Bhlaraidh Wind Farm Extension Section 36C Variation

Technical Appendix 3.6e: CEMP

Scottish Government - Energy Consents Unit - Application Details

Technical Appendix 3.6e

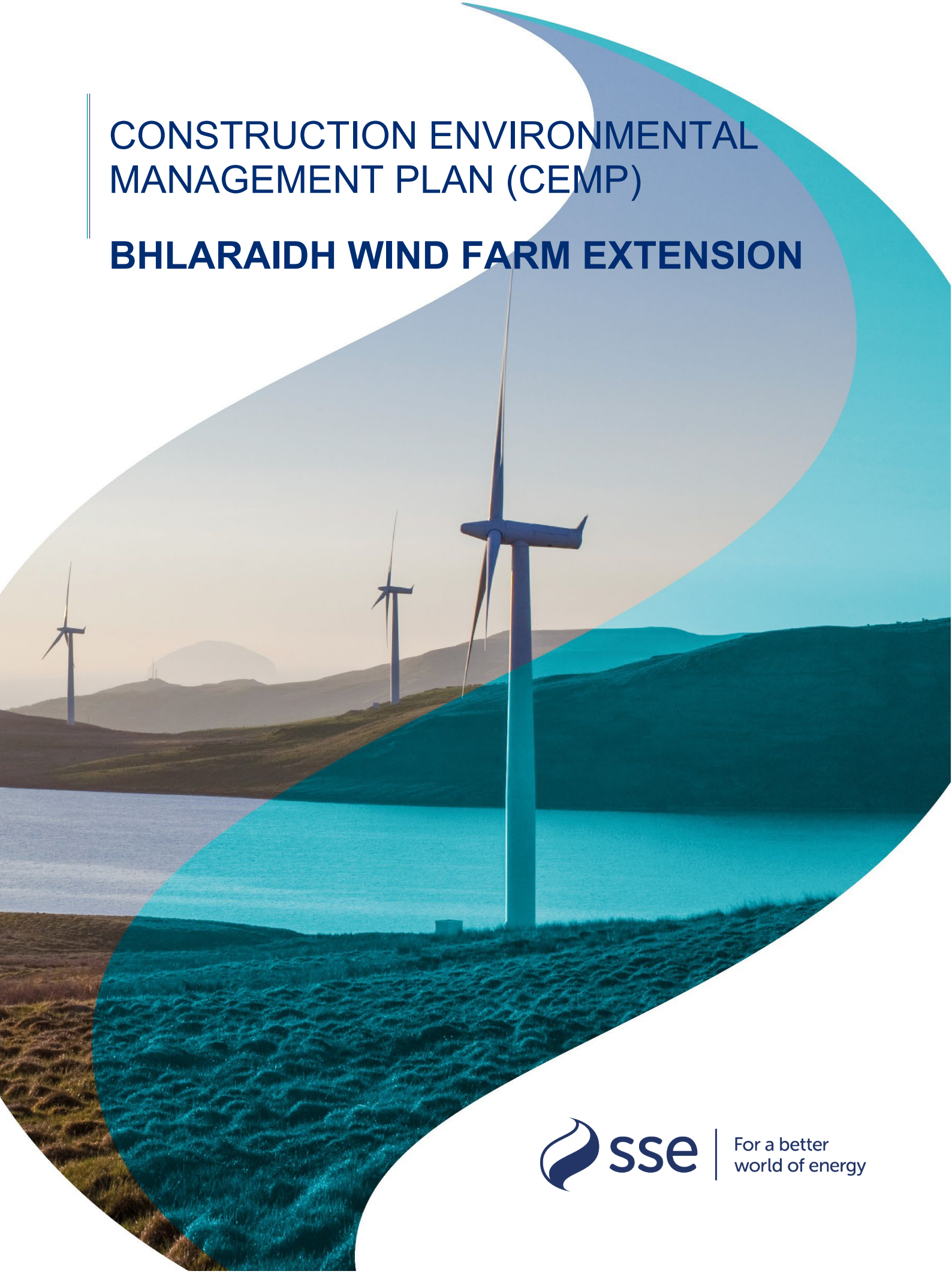
Construction Environmental Management Plan

The CEMP (SSE, V.3, May 2024) was submitted and approved to satisfy Planning Condition 13. The table below provides a status update on the documents previously appended to the CEMP and their relevance to the S36C Proposed Varied Development application:

