for as short a time as practicable. • Pre-construction ground investigation works. • WQMP to be agreed and implemented. • Siting civil infrastructure to minimise peat excavation requirements. • Management, storage and restoration in line with best practice guidance, detailed in CEMP. <p>Following a review of best practice outlined in relevant guidance and legislation a detailed CEMP will be compiled. The Principal Contractor will implement measures outlined within the CEMP, as agreed with relevant consultees. This would also include a construction method statement, which would account for:</p> <ul style="list-style-type: none"> • Pollution Risk Assessment; • Identification of Controlled Waters and temporary discharge points to these watercourses; • Planning and design of dewatering activities to minimise the local drawdown; • Planning and design of pollution control measures, such as drip trays, bunds and spill kits, in particular during earthworks; • Storage of fuel and chemicals in a designated area in accordance with best practice procedures, outwith 50m watercourse buffers; • Designated area for concrete batching, 100m from watercourses; • Pollution control system management, including dewatering of excavations; • Contingency planning and emergency procedures; and • Ongoing monitoring of construction procedures. <p>Embedded measures within the CEMP to prevent sedimentation pollution and erosion will include:</p> <ul style="list-style-type: none"> • All earthworks would be carried out in accordance with BSI Code of Practice for Earth Works BS6031:2009; • Stockpiles will be placed at least 50m from watercourses. The height and maximum slope angle will be in accordance with BSI guidance. Where there are stockpiles of peat, re-wetting will occur to prevent peat drying out. Sediment pollution mitigation measures, including swales will be implemented at the base of stockpiles.

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			<ul style="list-style-type: none"> Sediment pollution mitigation measures will be emplaced across the proposed development, this may include: drainage; silt fencing; settlement ponds; and check dams. Plant movements will be minimised through management measures. Measures to prevent sediment on public roads may include wheel washing or road sweeping at the site entrance. Any CAR licences required for site discharges or watercourse crossings will be applied to from SEPA prior to construction. A 'wet weather policy' will be in place, given that there are likely to be periods of significant rainfall at the site. The policy will include that site management checks local weather forecast daily, regularly checks and maintains pollution control system and suspends work during adverse conditions. Where topography dictates that working platforms are needed, these would be formed to ensure that surface water drains away from watercourses. To avoid unnecessary compaction and disturbance to site soils, working areas and corridors would be established and demarcated, with construction operatives appropriately inducted and trained to avoid work outside the designated work areas. <p>Embedded measures within the CEMP to prevent chemical pollution include:</p> <ul style="list-style-type: none"> Dewatering at the wind turbine will be minimised through careful management and reducing the time the excavation is open, including concrete pouring. A method statement to address the transport, transfer, handling and pouring of concrete at foundations will be undertaken by the Principal Contractor. Cement, grout and unset concrete will not be allowed to enter the water environment. No operations involving concrete transfer will take place within 50m of watercourses. There will be no washing out of vehicles used for concrete delivery or washing of vehicles within 50m of watercourses. Fuel and chemicals will be stored in impermeable bunded containers at least 110% of the volume stored. All fuelling on-site will occur in a designated location, at least 50m from watercourses. Spill kits will be stored across the site and within all vehicles and plant. On-site toolbox talks with construction staff will include to report all on-site spills and the correct implementation of spill kits. All vehicles and plant will be checked regularly with regular maintenance undertaken as required. <p>Embedded measures within the CEMP to enable surface water drainage management include:</p> <ul style="list-style-type: none"> A suitable surface water drainage strategy with detailed drainage design will be prepared and agreed prior to construction, but the following outline measures will be included. Identified watercourse crossings in Technical Appendix 10.4 will be designed to convey flows of 0.5%AEP (1:200yr) plus climate change, to prevent exacerbating downstream flood risk. Track-side swales will be designed to ensure separation of clean water from potentially contaminated water. Check dams will be employed to slow down the flow of water and decrease erosion within drainage swales. Sumps and settlement ponds will be used to treat and slow down the flow of water during periods of high rainfall. This will be employed at drainage outlets prior to reaching watercourses. Areas of excavation and earthworks will have drainage designed to drain to a sump to prevent pollution and increase surface water run-off. Hydrological connectivity between upslope and downslope will be maintained through cross-drainage and culverts.
	Impacts on Surface Water Flow Impacts on Fluvial Geomorphology Impacts on Groundwater Flow and Drying out of Peat Impacts on Surface Water Quality	Operation	<ul style="list-style-type: none"> Embedded design and good practice mitigation. PPP, to include track-side and cross drainage. Regulation of watercourse crossings by CAR, to include maintenance and removing any blockages Implement best practice and correct storage of fuels and management plans in the event of spills. Embedded design and good practice mitigation.
Chapter 11: Transport & Traffic	Construction Traffic	Construction	<p>A Construction Traffic Management Plan will be agreed with SBC as a condition of consent.</p> <p>An Abnormal Indivisible Load (AIL) Transport Management Plan will also be developed and agreed with SBC which will reduce the effects of AIL convoys on the road network.</p>
Chapter 12: Noise	Construction noise	Construction	<p>A range of noise mitigation measures are proposed for the construction phase in accordance with measures outlined in BS 5228-1:2009.</p> <p>Site operations to be limited to 07:00 - 19:00 Mondays to Saturdays (except during wind turbine delivery/erection and commissioning/periods of emergency work).</p>

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			<p>Additional noise mitigation measures are proposed to reduce the acoustic impact of construction further during Saturdays 13:00-19:00.</p> <p>Good practice on blasting shall be followed along with guidance on blast frequency and timing.</p> <p>Noise mitigation measures would be implemented as part of the CEMP which would be required to be agreed as a condition of consent.</p>
	Operational noise	Operation	The proposed development operating in isolation and cumulatively with other existing operational and proposed wind farm developments meet the limiting requirements of ETSU-R-97. As a result, no mitigation is required.
Chapter 14: Aviation, Radar & Other Issues	Shadow Flicker	Operation	Impacts of shadow flicker on residential receptors within 2km of the wind turbine locations will be controlled by installing shadow flicker shut down modules in the wind turbines and shutting down individual wind turbines during times when wind and climactic conditions are such that shadow flicker could occur.