

Breackerie Wind Farm

Environmental Impact Assessment Report Volume 1

Chapter 16: Schedule of Mitigation

October 2023 (updated December 2024)

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16 SCHEDULE OF MITIGATION

Introduction

- 16.1 This chapter sets out a Schedule of Mitigation relevant to the proposed development, including all embedded and additional mitigation set out within Chapter 6: Landscape and Visual to Chapter 15: Other Issues.
- 16.2 This chapter therefore acts as a succinct guide as to the mitigation which would be required in order to avoid or reduce likely significant environmental effects so that they would be acceptable. It may act as a basis upon which detailed post-consent mitigation is based upon and would be a founding basis upon which to produce a detailed and comprehensive Construction Environmental Management Plan (CEMP) to be produced and agreed prior to construction.
- 16.3 It also includes monitoring measures to understand future baseline and effects of the proposed development, where relevant and applicable.
- 16.4 Mitigation from each chapter is summarised in the tables overleaf. These tables set out the nature of the mitigation measure, and whether it is required pre-construction, during construction, or relates to post-construction monitoring. Justification for each of the mitigation measures is contained within the relevant section of the EIA Report.

Table 16.1: Schedule of Mitigation

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
<i>Chapter 6: Landscape and Visual</i>		
Landscape-specific mitigation during construction	A future outline Construction Environmental Management Plan (CEMP) would include measures to mitigate adverse landscape and visual effects during construction such as the restriction of construction traffic to designated routes, to avoid damage to the road corridor such as the creation of wheel ruts and ensure these are cleared-up and reinstated. Peat and topsoil will be handled in accordance with a Peat Management Plan (PMP).	Construction
	There would be regular environmental monitoring and reporting to ensure the removal, reinstatement, and clear up of the temporary construction compound / laydown areas and any related construction arisings / redundant material.	
	A Site Restoration Plan will be submitted for approval by ABC before construction begins. The key elements will include the reinstatement of the borrow pit working areas, construction compound, laydown areas and cable trenches. Site tracks would be 'softened' with shoulders graded with excavated subsoil or peat and completed with the original topsoil or turfs where available.	
	The area of temporary construction compound (that is not being used for battery storage) and laydown areas will be fully re-instated with stored turfs or excavated soil and / or re-planted to accord with the Site Restoration Plan and Integrated Wind Farm and Forestry Design Plan.	
Landscape mitigation post-construction	On completion of Site construction, the Site entrance and access tracks would be cleared of any construction signage and left in a tidy and co-ordinated condition with verges restored and field boundary fencing neatly tied into new gates / access details.	Post-construction
	Upon completion of construction, the borrow pits would be restored and a detailed reinstatement programme developed, drawing upon the advice of a landscape architect and implemented in agreement with ABC, SEPA and NatureScot. This will ensure that proposed reinstatement materials and techniques are suitable and may identify appropriate environmental enhancement opportunities. It is anticipated that steep faces would be backfilled and/ or re-profiled to match the surrounding topography, and disturbed surfaces would be covered with soil and re-seeded / re-turfed or left as exposed rock outcrops.	Post-construction
<i>Chapter 7: Socio-economics and Tourism</i>		
No specific mitigation measures are identified – see Chapter 7 for further details.		
<i>Chapter 8: Ecology</i>		
Bats	Embedded mitigation requires that a buffer of at least 82m is maintained between blade and forestry edge.	During construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	Feathering should be applied to pitch the blades out of the wind to below 2 rotations per minute while idling.	During operation
Ecological Clerk of Works	A Clerk of Works with ecological training would be required to oversee general construction works in line with the CEMP and HMP. Responsibilities would include pre-construction surveys, supervision of cutting and felling for species, and advice on mitigation should it require to change.	During construction
Protected Species	It is considered that the proposed development will not impact reptiles and amphibians, and as such, it is considered that amphibian fencing, or translocations will not be required. However, vegetation will be checked prior to clearance to remove any potential refugia which would encourage species to the area. Additionally, areas of ground can be pre-cut (under ECoW supervision) to encourage the dispersal of reptile and amphibian species from an area.	During construction
	There will be a time lapse between the last baseline surveys and the commencement of construction. As such, there is the potential that the ecological conditions on-site could change. Pre-construction checks for fish, otter, badger, red squirrel, pine marten and bat roosts should therefore be undertaken before construction begins. Additionally, if the pre-construction surveys identify a change in the baseline condition, or if previously unrecorded protected species are identified then relevant species licences should be obtained and mitigation drawn up and agreed with Regulators.	Pre-construction/during construction
	Species Protection Plans would be prepared as part of the CEMP.	Pre-construction
	Night-time working near watercourses (i.e. defined here as between one before sunset to one hour after sunrise) should be avoided. As such, construction activities should be undertaken during daylight hours in order to avoid the crepuscular (twilight) activity periods of otters and bats, and the nocturnal activity periods of badgers. However, if this is not possible and twilight works are necessary then any artificial lighting must be directed specifically onto the works area for the duration of the active works only.	During construction
	A 20mph speed restriction will be imposed throughout the Site to reduce the likelihood of death of mobile species such as reptiles, otter and badger due to increased Site traffic during the construction phase.	During construction
HMP	A full Habitat Management Plan requires to be prepared drawing upon further survey, detailed construction information from the appointed contractor, and the outline provisions contained within the updated Technical Appendix 8.5 dated 13th November 2024 . Outline provisions include: • Reduce suitability of permanently open areas for hen harrier • Restoration of degraded peatland, including forest to bog restoration • Reduce attractiveness of open areas and boundary features for use by bats	Pre-construction, during construction and post-construction.