CEMP Appendix	Status Update for S36C Application
Appendix 1 Construction Schedule of Mitigation	No change – incorporated into S36C EIAR, Volume 1, Chapter 16: Schedule of Environmental Commitments
Appendix 2 Environmental Constraints Map	Updated with Proposed Varied Development layout – Refer to S36C EIAR, Volume 2, Figure 2.10: Environmental Constraints
Appendix 3 Site Layout Plan	Updated for Proposed Varied Development layout – Refer to S36C EIAR, Volume 2, Figure 1.2: Site Layout Plan
Appendix 4 Typical Drainage Schematics	CEMP Drainage schematics 1-6 are not changed from the 2021 EIAR Volume 4, Technical Appendix 2.1: Outline CEMP (Figures 2.1.1 to 2.1.6). No change required for the Proposed Varied Development and hence not included in the S36C EIAR.
Appendix 5 Peat Depth Drawings	Updated for Proposed Varied Development with revised layout and additional peat depth data – Refer to S36C EIAR, Volume 2, Figures 10.1a-d and Figures 10.2a-d.
Appendix 6 Species Protection Plan	No change – included in S36C EIAR for information and to support comparative environmental impact assessment. Refer to S36C EIAR, Volume 4, Technical Appendix 3.6h
Appendix 7 Breeding Bird Protection Plan	No change – included in S36C EIAR for information and to support comparative environmental impact assessment. Refer to S36C EIAR, Volume 4, Technical Appendix 3.6i
Appendix 8 Water Quality and Fish Monitoring Plan	No change – included in S36C EIAR for information and to support comparative environmental impact assessment. Refer to S36C EIAR, Volume 4, Technical Appendix 3.6g
Appendix 9 Private Water Supply Risk Assessment	No change – included in S36C EIAR for information and to support comparative environmental impact assessment. Refer to S36C EIAR, Volume 4, Technical Appendix 3.6f.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

BHLARAIDH WIND FARM EXTENSION



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REPORT VERSIONS

Version	Author	Reviewer	Approver	Date
V.1 Enabling Works	Isla Davidson (SSE)	Jane MacDonald (SSE) Sarah Tullie (ITPE)	Craig Cunningham (SSE)	June 2021
V.1 prepared for Bhlaraidh Wind Farm Extension EIAR, Appendix 2.1, 2021				
V.2 Enabling Works	Isla Davidson (SSE)	Lauren MacDonald (SSE)	Jane MacDonald (SSE)	Feb 2023
V.2 (R01) prepared for discharge of Planning Condition 13 prior to commencement of Site Enabling Works in 2023.				
V.3	Isla Davidson (SSE)	Jane MacDonald (SSE) Julie Bhatti (SSE)	Ian Stewart (SSE)	May 2024
V.3 prepared for discharge of Planning Condition 13 prior to commencement of Main Wind Farm Construction in 2025				

Contents

Appendices

Glossary

The following defines terms used throughout this document:

Contractor / Principal Contractor (PC) – The Contractor responsible for Civil Infrastructure and the Principal Contractor as defined in the Construction (Design & Management) Regulations 2015.

Construction Runoff – Surface water runoff from construction works areas that may contain suspended solids, silt or other organic matter that requires treatment before discharging to the water environment.

Contract – Works Contract between SSE Renewables and the Contractor(s) undertaking construction of Bhlaraidh Wind Farm Extension.

Contractor / Principal Contractor (PC) – As defined in the Construction (Design & Management) Regulations 2015 (as amended), the Principal Contractor is appointed by SSE Renewables and has control over the construction phase of the development. There may be a number of contractors (and sub-contractors) employed by the Principal Contractor or working under their management.

Development – All aspects of the proposed Bhlaraidh Wind Farm Extension construction project. The commitments and mitigation outlined in the accompanying EIA Report have been transposed into the Construction and Environmental Management Plan (CEMP).

Ecological Clerk of Works (ECoW) – The ECoW is an independent specialist appointed by the Employer, typically with an ecological background, albeit with practical experience of broad environmental issues associated with construction. In accordance with relevant planning conditions, applicable regulations and best practice, the ECoW monitors environmental compliance and provides advice to the Employer and Contractor where required. The ECoW role and associated responsibility is outlined in this document.

EIAR - Environmental Impact Assessment Report, submitted with the wind farm planning application. This includes various environmentally related submissions and commitments to avoid, reduce and mitigate environmental effects.

Employer – The entity commissioning the construction of the wind farm and associated civil infrastructure. That is, SSE Renewables Ltd or SSE Generation Ltd. The SSE Project Manager will be the key representative of the Employer where mentioned within this document.

Geotechnical Engineer – The Geotechnical Engineer is a technical specialist appointed by the Contractor. The Geotechnical Engineer monitors the construction works, ensuring that excavations and material stockpiles are managed in an appropriate manner to prevent the occurrence of material instability and peat slides. The Geotechnical Engineer provides advice to the Employer and Contractor where required. The Geotechnical Engineer role and associated responsibility is outlined in this document.

Good Practice – The course of action that serves a demonstrated need and is sustainable (i.e. the work is justified and the chosen design is effective), while minimising the ecological harm and at a cost that is not disproportionately high. Evidence based guidance to support in the selection of sustainable engineering solutions is provided by SEPA, Nature Scot, CIRIA and other recognised institutions.

Greenfield Runoff – Surface water runoff from adjacent undisturbed land that does not require treatment prior to discharging to the environment.

Planning Consent and/or Planning Conditions – Requirements set out within planning approval for the Bhlaraidh Wind Farm Extension development.

