



ESB Asset Development UK Limited

Chleansaid Wind Farm

Technical Appendix 2.1: Schedule of Environmental Commitments

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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1 INTRODUCTION

- 1.1 The assessment of the Proposed Development has identified a number of impacts that would arise as a result of its construction and operation. Mitigation measures have accordingly been identified and developed to counter adverse impacts and reduce the significance of residual effects on the receiving environment.
- 1.2 Environmental mitigation measures identified during the EIA process are reported in **Chapters 6 to 16** of **Volume 1** of the EIA report of which this document is a technical appendix. Subject to the granting of consent, these measures will form a mandatory schedule of commitments under the terms of any contract(s) for the construction and operation of the Proposed Development.
- 1.3 Environmental commitments are provided in **Table 1** below.

Table 1: Summary of Environmental Commitments

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
06 Landscape and Visual Assessment				
	N/A	N/A	N/A	N/A
07 Cultural Heritage and Archaeology				
7.1	Unrecorded buried remains	<ul style="list-style-type: none"> • Appropriate mitigation would be undertaken during construction on elements of the ground works that have potential to have direct impacts on unrecorded buried archaeological remains. • These will include the identified impact upon the enclosure walls at A'Chleansaid and on two sheepfolds, as well as potential unknown archaeological remains. An archaeological record (photographic survey) of the sheepfolds will be carried out in advance of works to record these features. There will be archaeological monitoring and recording of groundworks for Turbine T16 to identify and record any archaeological remains associated with the former settlement. <p>(See section 7.7.1 onwards of Chapter 7)</p>	Construction	Contractor
7.2	Access Routes	<ul style="list-style-type: none"> • All works to the access track adjacent to SM5300 will take place on the north side of the track away from the scheduled area to avoid physical impacts to this monument. • The scheduled monuments adjacent to the access route from the A836 (Scheduled Monument SM5300 – Cnoc 	Pre-construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>a'Breac-leathaid, shielings and cairnfield) will be demarcated with fencing in advance of construction and their presence will be included in site induction materials for all staff and site visitors so as to avoid accidental impacts.</p> <p>(See section 7.7.3 onwards of Chapter 7)</p>		
7.3	Mitigation Scope	<ul style="list-style-type: none"> The scope of the mitigation works would be negotiated with the Highland Council Historic Environment Team and the agreed programme would be documented in an agreed Written Scheme of Investigation. <p>(See section 7.7.5 onwards of Chapter 7)</p>	Pre-construction	Developer
08 Ecology				
8.1	Environmental Clerk of Works	<ul style="list-style-type: none"> A suitably qualified and experienced Environmental Clerk of Works (ECoW) will be appointed prior to the commencement of construction and decommissioning activities and through whom appropriate ecological advice will be provided throughout. The ECoW will be responsible for undertaking and/or co-ordinating checks for protected species before construction and decommissioning activities commence. The ECoW (or appointed 'clerks' on behalf of the ECoW) will also maintain a watching brief as necessary throughout the construction and decommissioning phases to ensure compliance with relevant legislation. The detailed scope of the role and responsibilities of the ECoW will be agreed in consultation with NatureScot. 	Pre-construction, construction, post construction	Developer/ Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		(See section 8.12.3 onwards in Chapter 8)		
8.2	Protected Species - General	<ul style="list-style-type: none"> • Pre-construction and pre-decommissioning surveys for protected mammal species (including otter, badger, pine marten, red squirrel and wildcat) will be undertaken no more than six months before the commencement of activities. Surveys will be undertaken in accordance with current survey guidance and will aim to identify the presence or likely presence of protected mammals within working areas and appropriate buffers. • Updated ecological information obtained from the pre-construction protected species' surveys will be used to inform and guide the implementation of Species Protection Plans (SPPs) or species-specific mitigation plans, identification of any licencing requirements and appropriate mitigation (including micro-siting) if required. • SPPs will be designed to provide the appointed contractor and ECoW with approved methodologies and mitigation measures for carrying out certain activities and will be agreed in consultation with NatureScot. <p>(See section 8.12.6 onwards of Chapter 8)</p>	Pre-construction, construction	Developer
8.3	Protected species – Water Voles	<ul style="list-style-type: none"> • A water vole SPP will be prepared for the Proposed Development in accordance with Dean <i>et al.</i> (2016) and NatureScot (2020) guidance, with an appropriate licence obtained from NatureScot, if required. • Water vole populations are highly dynamic with the potential for individual water voles to establish or 		Developer