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
Blanket bog restoration	To account for the loss of modified bog habitats, the draft HMP outlines an area of 7ha on The Slate where degraded bog could have peat drains blocked in order to raise the water table and restore the bog back to blanket bog condition. It also sets out provision for the restoration of a 30.96ha forest to bog restoration scheme to the south of turbine 2.	During construction
Fish	Sediment management and best practice measures detailed under Chapter 10 would prevent impacts to fish habitat. Water quality monitoring should be undertaken prior to and following construction. A Fish Monitoring Plan would be established pre-construction in consultation with the Argyll District Salmon Fisheries Board to guide this.	Pre-construction and post-construction
<i>Chapter 9: Ornithology</i>		
Construction timing	General construction and forestry felling should be undertaken outside the breeding season from March to August. If felling is required within this time period, vegetation should be checked by an experienced ornithologist/ECoW prior to works.	Pre-construction
ECoW	To ensure that mitigation measures are reactive to changing conditions on the Site and compliance with legislation protecting breeding birds, the BPP would be overseen by a suitably experienced and licensed Ecological Clerk of Works (ECoW), who would attend the Site regularly to make or oversee observations of birds present in and around areas where works are planned, and identify any potential constraints to works and/or reactive mitigation needs.	During construction
Breeding birds Protection Plan	A Breeding Bird Protection Plan should be produced to ensure that nests, eggs and chicks are protected. This should be agreed with NatureScot and other relevant stakeholders. Measures to include • Timing of works • Pre-construction surveys for breeding crossbill • Pre-construction surveys for lekking black grouse • Pre-construction surveys for other breeding birds • Toolbox talks • Protection of nesting birds • Black grouse disturbance minimisation	Pre-construction
<i>Chapter 10: Geology, Hydrology and Hydrogeology</i>		
Embedded Mitigation	Existing tracks have been incorporated into the site design as far as possible and where slope gradients will allow, minimising the requirement for new road construction. It has resulted in nine new water crossings and one upgraded water crossing being required, with the other water crossings being existing, with no substantial upgrading works considered to be required.	Pre/during construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	Rigorous construction environmental management procedures will be implemented in line with a Construction Environmental Management Plan (CEMP) (see below) to ensure appropriate protection of the above-noted watercourses, and all other surface water receptors. No infrastructure is proposed to be constructed in or near areas of medium or high peat landslide risk. Further detailed investigation will be undertaken pre-construction (see below), to clarify the risks and confirm mitigation or micro-siting to address any risks higher than negligible, as appropriate.	
Pre-Construction Site Investigation	To determine ground and groundwater conditions across the site, pre-construction site investigations will be conducted. These investigations will focus on areas where construction is proposed to be undertaken and will allow the turbines and the associated infrastructure to be micro-sited away from any areas considered to be unsuitable, such as areas of contamination (unlikely), areas of deeper peat wherever possible, or where there are significant groundwater flows. The investigations will also include targeted monitoring and assessment of the groundwater levels and flows beneath the site. This will allow for micro-siting and to assist in the detailed design of infrastructure and selection of appropriate materials for use during the construction process. Investigations within the borrow pit search areas will allow appropriate selection of specific extraction areas, to avoid or minimise any adverse effects associated with quarrying activities	Pre-construction
Construction works	The borrow pit search areas represent relatively broad zones, within which only a proportion will actually be excavated to win stone for the site's construction. No excavation will occur until further site investigations have been undertaken to assess the suitability of the areas and refine the assessment of peat slide risk. For example, areas of deeper peat, if found to be present within the search areas would be avoided, thereby reducing the peat slide risk. If it is determined that no suitable excavation site within any given search area can be identified, then no excavation will occur at that search area. Any peat excavated will be re-used on site as set out in the Outline Peat Management Plan (Technical Appendix 10.2). All watercourse crossings and site discharges will be regulated under the CAR licensing regime and all necessary licences will be sought from SEPA prior to the commencement of any operations on site. While it is acknowledged that best practice to minimise run-off would be to undertake construction and dismantling during the driest period of the year, given the location of the proposed development site, there are likely to be significant periods of rainfall throughout the year. Therefore, site management will check the local weather forecast daily and prime all site	During construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	staff to ensure that everyone is aware of their responsibilities to maintain the pollution control system during wet weather or suspend sensitive operations during adverse weather conditions.	
	All fuel and other chemicals will be stored in accordance with best practice procedures, including being kept within a designated fuelling site located at a safe distance from existing watercourses and in appropriate impermeable bunded containers/areas, which will be defined within the outline CEMP. These will be designed to capture any leakage, whether from a tank or from associated equipment such as filling and off-take points, sighting gauges etc., all of which will be located within the bunded area.	
	Construction vehicles and plant will be regularly maintained and all maintenance, fuelling and vehicle washing will be undertaken on appropriate impermeable surfaces away from watercourses to minimise risks of leaks to soil and surface waters.	
	Concrete batching will be undertaken in a designated area within a temporary construction compound. The Contractor will develop a method statement to address the on-site batching of concrete and the transport, transfer, handling and pouring of liquid concrete at foundations. It is likely that water will require to be abstracted to facilitate any on-site batching processes. A separate CAR licence application for any water abstractions required will be made to SEPA at the appropriate point prior to the commencement of construction.	
	Oil booms and soakage pads will be maintained in all work areas and spill kits kept in all vehicles to enable a rapid and effective response to any accidental spillage or discharge. All construction staff will be trained in the effective use of this equipment.	
	Any vehicles used for delivery of concrete will only be washed out at locations to be agreed with SEPA. Excess concrete or wash-out liquid will not be discharged to drains or watercourses on site or at compounds. Drainage from washout facilities will be collected and treated or removed to an appropriate treatment point / licensed disposal site.	
	Cement, grout and unset concrete will not be allowed to enter the water environment. No operations involving concrete transfer between vehicles or into vehicles will take place within 30 m of watercourses and water bodies.	
	Where topography dictates that working platforms are needed, these will be formed to ensure that surface water drains away from watercourses.	
	The requirement for dewatering will be minimised in all locations by timely and efficient excavation of the foundation void and subsequent concrete pouring and backfilling.	
Improve blanket bog	Peatland restoration is proposed to be undertaken within an area comprising actively eroding peat hags, which is located at the top of 'The Slate' in the north-western corner of the developable area. Habitat management measures including removal of self-seeded Sitka spruce,	During construction and operation