Pre-commencement Survey – these are surveys (typically ecological in this CEMP) undertaken over the breeding season prior to the commencement of construction. They are used to advise on specific

measures or authorisations that might be necessary prior to the commencement of construction (e.g. otter disturbance licence).

Pre-works Survey – These may also be referred to as ‘pre-checking’ or ‘pre-construction’. These are surveys (typically ecological in this CEMP) undertaken immediately prior to works (e.g. within days or a week) starting in an area. They may also be undertaken regularly during works in order to ensure that nothing has changed that might require consideration (e.g. new water vole burrow or bird nest within working area).

RAMS- Risk assessments and method statements produced by the Contractor(s) to identifying hazards and providing a step-by-step guide to work around that hazard. Hazards typically relate to health, safety or the environment.

Reinstatement – Reinstatement works are generally undertaken during construction and aim to redress damage inflicted on the landscape as part of the construction process. Reinstatement is undertaken as soon as possible following the construction works in each area, such as the re-dressing of road and track verges and turbine bases (and other areas that may be disturbed as a result of the construction process). Re-seeding / hydro-seeding may be part of reinstatement measures where redressing proves unsuccessful.

Restoration – Restoration works are generally defined as long-term measures aimed to restore (and in some instances improve / enhance) the ecological status of the development with regard to species and / or habitat. Restoration measures will be largely covered in the site’s Habitat Management Plan (HMP), where applicable. Re-seeding / hydro-seeding may be part of restoration works where reinstatement works are found to have been unsuccessful with regard to establishing plant growth.

Planning Conditions Relevant to CEMP

This is a cross reference list to identify locations within this document that support the satisfaction of pre-commencement conditions for the construction of the Bhlaraidh Wind Farm Extension development, consented under the Electricity Act 1989[1].

Condition	Cross-reference to relevant CEMP section or other related project specific document
4 Serious Incident Reporting	**4.3 Serious Incident Reporting**
In the event of any serious breach of health and safety or environmental obligations relating to the development during the period of this consent, the Company will provide written notification of the nature and timing of the incident to the Scottish Ministers, including confirmation of remedial measures taken and/or to be taken to rectify the breach, within 24 hours of the incident occurring.	
10 Micrositing	**5.2 Micrositing**
(1) All wind turbines, buildings, masts, areas of hardstanding and tracks shall be constructed in the location shown on plan reference Site Layout Plan (Figure 2.2 Additional Information Report). Wind turbines, buildings, masts, areas of hardstanding and tracks may be adjusted by micro-siting within the site. However, unless otherwise approved in advance in writing by the Planning Authority in consultation with NatureScot, SEPA and the ECoW, micrositing is subject to the following restrictions:	Paragraph 5.2.1
(a) the wind turbines and other infrastructure hereby permitted may be microsited within 50 metres with the exception of the sub-station which may be microsited within 100m;	Paragraph 5.2.1
(b) No wind turbine foundation shall be positioned higher, when measured in metres Above Ordinance Datum (AOD), than 10m above the position shown on plan reference Site Layout Plan (Figure 2.2 Additional Information Report);	Paragraph 5.2.1
(c) No micro-siting shall take place within areas of peat deeper than currently shown for the relevant infrastructure on Figure 10.2 of the Environmental Impact Assessment Report; and	Paragraph 5.2.1

[1] Consent ECU00001900 under the Electricity Act 1989 to Construct and Operate Bhlaraidh Wind Farm Extension.

Condition	Cross-reference to relevant CEMP section or other related project specific document
(d) All micro-siting permissible under this condition must be approved in advance in writing by the Environmental Clerk of Works ("ECoW") (see condition 12).	Paragraph 5.2.1
(2) A plan showing the final position of all wind turbines buildings, masts, areas of hardstanding, tracks and associated infrastructure forming part of the Development shall be submitted to the Planning Authority within one month of the completion of the development works. The plan shall also specify areas where micrositing has taken place and, for each instance, be accompanied by copies of the ECoW or Planning Authority's approval, as applicable.	Paragraph 5.2.3
11 Borrow Pit - Blasting	**7.4 Noise Mitigation Plan**
Blasting shall only take place on the site between the hours of 07.00 to 19.00 on Monday to Friday inclusive and 07.00 to 13.00 on Saturdays, with no blasting taking place on a Sunday or on a Public Holiday.	**Borrow Pit Scheme of Works**
12 Ecological Clerk of Works ("ECoW")	**6 The Ecological / Environmental Clerk of Works (ECoW)**
(1) No development or Site Enabling Works shall take place unless and until the terms of appointment of an independent Ecological Clerk of Works ("ECoW") by the Company have been submitted to and approved in writing by the Planning Authority (in consultation with NatureScot and SEPA). The terms of appointment shall:	Paragraph 6.1.1
(a) impose a duty to monitor compliance with the ecological, ornithological and hydrological commitments provided in the Environmental Impact Assessment Report ("the EIAR"), the Additional Information Report and other information lodged in support of the Application, the Construction Environmental Management Plan (condition 13), the Peat Management Plan (condition 17), the Habitat Management Plan (condition 18), the Species Specific Surveys and Protection Plans (condition 13(2)(m)) and other plans approved in terms of the conditions of this planning permission ("the ECoW Works");	Paragraph 6.1.5
(b) advise on micrositing proposals issued pursuant to Condition 10;	Paragraph 5.2.1

