

18. Schedule of Environmental Commitments

Contents

18.1 *Introduction*

18-1

This page is intentionally blank.

18. Schedule of Environmental Commitments

18.1 Introduction

- 18.1.1 Best practice in EIA recommends the use of a Schedule of Environmental Commitments, which can act as a quick reference for anyone interested in the mitigation measures to which the Applicant has committed to implementing and upon which the assessment of residual effects presented in this EIA Report has been based. It will be utilised by the Applicant's design team throughout development of the detailed design, and the appointed Contractors will be required to allow for, and ultimately implement, each of the measures in this schedule as a minimum at the construction stage.
- 18.1.2 Table 18.1 presents a Schedule of Environmental Commitments for the Proposed Development, listed according to the relevant environmental topic area.

Table 18.1 - Schedule of Environmental Commitments

Environmental Subject Area	Environmental Commitment	Timing
The Proposed Development		
Micrositing	<p>A micrositing allowance of 100 m in all direction is being sought in respect of each turbine in order to address any potential difficulties which may arise in the event that pre-construction surveys identify unsuitable ground conditions or unforeseen environmental constraints.</p> <p>It is proposed the final positioning will be addressed through an appropriately worded condition.</p>	Construction
Turbine, turbine foundations & crane hardstanding	Final turbine dimensions will be determined based upon turbine availability and procurement prior to construction.	Pre-construction
	A full ground investigation will be completed prior to construction. This will inform final foundation and crane hardstanding design.	Pre-construction
	The area above the foundations will be backfilled up to the turbine with topsoil and seeded with a native seed mix to encourage re-vegetation.	Post-construction
	Detailed construction drawings with final dimensions will be provided prior to commencement once the final turbine model has been selected.	Pre-construction
	Turbines will be painted an off-white or light grey colour with low reflectivity semi-matt finish, or similar, as agreed with the Local Planning Authority.	Operation
Access tracks	Existing onsite access/forestry tracks and wayleaves, where possible, will be retained, re-used and upgraded (where necessary).	Construction
	New access tracks will be made of locally sourced stone, from within South Lanarkshire, potentially from on site borrow pits (if suitable).	Construction

Environmental Subject Area	Environmental Commitment	Timing
	Prior to construction, any required improvements to public roads will be undertaken and appropriate highway safety measures will be agreed with South Lanarkshire Council (SLC) and Transport Scotland, with necessary signage or traffic control measures implemented throughout the construction phase on the agreed basis.	Pre-construction
Water crossings	The final solution and detailed design for all water crossings, including any potential upgrades or amendments required to existing crossings, will be addressed through an appropriately worded condition and in accordance with the requirements of the <i>Water Environment (Controlled Activities) (Scotland) Regulations 2011</i> .	Pre-construction
Drainage	A detailed drainage design will be undertaken and submitted to the Scottish Ministers, in consultation with the Scottish Environment Protection Agency (SEPA), for approval prior to construction.	Pre-construction
Grid connection & energy storage	The design of the components of the substation and energy storage compound is proposed to be secured by an appropriately worded condition.	Pre-construction
Construction compounds & temporary laydown area	Prior to commencement of construction, a detailed appraisal of the areas will be required, including an assessment by the project ecologist and also trial pits and /or boreholes to confirm the nature of the sub-strata.	Pre-construction
	The detailed location, size and engineering properties of the construction compounds and temporary turbine laydown area will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed.	Pre-construction
	On completion of construction works, it is proposed that all temporary structures be removed and the compound areas be restored for forestry purposes.	Post-construction
Borrow pits	Detailed site investigations prior to construction will be carried out to further confirm the rock type, rock characteristics and suitability, as well potential volumes to be extracted from the search area. The final borrow pit(s) identified during the geotechnical evaluation will be defined within the Construction Environmental Management Plan (CEMP).	Pre-construction
Construction hours	Normal construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on a Saturday. During the turbine erection phase, operations may proceed round the clock to ensure that lifting processes are completed safely. Delivery of abnormal loads may be made out with normal construction hours, as agreed with the relevant authorities.	Construction