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	the blocking of gullies / drains using residual forestry materials and/or excavated peat from elsewhere on the site to raise the water table and promote restoration of bog habitats and reprofiling / revegetation of the peat hagsgs are proposed to be undertaken.	
Hydrology	The appointed Contractor will undertake pre-construction baseline water quality sampling and analysis of the principal surface water receptors Lecknacreive Burn, Breackerie Water and Homeston Burn and their key tributaries. The Contractor will implement a programme of monthly monitoring and analysis of the water quality of these watercourses during the construction period to ensure that they are not being impacted by the construction works. The full scope of monitoring will be detailed within the CEMP.	Pre-construction and during construction
	With specific reference to the SEPA 'Guidelines for Water Pollution Prevention from Civil Engineering Contracts' and 'Special Requirements', the Contractor will produce a CEMP prior to the commencement of construction activities which contains a construction method statement that includes: • A detailed breakdown of the phasing of construction activities; • A pollution risk assessment of the site and the proposed activities; • Identification of all water environment receptors that may be affected by the works and temporary discharge points to these watercourses; • Planning and design of appropriate pollution control measures during felling, earthworks and construction; • Management of the pollution control system, including dewatering of excavations (if required) away from watercourses; • Contingency planning and emergency procedures; and • On-going monitoring of construction procedures to ensure management of risk is maintained.	Pre-construction
Earth Movement	All earthmoving works or similar operations will be carried out in accordance with BSI Code of Practice for Earth Works BS6031:1981.	During construction
Forestry and Hydrology	Felling works will be undertaken in accordance with standard forestry best practices. This includes appropriate buffering of watercourses and management of riparian zone vegetation, implementation of a suitable drainage plan, keeping watercourses and buffer areas clear of brash as far as practicable, removing any accidental blockages, and employing methods to minimise soil damage and subsequent erosion.	During construction
Integrity of Banking and Watercourse Crossings	Where the proposed bottomless arch culvert crossings are proposed to be constructed (NWC1 and NWC5), the design will follow best practice to prevent impact on the integrity of the banking of watercourses. Detailed design will be included within a Construction Method Statement to be	Pre-construction / During construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	agreed with Argyll and Bute Council and SEPA and detailed watercourse crossing designs will be regulated under the CAR licensing regime. The detailed design for the watercourse crossings, and the requirements for CAR authorisations or licences, will be agreed with SEPA prior to construction in order to ensure that any potential impacts are minimised.	
Untreated foul drainage	Welfare facilities will either connect directly to self-contained storage tanks or to a septic tank, subject to approval from SEPA. If self-contained or septic tanks are to be used, these will be maintained and emptied on a regular basis by a suitably licensed contractor.	During construction
Drainage Strategy	Prior to construction, a detailed Drainage Strategy (DS) will be developed and agreed with SEPA and Argyll and Bute Council. The DS will detail the site drainage design, including the type of surface to be used for new access tracks, the soft engineering and habitat enhancement measures proposed to slow surface water flows and any necessary ponds, swales, cross drains and bunds, to ensure that run-off from hard surfaces will be controlled. The DS will also detail the dimensions and final design of proposed watercourse crossings which will be designed to maintain continuous flows.	Pre-construction
Chapter 11: Cultural Heritage		
Lochorodale Long Cairn	Potential effects on surviving archaeology within the Site would be mitigated in the first instance by avoidance of the scheduled area around the Lochorodale Long Cairn by ensuring no upgrades to the road are made for construction traffic. As the design freeze includes the use of an access approach that avoids this area with abnormal loads, this is considered adequate mitigation.	Pre-construction / during construction
Direct effects (within the site)	Mitigation of adverse direct effects would be provided by the agreement of a Written Scheme of Investigation (WSI) with the West of Scotland Archaeology Service (WoSAS) Archaeologist. This scheme would allow for the identification and recording of archaeological features within the site boundary which would otherwise be affected by the proposed scheme	Pre-construction
Chapter 12: Noise		
Construction times	Construction activities will be scheduled, unless otherwise agreed, from Monday to Friday 07:00 to 19:00 and Saturday 07:00 to 13:00. Unattended plant equipment should be kept to a minimum. Construction activities outside of these times, short term high transient noise events, or activities relatively close to noise sensitive receptors (NSRs) should be scheduled in consultation with the residents to minimise their inconvenience	During construction
Noise and CEMP	As part of a Construction Environmental Management Plan (CEMP) a Construction Noise Management Plan (CEMP) would be produced. The plan would be taken forward for all	Pre-construction / during construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	construction works and any post-construction works of a similar nature that are associated with the proposed development (e.g. maintenance). The plan would include a clear construction schedule detailing the equipment to be used and the following information: • Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern; • Ensure that any extraordinary site work continuing throughout 24 hours of a day (for example, crane operations lifting components onto the tower) would be programmed, when appropriate, so that haulage vehicles would not arrive at or leave the site between 19:00 and 07:00, with the exception of abnormal loads that would be scheduled to avoid significant traffic flows; • Ensure all vehicles and mechanical plant would be fitted with effective exhaust silencers and be subject to programmed maintenance; • Select inherently quiet plant where appropriate - all major compressors would be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which would be kept closed whenever the machines are in use; • Ensure all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers; • Instruct that machines would be shut down between work periods or throttled down to a minimum; • Regularly maintain all equipment used on site, including maintenance related to noise emissions; • Vehicles would be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and • Ensure all ancillary plant such as generators and pumps would be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures should be provided.	
Operation	The exact make and model of wind turbine to be used at the proposed development would be the result of a future tendering process. Achievement of the noise limits determined by this assessment would be a key determining factor in the final choice of wind turbines for the Site. In order to present a conservative assessment of noise immissions, predictions of wind turbine noise have been based upon sound power level data for the loudest wind turbine (the Siemens Gamesa SG-155 6.6 MW with standard blades) currently being considered for the Site, and a noise prediction model procedure that can be considered to provide a realistic impact assessment. The assessment shows a marginal exceedance of the derived noise limits for a limited range of wind speeds and wind directions at NALs 1 and 8 to 10 during the daytime period and as	Pre-construction (tendering) and Operation