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>abandon territories in relatively short spaces of time. As such, the SPP will be finalised in consultation with NatureScot following a pre-construction water vole survey undertaken in accordance with current guidance.</p> <p>(See section 8.12.9 onwards of Chapter 8)</p>		
8.4	Protected Species - Reptiles	<ul style="list-style-type: none"> • A SPP will be prepared for reptiles prior to the commencement of construction activities. The SPP will detail measures to be implemented during construction activities to protect reptiles (and amphibians encountered) from harm during the construction of the Proposed Development. • The SPP will be agreed in consultation with NatureScot and will detail emergency procedures to be implemented by site workers in the event reptiles are encountered during works. <p>(See section 8.12.14 onwards of Chapter 8)</p>		Developer
8.5	Outline Habitat Management Plan	<ul style="list-style-type: none"> • An Outline Habitat Management Plan (OHMP) has also been produced (see Technical Appendix 8.5 in Volume 3). • The OHMP includes restoration measures of the most sensitive habitats within the turbine area, and subsequent monitoring which will measure the effectiveness of restoration works, with restoration works adaptable in response to monitoring outcomes. • The OHMP will be agreed in consultation with NatureScot and seek to enhance habitats for a variety of 	Pre Construction; Construction and Post Construction	Developer

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>animals, including black grouse, fish, water vole and general moorland biodiversity through targeted species management measures and best practice moorland management.</p> <p>(See section 8.13 of Chapter 8)</p>		
09 Ornithology				
9.1	Environmental Clerk of Works	<ul style="list-style-type: none"> • A suitably qualified and experienced ECoW will be appointed prior to the commencement of construction and decommissioning activities and through whom appropriate ornithological advice will be provided throughout. • The ECoW will be responsible for undertaking and/or co-ordinating checks for ornithological species before construction and decommissioning activities commence. The ECoW (or appointed 'clerks' on behalf of the ECoW) will also maintain a watching brief as necessary throughout the construction and decommissioning phase to ensure compliance with relevant legislation. • Site clearance activities, where commenced during the core breeding bird season (1st March to 31st August inclusive), will be subject to a pre-clearance survey by the ECoW (or appointed clerks) to identify any active wild bird nests. Should any active nests be found, works will only proceed under the advice of the ECoW or appointed clerk. Work exclusion buffers around identified nest sites would be implemented where necessary in accordance with best available species 	Pre Construction, construction	Developer/ Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>guidance applicable at the time and/or as agreed in consultation with NatureScot. Updated ornithological information obtained from the pre-construction/pre-decommissioning surveys will be used to inform and guide the implementation of Bird Protection Plans (BPP), identifying any mitigation (including micro-siting) if required.</p> <ul style="list-style-type: none"> BPPs will be designed to provide the contractor and ECoW with approved methodologies and mitigation measures for carrying out certain activities and will be agreed in consultation with NatureScot, as will the detailed scope of the role and responsibilities of the ECoW. <p>(See section 9.11.3 onwards of Chapter 9)</p>		
9.2	Habitat Management Plan	<ul style="list-style-type: none"> An outline Habitat Management Plan (HMP) has been produced (see Technical Appendix 8.5 in Volume 3). The outline HMP includes restoration measures of the most sensitive habitats within the turbine area, and subsequent monitoring which will measure the effectiveness of restoration works, with restoration works adaptable in response to monitoring outcomes. Restoration works will benefit the breeding bird assemblage present on, and close to, the site, including breeding waders. Measures are to include peat restoration in the north of the turbine area and native riparian planting along the Allt nan Con-uisge which flows through the turbine area. 	Post-construction	Developer