Condition	Cross-reference to relevant CEMP section or other related project specific document
(c) require the ECoW to report to the nominated Construction Project Manager any incidences of non-compliance with the ECoW Works at the earliest practical opportunity and stop the job where any breach has been identified until the time that it has been reviewed by the Construction Project Manager; and	6.2 ECoW Authority to Order a Stop
(d) require the ECoW to report to the Planning Authority any incidences of non-compliance with the ECoW Works at the earliest practical opportunity	Paragraph 6.2.3
(2) The ECoW shall be appointed on the approved terms during the establishment of the Habitat Management Plan and throughout the period from Commencement of development to completion of post construction reinstatement works.	Paragraph 6.1.3
(3) No later than eighteen months prior to decommissioning of the Development or the expiry of the section 36 consent (whichever is the earlier), details of the terms of appointment of an ECoW by the Company throughout the decommissioning, restoration and aftercare phases of the Development shall be submitted for the written approval of the Planning Authority.	To be determined prior to decommissioning.
13 Construction Environmental Management Plan ("CEMP")	**This document**
(1) No development or Site Enabling Works shall commence until a works specific Construction Environmental Management Plan ("CEMP"), related to the phase or phases of works or development to be undertaken has been submitted to and approved in writing by the Planning Authority. The CEMP shall outline site specific details of all on-site construction works, post-construction reinstatement, drainage and mitigation, together with details of their timetabling.	1.1 Construction Environmental Management: Aims and Objectives
(2) The CEMP for each phase of works or development shall include (but is not limited to);	This document
(a) site waste management plan (dealing with all aspects of waste produced during the construction period other than peat), including details of contingency planning in the event of accidental release of materials which could cause harm to the environment;	11 Waste Management
(b) details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, carparking, material stockpiles, oil storage, lighting columns, and any construction compound boundary fencing;	18 Onsite Preparatory Construction

Condition	Cross-reference to relevant CEMP section or other related project specific document
(c) a dust management plan;	7.3 Dust Management Plan
(d) a drainage management plan, demonstrating how all groundwater, surface water and waste water arising during and after development is to be managed and prevented from polluting any watercourses, water abstractions and private water supplies if relevant, including details of the separation of clean and dirty water drains, and location of settlement lagoons for silt laden water. Any temporary drainage during construction should be designed to accommodate a 1:200 year storm event;	8 Drainage
(e) details of sewage disposal and treatment;	Paragraph 11.1.5
(f) details of temporary site illumination;	18.2 Temporary Construction Compound Preparation
(g) the method of construction of the crane pads;	20 Access Track and Crane Pad Construction
(h) the method of construction of the wind turbine foundations;	20 Access Track and Crane Pad Construction
(i) the method of working cable trenches	14.5 Cabling Works
(j) the method of construction and erection of the wind turbines and meteorological masts;	21 Wind Turbine Generators and Anemometer Mast Foundation Construction
(k) details of post-construction restoration/reinstatement of the working areas not required during the operation of the Development, including construction access tracks, borrow pits, construction compound, storage areas, laydown areas, access tracks, passing places and other construction areas, all of which are to be provided no later than 6 months prior to the date of first commissioning, unless otherwise agreed in writing by the Planning Authority. Wherever possible, reinstatement is to be achieved by the careful use of turfs removed prior to construction works. Details should include all seed mixes to be used for the reinstatement of vegetation;	15 Reinstatement

Condition	Cross-reference to relevant CEMP section or other related project specific document
(l) confirmation that the M11 mire habitat identified in Target Note 2 on Figure 5.6 shall be physically marked on site so that it can be suitably protected from disturbance during construction.	Paragraph 12.2.9
(m) Species specific surveys and Protection Plans carried out at an appropriate time of year for the species concerned, by a suitably qualified person. The surveys shall cover black grouse, slavonian grebe, golden eagle, greenshank, golden plover, black and red divers, otter, water vole and bats. The survey results and any mitigation measures required for these species on site shall be set out in a species mitigation and management plan, which shall inform construction activities.	12 Ecological Protection Plans Appendix 6 Species Protection Plan Appendix 7 Breeding Bird Protection Plan
(n) Details of for the submission of a quarterly report summarising work under taken at the site and compliance with the conditions imposed under the Deemed Planning Consent during the period of construction and post construction reinstatement.	2.5 Quarterly Report
14 Watercourse Design	**10 Watercourse Crossings**
All new watercourse crossings shall be designed following the recommendations in the Watercourse Crossing Schedule (Appendix 9.1 -Additional Information Report: Updated Watercourse Crossing Schedule) and if single span bridges are required these shall be designed to pass the 1 in 200-year flood plus an allowance for climate change. All existing watercourse crossings which require to be replaced shall be designed following recognised best practice guidance.	
15 Access Standard	**17.1 Site access standard**
Visibility splays shall be provided and maintained on each side of the access to the A887 trunk road to the satisfaction of the Planning Authority, after consultation with Transport Scotland as the Trunk Roads Authority. These splays are the triangles of ground bounded on 2 sides by the first 4.5 meters of the centreline of the access driveway (the setback dimention) and the nearside trunk road carriageway measured 215 meters (the y dimention) in both directions from the intersection of the access with the trunk road, unless otherwise agreed in writing with the Planning Authoity. In a vertical plane, nothing shall obscure visibility measured from a driver's eye height of between 1.05 metres and 2.00 metres anywhere along the y dimension.	