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	a result, the assessment presented here assumes a targeted use of mode management for a limited range of wind speeds and directions for daytime periods to demonstrate that the noise limits can be adhered to. Depending on the final turbine selected for the Site, blade type and confirmation of final warranted levels from the chosen manufacturer, mode management may or may not be required. It is anticipated that noise limits would be secured by an appropriately worded planning condition.	
<i>Chapter 13: Transport and Access</i>		
Construction Traffic Management Plan (CTMP)	The CTMP will identify measures to reduce the number of construction vehicles as well as identifying measures to mitigate the impact of vehicles. The CTMP will identify the programme of works, the agreed routes to Site and details of a Site Liaison who would have responsibilities for managing traffic and transport impacts and effects. A community liaison officer will be appointed to facilitate the communication of information with local residents and members of the public. The CTMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. The CTMP would include the following measures as a minimum: • Immediately upon commencement, all deliveries, operatives and visitors to the Site will report to the security gate. This will be communicated to all early works contractors at their pre-start meeting. • The main contractor will develop a logistics plan highlighting the access point for the project, loading bay, pedestrian / vehicular segregation, welfare, storage, security and material handling that would be enforced following full Site establishment. • Approved haul routes will be identified to the Site and protocols put in place to ensure that HGVs adhere to these routes and do not pass through areas to be avoided. • Specific measures as appropriate on the unclassified road to Site such as speed restrictions for all construction traffic with clear signage. • All contractors will be provided with a Site induction pack containing information on delivery routes and any restrictions on routes. • Construction HGV traffic will be restricted between the network peak hours and school run hours which are generally 08:00 – 09:00, 15:00 – 16:00 and 17:00 – 18:00 Monday to Friday, if necessary. • Temporary construction Site signage would be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles.	Pre-construction / During construction