Environmental Subject Area	Environmental Commitment	Timing
Construction traffic	The Applicant will ensure that the vehicles will be routed as agreed with SLC, Transport Scotland and Police Scotland.	Construction
Construction Environment Management Plan (CEMP)	The Contractor shall produce and adhere to a CEMP. This shall be developed in consultation with the Scottish Ministers, NatureScot, SEPA, Historic Environment Scotland (HES) and South Lanarkshire Council (SLC). The Contractor shall amend and improve the CEMP as required throughout the construction and decommissioning period.	Pre-construction
	<p>The CEMP shall describe how the Contractor will ensure suitable management of, but not limited to, the below environmental issues during construction of the Proposed Development. A draft CEMP is included in Appendix 3.1:</p> <ul style="list-style-type: none"> ▪ noise and vibration; ▪ dust and air pollution; ▪ surface and groundwater; ▪ ecology and ornithology (including protection of habitats and species); ▪ forestry management; ▪ agriculture (including protection of livestock and land); ▪ cultural heritage; ▪ waste (construction and domestic); ▪ details of the size, location and volumes to be extracted from borrow pits; ▪ pollution incidence response (for both land and water); and ▪ site operations (including maintenance of the construction compound, working hours and safety of the public). 	Pre-construction
	Prior to commencement of construction activities, a pollution prevention strategy, contained within a CEMP, will be agreed with SEPA.	Pre-construction
Construction Traffic Management Plan (CTMP)	The CTMP will detail the management of traffic to and from site, including abnormal loads and daily workers commute. It shall also include mitigation for impacts to public transport, local private access and public footpaths/rights of way, cycleways and bridleways. The Contractor and/or Applicant shall amend and improve the CTMP as required throughout the construction and decommissioning period.	Pre-construction

Environmental Subject Area	Environmental Commitment	Timing
Operation Environmental Management Plan (OEMP)	The Applicant will develop an OEMP in consultation with the Scottish Ministers, NatureScot, SEPA and SLC. The OEMP will set out how the Applicant will manage and monitor environmental effects throughout operation.	Pre-operation
Public Access	If required, a temporary diversion will be put in place for the construction period for affected core path sections, with suitable alternatives clearly signposted. It is proposed that details of temporary path diversions can be secured by an appropriately worded condition.	Construction
Landscape and Visual		
The primary mitigation adopted in relation to the Proposed Development is embedded within the design of the Proposed Development and relates to the consideration that was given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Development layout.		
Turbine Lighting	Reduced intensity: Visibility sensors will be installed on relevant turbines to measure the prevailing atmospheric conditions and visibility range. Should atmospheric conditions mean that visibility from the turbines within the site is greater than 5 km from the Proposed Development, Civil Aviation Authority (CAA) policy permits lights to operate in a lower intensity mode, being a minimum of 10% of their capable illumination. Therefore, the 2000 candela (cd) steady state lights would operate at 200 cd. However, if visibility is restricted to 5 km or less, the lights would operate at 2,000 cd.	Operation
	Directional intensity: The inherent directional intensity of 2,000 cd lights can be used to reduce vertical downwards lighting impacts at elevations less than -1° degree vertical angle from the horizontal plane from the aviation light. By ensuring the lights installed comply with the International Civil Aviation Organisation (ICAO) recommendations, it is possible to attenuate the vertical downwards light to a level that reduces the visual impact from receptors at ground levels below the lights. Implementing the ICAO recommendations, at -1 degrees the aviation lights should only be 1,125 cd and at -10 degrees should only be 75cd, when visibility is greater 5 km.	Operation
Ecology and Nature Conservation		
Bats	All turbines will be located at a minimum set back distance of 75 m from features used by bats (plantation edge).	Construction
Bat Mitigation & Monitoring Plan (BMMP)	A BMMP has been developed (refer to Appendix 7.4) and will be agreed with NatureScot and SLC prior to construction. This considers the following: <ul style="list-style-type: none"> ▪ reduced rotation speed whilst idling; 	Pre-construction

Environmental Subject Area	Environmental Commitment	Timing
	<ul style="list-style-type: none"> ▪ a post-construction monitoring programme; and ▪ a curtailment plan (if required). 	
Habitat Management Plan (HMP)	A HMP would be agreed with consultees and implemented during operation. This would restore and enhance bog conditions and increase native woodland coverage within the site.	Operation
Ornithology		
Breeding Bird Protection Plan (BBPP)	A BBPP will be produced in agreement with NatureScot, to comply with legislation and avoid the destruction or disturbance of any nest site. This will include pre-construction breeding bird surveys by a suitably qualified ornithologist to determine whether any breeding activity is taking place within potential species-specific disturbance zones of any proposed infrastructure. Should breeding (or black grouse lekking) occur within a potential disturbance zone, all construction works would be halted immediately and a disturbance risk assessment prepared.	Pre-construction
Habitat Management Plan (HMP)	A HMP would be agreed with consultees and implemented during operation. This would provide improved habitat quality for Muirkirk and North Lowther Uplands SPA qualifying features, either directly within the site.	Operation
Noise		
Noise compliance	The need for operational mitigation measures will be established as part of the post-construction commissioning process and if required, will involve noise limit compliance measurements.	Post-construction
Cultural Heritage		
Written Scheme(s) or Investigation (WSI)	One or more WSI would be developed prior to construction in consultation with WoSAS (acting on behalf of SLC) and would set out the scope of any required archaeological works. This could be secured by an appropriately worded condition. All required mitigation works would be conducted by a professional archaeological organisation.	Pre-construction
	Walkover field surveys would be undertaken of all construction locations following conditional planning approval. Potential impacts to archaeological remains which may be identified will be mitigated through a scheme of mitigation, or will be avoided by micrositing where conflicts are identified. Where micrositing is possible, identified remains will be marked out for the duration of construction at a minimum 5 m distance.	Pre-construction
	If significant discoveries are made during any watching briefs carried out, and it is not possible to preserve the discovered remains in situ, provision would be made for the excavation where necessary, of any archaeological deposits encountered.	Construction