Condition	Cross-reference to relevant CEMP section or other related project specific document
17 Peat Management Plan	**Peat Management Plan**
No development or Site Enabling Works shall commence until a works specific finalised Peat Management Plan (“PMP”), related to the phase or phases of works or development to be undertaken, has been submitted to and approved in writing by the Planning Authority in consultation with NatureScot and SEPA. The PMP shall include:	
(a) the mitigation measures described within the Environmental Impact Assessment Report, the Additional Information and other information submitted in support of the Application;	
(b) The implementation of the design changes and further actions outlined in Table 5.5.4 (Recommendations for Design of Proposed Development) of Appendix 5.5 – EIAR: Volume 4: Peatland Condition Assessment) tolimit impact on high quality habitat;	
(c) a demonstration of how micrositing and other measures have been used to further minimise peat and good quality peat habitat disturbance.	
The development shall not be carried out other than in accordance with the approved PMP.	
18 Habitat Management Plan (“HMP”)	**Habitat Management Plan**
(1) No development, with the exception of the Site Enabling Works, shall commence unless and until a finalised Habitat Management Plan ("HMP"), has been submitted to, and approved in writing by the Planning Authority in consultation with NatureScot, and SEPA. The information shall include:	
(a) the mitigation measures contained in the EIAR and be based upon the Outline Plan provided (Appendix 5.7 – EIAR: Volume 4: Outline Habitat Management Plan);	
(b) The proposed habitat management of the site during the period of construction, operation, decommissioning, restoration and aftercare, and shall provide for the maintenance monitoring and reporting of habitat on site;	

Condition	Cross-reference to relevant CEMP section or other related project specific document
(c) a scheme of works for peatland restoration works to deliver peatlands commensurate with the quality of the habitat that will be lost directly and indirectly and take advantage of the opportunity for peatland restoration across the site of the Bhlaraidh Wind Farm and Bhlaraidh Wind Farm Extension;	
(d) a scheme for planting of montane vegetation (such as juniper and willow). The scheme shall include details of all areas to be planted, the planting mix proposed and details of management of these areas for the lifetime of the Development;	
(e) a suitable area to leave deer stalking grallochs or carcasses outwith the windfarm development area is identified;	
(f) a scheme for the delivery of biodiversity enhancement which shall include an emphasis on biodiversity enhancements for black grouse and golden eagle;	
(g) a scheme for the protection and enhancement of the Golden Eagle population has been submitted to and approved in writing by the Planning Authority. For the avoidance of doubt the scheme shall deliver aims and objectives which complement those of the Regional Eagle Conservation Management Plan. Thereafter the approved scheme shall be implemented through the construction, operation and decommissioning of the Development.	
(h) the provision for regular monitoring and review to be undertaken to consider whether amendments are needed to better meet the habitat plan objectives. In particular, the approved habitat management plan shall be updated to reflect ground condition surveys undertaken following construction and prior to the date of Final Commissioning and submitted for the written approval of the Planning Authority in consultation with NatureScot and SEPA	
(2) Unless and until otherwise agreed in advance in writing with the Planning Authority, the approved HMP (as amended from time to time) shall be implemented in full.	
19 Borrow Pits – Scheme of Works	**Borrow Pit Scheme of Works**
(1) No development or Site Enabling Works shall commence unless and until a scheme for the working and restoration of [the/each] borrow pit has been prepared in advance of each phase of works and submitted to, and approved in writing by, the Planning Authority (in consultation with SEPA). The scheme shall include:	Borrow Pit Scheme of Works