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
	• A construction traffic speed limit (for example, 20mph) could be imposed along any route or section of route deemed necessary such as within Campbeltown and along the unclassified road to the Site access. • The construction material 'lay down' areas will allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 06:00 and after 22:00). • Forestry felling will be undertaken as localised 'keyhole' felling. Timber will be stockpiled on-site and transported off-site during quieter months of the construction programme in relation to vehicle movements. • An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors will be required to give details of proposed timing of material deliveries to the Site. At this stage they would be given a specific area for delivery. • The CTMP and compliance monitoring therein will be included within all trade contractor tender enquiries to ensure early understanding and acceptance/compliance with the rules that would be enforced on this project. • Under no circumstances will HGVs be allowed to lay-up in surrounding roads. All personnel in the team will be in contact with each other and with Site management, who in turn will have mobile and telephone contact with the subcontractors. • Roads will be maintained in a clean and safe condition. • A wheel washing facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.	
Street Furniture	Technical Appendix 13.1 identifies key points and issues associated with the route that require street furniture removal and temporary paving to accommodate the predicted loads. All mitigation works can be designed to be temporary in nature to enable restoration to their original condition (if required by Argyll and Bute Council).	Pre-construction
<i>Chapter 14: Forestry</i>		
Compensatory Planting off-site	Compensatory planting is calculated in accordance with Annex 5 of the Scottish Government's policy on control of woodland removal: implementation guidance February 2019. Accordingly, compensatory planting arrangements shall be provided for up to 52.93 ha.	Pre-Construction
<i>Chapter 15: Other Issues</i>		
Radar mitigation	The required mitigation involves a 'blank' at Lowther Hill radar, which would maintain operational aviation safety for civilian aircraft.	Pre-Operation

Subject	Detail of mitigation or monitoring commitment	Stage of Mitigation
Shadow Flicker	There is no anticipated significant shadow flicker that would arise from the proposed development. In the unlikely event of shadow flicker complaints, the Applicant would be willing to commit to a shadow flicker management plan to be agreed with Argyll and Bute Council post-consent. Mitigation measures could include provision of blinds, curtains or vegetation as deemed appropriate.	