Environmental Subject Area	Environmental Commitment	Timing
Hydrology, Hydrogeology and Geology		
Birkenhead Burn SSSI	The SSSI area will be demarcated during construction works to ensure no accidental access to the area by construction plant. Additionally, bedrock which is exposed by excavation works will be examined and recorded for the purposes of furthering geological interest and understanding.	Construction
	The Applicant proposes to install an information board or similar in the vicinity of the Birkenhead Burn SSSI, in consultation with NatureScot and SLC, to provide information about the geological/palaeontological interests that can be observed in the area.	Post-construction
Pre-construction site investigations	Pre-construction site investigations will be conducted to determine the ground and groundwater conditions across the site, focusing on areas where construction is proposed to inform micro-siting. The investigations will include targeted monitoring and assessment of the groundwater levels and flows beneath the site. The investigations within the borrow pit search areas will allow selection of specific extraction areas and avoidance of deep peat.	Pre-construction
Watercourses	A 50 m buffer will be maintained around all surface watercourses wherever possible, except where watercrossings are required. Three exceptions to this are: <ul style="list-style-type: none"> ▪ the corner of the southern borrow pit search area; ▪ the edge of the central borrow pit search area; and ▪ stretch of existing track to T19. 	Construction
Floated tracks	Where it is not possible to avoid routing tracks over localised areas of deep peat, those localised stretches of track over deep peat would be floated to avoid the requirement for excavation of peat. Floating roads would be designed to ensure suitability for site traffic during construction and operation.	Construction
Peat Management Plan (PMP)	A PMP will be produced in consultation with SEPA, SLC and NatureScot. This will set out details of how any peat excavated will be stored, re-used and managed.	Construction
Water Quality Monitoring	The Contractor will undertake pre-construction baseline water quality sampling and analysis at the River Nethan, Birkenhead Burn, Long Burn, and Eaglin Burn, and will implement a programme of regular monitoring and analysis of the water quality of the watercourses throughout the construction period.	Pre-construction
Construction Environment Management Plan (CEMP)	The CEMP will contain a construction method statement that includes: <ul style="list-style-type: none"> ▪ a detailed breakdown of the phasing of construction activities; ▪ a pollution risk assessment of the site and the proposed activities; 	Pre-construction

Environmental Subject Area	Environmental Commitment	Timing
	<ul style="list-style-type: none"> ▪ identification of all Controlled Waters 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. 	
Pollution prevention	The CEMP will include reference to pollution prevention measures, including the below.	Pre-construction
	All earthmoving works or similar operations will be carried out in accordance with BSI Code of Practice for Earth Works BS6031:1981.	Construction
	Site management will check the local weather forecast daily and prime all site 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.	Construction
	All fuel and other chemicals will be stored in accordance with best practice procedures.	Construction
	Oil booms and soakage pads will be maintained in all work areas and spill kits kept in all vehicles. Construction staff will be trained in the effective use of this equipment.	Construction
	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.	Construction
	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.	Construction
	No operations involving concrete transfer between vehicles or into vehicles will take place within 30 m of watercourses and water bodies.	Construction
	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.	Construction

Environmental Subject Area	Environmental Commitment	Timing
	Felling works will be undertaken in accordance with good practice set out in the Forestry Commission's UK Forestry Standard (Forestry Commission, 2017).	Construction
	Welfare facilities will either connect directly to self-contained storage tanks or to a septic tank, subject to approval from SEPA.	Construction
Watercourse crossings	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.	Pre-construction
	Detailed design will be included within a Construction Method Statement to be agreed with SLC and SEPA.	Pre-construction
Drainage Strategy	Prior to construction, a detailed Drainage Strategy (DS) will be developed and agreed with SEPA and SLC.	Pre-construction
Traffic and Transport		
Construction Traffic Management Plan (CTMP)	The CTMP will detail the management of traffic to and from site, including abnormal loads and daily workers commute. It shall also include mitigation for impacts to public transport, local private access and public footpaths/rights of way, cycleways and bridleways. The Contractor and/or Applicant shall amend and improve the CTMP as required throughout the construction and decommissioning period.	Pre-construction
Abnormal Load Traffic	At locations where slow moving abnormal load traffic is considered likely to cause a road hazard, escorted traffic will be complemented by advance publicity and temporary signage where necessary.	Pre-construction
	An updated abnormal load route assessment will be undertaken for the final candidate turbine components prior to construction.	Pre-construction
	A trial run of the abnormal load deliveries will be undertaken using the proposed load trailer and a scaffold to represent the load dimensions to confirm that the loads can be safely accommodated.	Pre-construction
Construction traffic	Wheel washing is proposed in the vicinity of the site compound to reduce the risk of transferring any mud onto the road and to suppress any dust.	Construction
	All site vehicles will be parked off-road and discretely as possible.	Construction
Public Access Strategy	Preparation and implementation of a Public Access Strategy to mitigate any potential conflict between site traffic during construction and the local path network.	Pre-construction