Condition	Cross-reference to relevant CEMP section or other related project specific document
(a) a detailed working method statement based on site survey information and ground investigations;	
(b) details of the handling of any overburden (including peat, soil and rock); drainage measures, including measures to prevent surrounding areas of peatland, water dependant sensitive habitats and Ground Water dependent Terrestrial Ecosystems (GWDTE) from drying out;	12.2 Habitat Protection Plans
(c) a programme of implementation of the works described in the scheme; and	Borrow Pit Scheme of Works
(d) details of the reinstatement, restoration and aftercare of the borrow pit(s) to be undertaken at the end of the construction period, including topographic surveys of pre-construction profiles and details of topographical surveys to be undertaken of the restored borrow pit profiles.	15 Reinstatement Borrow Pit Scheme of Works
(2) The approved scheme shall be implemented in full.	Borrow Pit Scheme of Works
26 Outdoor Access Plan	**Outdoor Access Plan**
(1) No development or Site Enabling Works shall commence until a finalised and detailed Outdoor Access Plan has been submitted to and approved in writing by the Planning Authority. The purpose of the plan shall be to maintain public access routes to site tracks and paths during construction, and to enhance public outdoor access in the long-term. The Outdoor Access Plan shall include details showing:	
(a) all existing access points, paths, core paths, tracks, rights of way and other routes whether on land or inland water), and any areas currently outwith or excluded from statutory access rights under Part One of the Land Reform (Scotland) Act 2003, within and adjacent to the application site;	
(b) any areas proposed for exclusion from statutory access rights, for reasons of privacy, disturbance or effect on curtilage related to buildings or structures;	
(c) all proposed paths tracks and other alternative routes for use by walkers, riders, cyclists, canoeists, all-abilities users, etc. and any other relevant outdoor access enhancement (including construction specifications, signage, information leaflets, proposals for on-going maintenance etc; any diversion of paths, tracks or other routes (whether on land or	

Condition	Cross-reference to relevant CEMP section or other related project specific document
inland water), temporary or permanent, proposed as part of the Development (including details of mitigation measures, diversion works, duration and signage);	
(d) the location design and specification for a pass gate at locked gate at NH395172 this and other gate locations which, in this case, should be installed before construction starts.	
(2) The approved Outdoor Access Plan, and any associated works, shall be implemented in full prior to the Commencement of development or as otherwise may be agreed within the approved plan.	
29 Water Quality and Fish Monitoring Plan	**9 Water Quality and Fish Monitoring** **Appendix 8 Water Quality and Fish Monitoring Plan**
(1) There shall be no Commencement of development until an integrated Water Quality and Fish Monitoring Plan ("WQFMP") has been submitted to and approved in writing by the Planning Authority in consultation with Ness District Salmon Fishery Board.	
(2) The WQFMP must take account of Marine Scotland Science's guidance and shall include:	
(a) provision that water quality sampling should be carried out for 12 months(or as agreed with the Planning Authority) prior to Commencement of development, during construction and for 12 months after construction is complete;	
(b) key hydrochemical parameters (including turbidity and flow data), the identification of sampling locations (including control sites), frequency of sampling, sampling methodology, data analysis and reporting;	
(c) fully quantitative electrofishing surveys at sites potentially impacted and at control sites for 12 months (or as agreed with the Planning Authority) prior to the Commencement of development, during construction and for 12 months after construction is completed to detect any changes in fish populations; and	
(d) appropriate site specific mitigation measures including those detailed in the EIA Report.	
(3) Thereafter, the WQFMP shall be implemented in full within the timescales set out in the WQFMP.	

Condition	Cross-reference to relevant CEMP section or other related project specific document
Prior to the commencement of the development, the applicant shall submit, for the approval of the planning authority, a scheme for the monitoring of water quality with regard to private water supplies and a contingency plan in the event of an adverse impact occurring.	

Part 1: Construction Environmental Management Plan (CEMP)

1. Introduction

1.1. CONSTRUCTION ENVIRONMENTAL MANAGEMENT: AIMS AND OBJECTIVES

1.1.1 The principal objective of this document is to provide information on appropriate measures in the avoidance, minimisation and control of adverse, environmental impact associated with the works. Furthermore, this document aims to define good practice as well as specific commitments relating to environmental protection as identified in the Environmental Impact Assessment Report (EIAR) and subsequent Additional Information Report (AIR). The EIAR, AIR and other supporting documents, along with the Consent Decision Notice can be found on the SSE Renewables Website[2].

1.1.2 This document is split to encompass both the Construction Environmental Management Plan (Part 1) and Construction Method Statements (Part 2), that will support the Contractors execution of the CEMP during development of the Bhlaraidh Wind Farm Extension. Relevant reference and guidance documentation is listed in Part 3: Reference Documentation.

1.1.3 An Independent Environmental Clerk of Works (ECoW) has been appointed by the Employer to monitor compliance over the duration of the works. This appointment and the responsibilities of the position are set out within Section 6.

1.1.4 This CEMP will form part of the Contractors Works Contract, as set out below, and will be read and implemented onsite in conjunction with industry best practice, published guidance documents, ground investigation report and other documents referred to within the CEMP.

Works Contract

1.1.5 The CEMP forms part of the Works Contract (hereafter, the Contract). The methods and principles contained herein, as well as within referenced legislative instruments and published guidance documents, are adhered to by the Contractor in developing and refining the detailed design, risk assessment and construction method statements (RAMS) and other plans relating to environmental management as required by the Contract.

1.1.6 Should the Employer or Independent ECoW identify any failure to comply with the requirements of this document, the Contractor's own RAMS, requirements set out within the planning consent or the law then the Employer may stop the associated works until such time as the failure is rectified. Any associated cost or time delay incurred will be borne by the Contractor.