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>Peat restoration works will benefit ornithological species, including wading species, and riparian planting will provide potential habitat for black grouse and nesting and foraging passerines.</p> <p>(See section 9.9.7 onwards of Chapter 9)</p>		
10 Geology, Hydrogeology, Hydrology and Peat				
10.1	Soil and Peat	<ul style="list-style-type: none"> • Soil stripping would be undertaken with care and would be restricted to as small a working area as practicable. Topsoil removed and laid in a storage bund, up to 2 m in height, on unstripped ground adjacent to the working area. Attempt to retain the turf layer vegetation-side-up where possible, although ground conditions may make this challenging. Subsoils and superficial geological deposits would be removed subsequently and laid in storage bunds, also 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. • For work within areas of peat, acrotelmic peat (the uppermost 0.5 m) would be removed as for the topsoil. It would be attempted to retain the acrotelm vegetation-side-up where possible, although ground conditions may make this challenging. The underlying catotelmic peat would be stored in bunds up to 1 m in height. Catotelmic peat is sensitive to handling, and loses its internal structure easily, so would be transported as short a distance as possible to its storage location 	Pre-construction, construction, post-construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • Limited smoothing or ‘blading’ of stockpiled soils and catotelmic peat would be undertaken 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. • Excavated soil and peat would be used in restoration and rehabilitation at the end of the construction period, in order 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 of the Proposed Development. Soils and peat would be stored for as short a time as practicable, in order to minimise degradation through erosion and desiccation. • 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. • Construction work would make use of 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 project and developed as part of the post-consent detailed design works, and would be updated as new information becomes available. 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • 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. 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. • 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 that the volume and storage timescale for excavated materials would be minimised as far as practicable during construction works. • Vegetation cover would be re-established as quickly as possible on track and infrastructure verges and cut slopes, by re-laying of excavated peat acrotelm, to improve slope stability and provide erosion protection. Additional methods, including hydroseeding and/or use of a biodegradable geotextile, would be considered if necessary in specific areas. • During construction members of project 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 if required by conditions within the site 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> Construction 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>(See section 10.8.5 onwards of Chapter 10)</p>		
10.2	Surface Watercourses and Groundwater	<ul style="list-style-type: none"> 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 site. All engineering works adjacent to watercourses, including access tracks and watercourse crossing structures, would have appropriate sediment control measures established prior to any groundworks. Vegetation would be retained along watercourse banks to act as additional protection to the watercourses. A water quality monitoring programme would be established. Details would be agreed with SEPA but are anticipated to include at least the following: <ul style="list-style-type: none"> Visual checks for entrained sediment; and <i>In situ</i> measurements of pH, temperature, specific conductivity. <i>In situ</i> measurement of turbidity and dissolved oxygen may be recommended for locations with particular sensitivity, such as the River Brora downstream from the Proposed Development. Pre-construction monitoring would be undertaken on a monthly basis for a minimum period of three months 	Pre-construction, construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>prior to any work taking place within the Proposed Development.</p> <ul style="list-style-type: none"> • During construction, the monitoring would be undertaken by the Environmental Clerk of Works (ECoW) or suitably experienced alternative individual. 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 (WQ2 and 6; Figure 10.7 in Volume 1 of the EIA Report) are intended to help differentiate between incidents arising within the site and incidents that are unrelated to the site. • The recommended frequency of monitoring for the different locations are shown in Table 10.14 of Volume 1, and the locations in Figure 10.7, in section 10.8 of Volume 1. • Groundwater monitoring boreholes would be established within the two proposed borrow pit areas prior to any construction work beginning, to a depth at least 1 m below the deepest expected excavation. Groundwater level monitoring would be undertaken to determine whether groundwater is present within the borrow pit areas and, if it is, at what level the seasonally highest groundwater table stands. Any groundwater 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 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>discharge. Any required discharge licence would be obtained prior to excavation commencing</p> <ul style="list-style-type: none"> All works through and adjacent to wetland areas would be supervised by the ECoW. <p>(See section 10.8.16 onwards of Chapter 10)</p>		
10.3	Drainage Infrastructure	<ul style="list-style-type: none"> Trackside drainage would be no longer or deeper than necessary to provide the required track drainage. Cross-drains under tracks would be installed at an appropriate frequency to mimic natural drainage patterns and to minimise concentration of flows. 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. 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 All required licences for watercourse crossings and construction works would be in place prior to works within the Proposed Development beginning 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 	Pre-construction, construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>and borrow pits. Where possible, trackside drainage would be laid up to 100 m ahead of track construction works on a running basis</p> <ul style="list-style-type: none"> • Temporary water control measures would be implemented as necessary adjacent to larger areas of excavation. These would include borrow pit sites and may also include turbine base excavations and hardstanding areas. These measures would take the form of temporary settlement ponds, filter drains or proprietary treatment measures such as Siltbusters. Detail would be provided within the Pollution Prevention Plan(s) required for the Construction Runoff Permit and suitability would be determined following appropriate onsite soil tests • 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. The 'stop' conditions provided in Error! Reference source not found. in Volume 1 are recommended to guide all earthmoving activity at all stages of the Proposed Development • 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. Routine maintenance would be scheduled where possible for dry weather 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		(See section 10.8.26 onwards of Chapter 10)		
10.4	Excavations	<ul style="list-style-type: none"> • 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. • Cable trenches would be laid in disturbed trackside material. In areas where cable routes cross up or down steep slopes, clay bunds or alternative impermeable barrier would be placed for every 0.5 m change in elevation along the length of the trench to minimise in-trench groundwater flow. • 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 during decommissioning and restoration works. Where possible this would be achieved using excavated peat acrotelm. Additional measures including hydroseeding and/or use of a biodegradable geotextile would be considered if insufficient peat turf is available and for areas of particular sensitivity that require immediate protection. • Rock testing would be undertaken 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 	Construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>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> <ul style="list-style-type: none"> Any unused or remaining unsuitable aggregate material, plus any spare rock material arising from hardstanding or track reinstatement, may be used to reinstate the borrow pits to a suitable profile, and capped with soil or turf to promote re-establishment of natural vegetation cover. Only tracked or low ground pressure vehicles would be permitted access to unstripped ground. <p>(See section 10.8.35 onwards of Chapter 10)</p>		