Environmental Subject Area	Environmental Commitment	Timing
Access route	<p>Prior to commencement, there will be confirmation of the following:</p> <ul style="list-style-type: none"> ▪ there are no roadworks or closures that could affect passage of loads; ▪ no underground services on the route at risk; and ▪ that the relevant Police / escort authorities are satisfied with the route being used and that the appropriate roads authorities have been further contacted. 	Pre-construction
Socio-Economics, Tourism and Recreation		
No significant adverse effects associated with the Proposed Development were identified, therefore no mitigation measures were considered necessary		
Aviation, Radar and Telecommunications		
Aviation - Radar	Affected radars will be mitigated through blanking and the provision of in-fill coverage from unaffected radar currently available.	Operation
Aviation – lighting	The Proposed Development will have aviation lighting to mark it as an en-route obstacle to low flying aircraft. The lighting requirements will be agreed with the CAA, with the lights meeting the requirements set out in Article 222 of the UK Air Navigation Order (ANO). It is anticipated that approximately seventeen turbines will be lit, marking the development periphery and the highest point.	Operation
Telecommunications	The Applicant will undertake further consultation with Atkins to resolve any outstanding concerns with Dunside fixed link interference.	Pre-construction
Shadow Flicker		
Wind Farm Shadow Flicker Protocol	Prior to the erection of the first turbine a written scheme (a Wind Farm Shadow Flicker Protocol) shall be submitted to and approved in writing by SLC. The protocol would come into effect if a complaint is made of unacceptable shadow flicker at either of the receptors where significant effect may occur. This would set out mitigation measures to alleviate shadow flicker attributable to the Proposed Development, for example shut down periods for certain turbines during certain meteorological conditions when shadow flicker is predicted, as well as a protocol for addressing any complaints received from a receptor within the study area.	Pre-construction
Forestry		
Forest Residue Management Plan (FRMP)	All forestry materials generated as a result of felling to construct the Proposed Development will be sold into existing timber markets.	Pre-construction

Environmental Subject Area	Environmental Commitment	Timing
	Brash mats will be used to support harvesting and extraction machinery and to protect underlying soils from rutting, compaction and erosion. It is proposed that brash mats are left in-situ within keyhole areas and areas where there is no infrastructure post-harvesting.	Construction
	Due to the risk of soil erosion associated with stump removal on peaty soils on elevated sites, tree stumps in areas to be harvested and maintained as tree free will remain in-situ and allowed to degrade naturally along with the brash as per standard forestry practice for areas reverting to open ground habitats in forests. Only areas required for the physical construction footprint of the Proposed Development will have stumps removed.	Construction
Compensatory Planting	The required 61.96 ha of compensatory planting, in line with the <i>Control of Woodland Removal</i> , will be delivered via a Planning Condition. This will be delivered offsite and will be subject to consultation with Scottish Forestry (SF).	Construction
	This will be delivered in the first planting season following commencement of the Proposed Development with forestry reports submitted to SF in years 1, 5 and 10, detailing full stocking assessment, establishment and management recommendations.	Construction
	All areas will be protected within a deer fence with rabbit netting with incursions shot out to ensure tree protection.	Construction
	Delivery of the planting, establishment and maintenance will be overseen by Bidwells on behalf of the Applicant, conducting regular inspections and producing annual silvicultural management recommendations to be delivered by the Applicant in order to ensure the delivery of successful and timely tree establishment. Maintenance will include protection against browsing damage from wild animals (deer, hare, rabbit, weevil) and domestic stock, as well as drainage and weed maintenance (as required) to ensure crop establishment. All compensatory planting areas will be protected and insured against fire by the Applicant.	Construction
	Upon establishment, SF will be invited to inspect the compensatory planting, before seeking agreement that the compensatory planting commitment has been delivered. After the area is agreed as being established the woodland will revert to the landowner.	Construction

This page is intentionally blank.