1.1.7 The Contractor submits all relevant information as detailed in this document to the Employer for acceptance in accordance with the Contract provisions. No works will commence prior to the Employer's acceptance.

1.1.8 Once agreed, the Employer provides the Contractor with an electronic copy of the CEMP which the Contractor maintains for the duration of the works.

1.2. ROLES, RESPONSIBILITIES AND STRUCTURE OF THE CEMP

Contractor's Environmental Advisor

1.2.1 The Contractor is required to appoint an Environmental Advisor who is appropriately competent and experienced (i.e. holds a minimum of 2 years directly relevant experience, or as agreed

[2] https://www.sserenewables.com/onshore-wind/in-development/bhlaraidh-extension/

with Employer, construction experience in a similar site-based role preferably with ecology experience) to be the named person responsible for managing environmental matters. It is anticipated that the Contractor's Environmental Advisor will draw on other environmental specialists (e.g. ecologist, ornithologist) where required to advise and support the Contractor in planning and implementation of their environmental management.

1.2.2 To comply with the requirements set out within this CEMP, the Contractor's Environmental Advisor will provide support on environmental matters to the Contractor in the preparation of all required pre-construction information and RAMS. On-site the Environmental Advisor will implement all required environmental surveys and monitoring (e.g. pre-works surveys, water course monitoring) and advise on effectiveness of all pollution control measures implemented by the Contractor. The named person will ensure Contractor compliance with the CEMP and all other environmental related plans, consents and licenses and will be a full-time site-based resource, unless otherwise agreed with the Employer.

1.2.3 The Contractor demonstrates the competence of the Environmental Advisor to the Employer via submission of relevant information (e.g. CV, training records, membership records) for acceptance prior to commencement of construction works.

Contractor's Geotechnical Engineer

1.2.4 The Contractor appoints an appropriately qualified and experienced Geotechnical Engineer to provide specialist advice and guidance (e.g. pertinent to peat stability) throughout the construction phase. The Geotechnical Engineer will maintain a Geotechnical Risk Register which will be developed as the project progresses to highlight and communicate risk and proposed mitigation. The Geotechnical Engineer shall undertake inspections of peat excavations and peat storage areas at regular intervals during the construction phase.

Environmental Authorisations

1.2.5 Where not already obtained by the Employer, the Contractor will obtain reasonably anticipated regulatory consents (e.g. CAR licences) in advance of construction and provide (or transfer) these to the Contractor. The Contractor is responsible for ensuring all necessary consents, licences and permissions for their activities are in place in accordance with relevant legislation governing the protection of the environment. Where the appropriate regulatory consent has not been obtained in advance by the Employer, the Contractor must obtain it.

Contractor's Responsibility to Maintain Documentation

1.2.6 A copy of this document and related files and documents will be kept in the site offices for the duration of the site works and will be made available for review at any time. Upon completion of the construction works, the Contractor submits a complete electronic copy of the final set of information to the Employer for their records.

1.2.7 Where site Environmental Management documentation for the Works, or for elements/ aspects of Works (e.g. blasting), is produced by the Contractor then a copy must be issued to the Employer (including the Employer's Environmental Manager).

1.2.8 A Checklist has been included in Table 1, below, providing the Contractor with a summary of the minimum information to be provided to the Employer prior to, during and post-construction. The information / documents listed in the Checklist represent the minimum information to be provided to the Employer / Planning Authority at the stages indicated in the Checklist.

2. Correspondence, Records and Reporting

2.1. GENERAL REQUIREMENTS

2.1.1 The Contractor provides a complete record of all relevant communication, meeting minutes and reports associated with all aspects of environmental management and implementation of this document. In addition, all communications with or visits by regulatory authorities must be recorded and maintained by the Contractor.

2.1.2 The following is a checklist of records that will be maintained by the Contractor and shared with the Employer (as a minimum):

Table 1 Required Contractor's Information

Pre-commencement of works:
Name and CV of Contractor's Environmental Advisor (Section 1.2)
Licences and Consents – copies of all permissions, consents, licences and permits (Section 1.2.5)
Risk Assessment and Method Statements (Section 2.3)
Environmental Risk Map (Section 3)
Schedule of toolbox talks (Section 3.2)
COSHH documentation (Section 7.6)
A Site Waste Management Plan (Section 11)
Excavation / Reinstatement plans (Section 14 and 15)
Environmental Incident and Emergency Response Plan (Section 4)
Maintained during works:
Records of relevant communication, meetings and reports (Section 2)
Employer and Contractor Audit Reports (Section 2.2)
Records of communication or visits by regulatory authorities (e.g. SEPA, NatureScot) (Section 2)
Records of site inductions, tool box talks and training (Section 3.2)
Records of change, departures and micrositing (Section 5)
Records of all environmental checks, inspections, observations and responses (including those noted in Section 6, 7, 8 and 9)
Dust suppression register (Section 7.3)
Drainage Maintenance Register (Section 8.1)
Records of water quality monitoring (Section 9.2)
Geotechnical Risk Register (Section 1.2)
Site Waste Management Plan and Records (Section 11)
Monthly waste summary (Section 11.4)

Excavation Register (Section 14)
General Correspondence - all other relevant internal and external communication records relating to environmental management issues and implementation of the CEMP

2.2. ENVIRONMENTAL AUDITS

2.2.1 Audits may be completed at any time by the Employer, but at least one per quarter. These will be arranged in advance with notice provided to the Contractor from the Employer (i.e. at least one week). All completed audit forms (and records of corrective action and close outs) must be filed.