10.5	Development Traffic	<ul style="list-style-type: none"> Tracks and hardstanding areas would be monitored on a regular basis, 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 the borrow pits or external sources. The bridge structures 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 to ensure they remain effective and have not become damaged in any way. 	Pre-construction, construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • Routine monitoring checks of project infrastructure, including track and hardstanding surfaces and all drainage infrastructure, would be undertaken on a quarterly basis throughout operation of the Proposed Development. Monitoring would involve visiting all aspects of the infrastructure and undertaking a visual inspection to identify the following: <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; ○ any areas where drainage infrastructure was damaged, blocked or inadequate. • 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. • Site-specific mitigation, including track drainage segregation to avoid ‘flushing’ from excavation works, and micro-siting to avoid specific higher sensitivity areas, would be identified and established where appropriate. • All traffic routes would be clearly demarcated and vehicles would not be permitted access outwith these areas. <p>(See section 10.8.41 onwards of Chapter 10)</p>		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
10.6	Pollution Prevention	<ul style="list-style-type: none"> • Oil and fuel storage and handling on site would be undertaken in compliance with SEPA's <i>Guidance on Pollution Prevention 2 – Above ground oil storage tanks</i> and with the <i>Water Environment (Oil Storage) (Scotland) Regulations 2006</i>. • Risk assessments would be undertaken and all Hazardous Substances and Non-Hazardous Pollutants that would be used and/or stored within the site would be identified. Hazardous substances likely to be within the site include oils, fuels, hydraulic fluids and anti-freeze. No non-hazardous pollutants have been identified as likely to be used within the site. Herbicides would not be used. • All deliveries of oils and fuels would be supervised • 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 • Any valve, filter, sight gauge, vent pipe or other ancillary equipment would be located within the containment area. • Waste oil would not be stored within the site but would be removed to dedicated storage or disposal facilities • Management procedures and physical measures would be put in place to deal with spillages, such as spill kits and booms. 	Pre-construction, construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • Maintenance procedures and checks would ensure the minimisation of leakage of fuels or oils from plant • Refuelling and servicing would be undertaken in a designated area or location with adequate precautions in place, such as a dedicated impermeable surface with lipped edges to contain any contaminants • 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. • 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. • If required, concrete batching for construction would take place in one designated location within one of the proposed construction compounds. This location would be at least 250 m from the nearest watercourse. Protective bunding would be installed around the batching area to ensure that contaminated runoff is contained. Dedicated drainage would be installed to ensure that water from the batching area can be suitably treated to reduce alkalinity and suspended sediment load prior to discharge or removed from the site by tanker for treatment and disposal at a licensed offsite facility. • Washing-out of concrete mixers and tankers would take place at a designated location within the construction 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>compound with an impermeable surface and dedicated drainage, to ensure that the water is captured for treatment or offsite disposal at a licensed facility.</p> <ul style="list-style-type: none"> • It is anticipated that construction-phase welfare facilities would use a suitably sized holding tank with waste water removed from the site 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. • 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. • 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: <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 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>form of oil booms and pads and, for smaller spillages, quantities of proprietary absorbent materials.</p> <ul style="list-style-type: none"> ○ 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 ○ Sub-contractors would be made aware of the guidelines for handling of oils and fuels and of the spillage procedures at the site. <ul style="list-style-type: none"> ● 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. ● All works through and adjacent to wetland areas will be supervised by the Environmental Clerk of Works. <p>(See section 10.8.47 onwards of Chapter 10)</p>		
10.7	Peat Management Plan	<ul style="list-style-type: none"> ● A Peat Management Plan (PMP) has been produced to address the requirement for excavation of peat and peaty soils during the construction process (see Technical Appendix 10.2 in Volume 3). 	Pre-construction, construction	Developer, contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> The Outline Peat Management Plan in TA10.2 will be updated and refined as necessary with further site-specific detail once ground investigation results become available. Location-specific reinstatement and restoration would be directed by the ECoW, taking account of specific local variation in topography and natural ground conditions. The Construction Peat Management Plan, to be prepared post-consent, would be a live document, with revisions added as necessary during the construction process. 		
11 Noise and Vibration				
11.1	Construction Noise	<ul style="list-style-type: none"> Activities that may give rise to audible noise at the surrounding properties and heavy goods vehicle deliveries to the site would be limited to the hours 07:00 to 19:00 Monday to Friday and 08:00 to 13:00 on Saturdays unless otherwise approved in advance by The Highland Council (THC) (except in case of an emergency). Those activities that are unlikely to give rise to noise audible at the project area boundary, or light vehicle traffic accessing the site such as that involved with staff mobilisation, may continue outside of the stated hours. All construction activities shall adhere to good practice as set out in BS 5228. All equipment would be maintained in good working order and any associated noise attenuation such as engine casing and exhaust silencers shall remain fitted at all times. 	Construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • Where flexibility exists, activities would be undertaken away from residential properties, set back by the maximum possible distances. • A Construction Traffic Management Plan (CTMP) will be developed and secured through planning condition to control the movement of vehicles to and from the Proposed Development site. • Construction plant capable of generating high noise and vibration levels would be operated in a manner to restrict the duration of the higher magnitude levels. <p>(See section 11.7.3 of Chapter 11)</p>		
11.2	Blasting operations at borrow pit 1 (BP1)	<ul style="list-style-type: none"> • Blasting should take place under strictly controlled conditions with the agreement of the THC, at regular times within the working week, that is, Mondays to Fridays, between the hours of 10.00am and 16.00pm. Blasting on Saturday mornings should be a matter for negotiation between the contractor and the local authorities. • Vibration levels at the nearest sensitive properties are best controlled through on-site testing processes carried out in consultation with THC. This site testing based process would include the use of progressively increased minor charges to gauge ground conditions both in terms of propagation characteristics and the level of charge needed to release the requisite material. The use of onsite monitoring at neighbouring sensitive locations during the course of this preliminary testing 	Construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>can then be used to define upper final charge values. Measured levels should not exceed 6 mm/s for 95% of all blasts measured over any 6-month period, and no individual blast should exceed a PPV of 12 mm/s.</p> <ul style="list-style-type: none"> • Blasting operations shall adhere to good practice as set out in BS 5228-2, and in PAN50, Annex D, Paragraph 95 in order to control air overpressure. • A scheme would be submitted to THC, for approval of blasting details, which would outline the mitigation measures to be adopted. <p>(See section 11.7.4 of Chapter 11)</p>		
12 Traffic and Transportation				
12.1	Construction Phase Mitigation	<ul style="list-style-type: none"> • 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 Planning Application to outline the mitigation measures recommended during the construction stage. The following measures would be included in the CTMP: <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); 	Pre-construction, construction	Contractor, developer

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> ○ A Traffic Management Plan to control the operation of the access junctions; ○ 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; ○ Wheel cleaning facilities will be provided at access junction(s); ○ Normal site working hours would be limited to between 07:00 and 19:00 (Monday to Friday and 08:00 and 13:00 on Saturday 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. ○ All drivers would be required to attend a detailed induction prior to undertaking any works on the Proposed Development site. <ul style="list-style-type: none"> ● Advance warning signs will 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). 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<ul style="list-style-type: none"> • The location and numbers of signs will be agreed post consent and would form part of the wider traffic management proposals for the Proposed Development. • The applicant will also ensure information would be distributed through its communication team via the project website, local newsletters and social media. • Post-consent, the applicant will establish a Community Liaison Forum, in collaboration with THC and local Community Councils. The community liaison forum would be set up in advance of construction to work with the community and to keep them informed of planned traffic. The forum will 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 will be maintained until construction is complete and the Proposed Development is operational. <p>(See section 12.9.1 onwards of Chapter 12, and Technical Appendix 12.2: Outline Construction Traffic Management Plan)</p>		
12.2	Abnormal Loads	<ul style="list-style-type: none"> • An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Proposed Development site. This would include: <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 	Construction	Developer, contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking.</p> <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. ○ Proposals to establish a construction liaison committee 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. ● A police escort will be required to facilitate the delivery of the predicted loads. The police escort would be further supplemented by a civilian pilot car 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. The escorts and convoy would remain in radio contact at all times where possible. ● The abnormal loads convoys will be no more than three abnormal indivisible loads (AILs) long, or as advised by the police, to permit safe transit along the delivery route 		

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>and to allow limited overtaking opportunities for following traffic where it is safe to do so.</p> <ul style="list-style-type: none"> The times in which the convoys would travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved. <p>(See section 12.9.7 onwards of Chapter 12)</p>		
12.3	Operational Phase	<ul style="list-style-type: none"> The site entrance will be well maintained and monitored during the operational life of the proposed development. Regular maintenance will be undertaken to keep the site access track drainage systems fully operational and the road surface in good condition and to ensure there are no adverse issues affecting the public road network. <p>(See section 12.9.11 of Chapter 12)</p>	Post-construction	Developer
13 Aviation and Radar				
13.1	Cardinal or Peripheral Lighting	<ul style="list-style-type: none"> Through consultation with the CAA, a reduced lighting scheme has been secured for the Proposed Development. A cardinal lighting scheme was proposed for consultation. Stakeholder feedback has confirmed that this is acceptable, with the final approval of the Civil Aviation Authority (CAA) having been received on 22/12/2021. The cardinal lighting scheme Comprises: <ul style="list-style-type: none"> Cardinal turbines to be fitted with combi-lighting comprising both visible spectrum lighting and IR (infra-red) lighting. All peripheral turbines to be fitted with IR lighting. 	Construction	Contractor

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		(See section 13.7.1 onwards of Chapter 13)		
13.2	Lighting Design	<ul style="list-style-type: none"> • Medium intensity steady red (2000 candela) lights on the nacelles of turbines T1, T6, T11, T14 and T16 (five in total); • A second 2000 candela light on the nacelles of the above turbines to act as alternates in the event of a failure of the main light; • The lights on these turbines to be capable of being dimmed to 10% of peak intensity when the visibility as measured at the wind farm exceeds 5 km; • Infra-red lights to MoD specification installed on the nacelles of all perimeter turbines, that is T01 to T06 (inclusive), T10, T11, T12, T14, T15 and T16. • The intensity of the light emitted from an aviation obstruction light is designed to vary with the observed angle. It aims to be at its brightest when observed from a similar level or just above, but less bright as the observer falls significantly below or above the light. • Additional information on turbine lighting is provided under Sections 2.8.14 and 2.8.15 of Chapter 2 and in Section 2.4 “Potential Mitigation” of Technical Appendix 6.2: Aviation Lighting Assessment. <p>(See section 13.7.4 onwards of Chapter 13)</p>	Construction	Contractor
13.3	Aircraft Detection Lighting Systems (ADLS)	<ul style="list-style-type: none"> • The CAA, together with the UK Wind Sector, is exploring the future use of Aircraft Detection Lighting Systems (ADLS). Such systems are unable to be used within the current regulatory environment, with anticipated changes offering the potential alongside UK airspace modernisation. The Developer will review whether the 	Operation	Developer

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		Proposed Development can be fitted with ADLS at the time of implementation. (See section 13.7.9 of Chapter 13)		
14 Socio Economics, Land use and Tourism				
14.1	Access Management Plan	<ul style="list-style-type: none"> An Access Management Plan (AMP) will be submitted with the application. This will assess any routes that have the potential to be affected by the Proposed Development, and will include improvements to public access to or near the site. Any existing routes should be accommodated before, during and after construction without diversions. (See table 14.4 of Chapter 14)	Pre-construction, construction, post-construction	Developer
15 Other issues				
15.1	Shadow Flicker	<ul style="list-style-type: none"> Based on the worst-case scenario under section 15.6.6 and table 15.2 of Volume 1, the following mitigation applies: <ul style="list-style-type: none"> Where existing screening is not present, the applicant will seek agreement with the landowner (Dalnessie Estate) to provide additional screening to reduce or eliminate significant impacts. These could take the form of either vegetation screening (such as planting and maintaining woodland shelterbelts) or blinds located at relevant windows within Receptors 1 and/or 2. In the event that after these measures have been explored, significant shadow flicker impacts are still experienced at Receptor 1 and/or 2, a turbine shut down protocol for 	N/A	N/A

Ref	Issue	Description of mitigation measure (reference within text)	Timing	Responsible Party
		<p>Turbines T1 and T2 will be put in place, and the blades remain stationary until the conditions causing those shadow flicker effects have passed.</p> <p>(See section 15.6.6 onwards of Chapter 15)</p>		
16 Climate Change Mitigation				
16.1	N/A	N/A	N/A	N/A

2 REFERENCES

Ecology:

Dean, M., Strachan, R., Gow, D. & Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds. Fiona Matthews and Paul Chanin. The Mammal Society, London.

NatureScot (2020a). <https://www.nature.scot/doc/general-pre-application-and-scoping-advice-onshore-wind-farms> (Accessed 18th November 2021).

Noise:

British Standard BS 5228-2:2009-A:2014 (2009). 'Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration'.