2.2.2 Non-compliances identified by the Employer must be addressed immediately where there is a serious risk (e.g. of pollution) or resolved within two weeks.

2.2.3 The Contractor (or Contractor's Environmental Advisor) undertakes a programme of environmental audits to satisfy conformance with CEMP principles, including audits of their sub-contractors.

2.3. RISK ASSESSMENT AND METHOD STATEMENTS

2.3.1 The Contractor provides Risk Assessments and Method Statements (RAMS) for all works and tasks prior to these being undertaken. These documents will take into account all of the environmental aspects of the planned works and shall address all committed mitigation measures as a minimum. RAMS must be made available to the Employer's Environmental Manager and Independent ECoW.

2.3.2 Where Risk Assessments and Method Statements are updated, these must be reissued (see 5.1).

2.4. PROVISION OF ENVIRONMENTAL INFORMATION

2.4.1 The Contractor provides and maintains project environmental notice board(s) which are positioned to ensure that all working parties have the opportunity to review a notice board on a daily basis. As a minimum this will include one notice board to be placed in each compound.

2.4.2 The environmental notice boards are maintained by the Contractor's Environmental Advisor and shall be updated at least monthly. As a minimum, the notice boards contain:

- Description of the key environmental risks and intended risk mitigation measures;
- Environmental Risk Map illustrating the location of the key risks and required exclusion zones / buffer zones and location of emergency response equipment, as required by the CEMP;
- Key contact numbers and responsible personnel identified within the Environmental Incident and Emergency Response Plan (EIERP**)** (see Section 4); and
- A copy of all regulatory authorisations (e.g. licences) relevant to the work activities being undertaken (see Paragraph 1.2.5).

2.5. QUARTERLY REPORT

2.5.1 Over the duration of construction and post-construction reinstatement, the Employer will submit a quarterly report to The Planning Authority summarising work undertaken at the site and compliance with the conditions imposed under the Deemed Planning Consent.

2.5.2 The report will include a summary of construction and/or reinstatement progress including reports compiled by the Independent ECoW.

3. Site Induction and Regular Briefings

3.1. GENERAL REQUIREMENTS

3.1.1 The Contractor ensures that all contractor employees, sub-contractors, suppliers, and other visitors to the site are made aware of the content of this document that is applicable to them. Accordingly, environmental specific induction training will be prepared by the Contractor and presented to all categories of personnel working and visiting the site.

3.1.2 As a minimum, the following information will be provided to all inductees:

- Identification of specific environmental risks associated with the work to be undertaken on site by the inductee (e.g. exclusion zones, fuel handling, spill kit locations, sensitive habitats, drainage control/mitigation, spill control, silt pollution control, waste minimisation and recycling, reporting of environmental observations).
- Environmental Incident and Emergency Response Plan (including specific Environmental Communication Plan requirements and reporting of incidents as set out in Section 4).

3.1.3 Based on survey data collected throughout the planning and pre-commencement Development phases, the Employer develops an Environmental Constraints Map (Appendix 2) illustrating land constraints and environmental sensitivities (e.g. protected areas, wildlife and exclusion zones) and provides these maps to the Contractor. The Employer provides updated survey data to the Contractor when available, e.g. throughout the ecological survey season.

3.1.4 Informed by the Environmental Constraints Map (Appendix 2) and Peat Depth Drawings (Appendix 5), the Contractor provides an Environmental Risk Map illustrating environmentally sensitive areas and potential sources of pollution (e.g. water buffers, designated refuelling areas, location of spill kits, concrete wash out areas, fuel tanks etc.). The Environmental Risk Map will be used during the induction and prominently displayed in the compound areas.

3.1.5 The Environmental Risk Map will be updated by the Contractor in consultation with the Independent ECoW to include any further controls or exclusion zones. In accordance with Section 3.2.3, any update will trigger a toolbox talk to clearly communicate the change and offer opportunity for any necessary clarifications.

3.2. TOOLBOX TALKS AND TRAINING

3.2.1 During construction, in order to provide on-going reinforcement and awareness training, the above topics, along with any other environmental issues which arise onsite, will be discussed at regular toolbox talks.

3.2.2 Toolbox talks and training will be delivered by specialist personnel onsite (e.g. Independent ECoW, Geotechnical Engineer, Contractor's Environmental Advisor, etc.) as required.

3.2.3 The Contractor submits a schedule for toolbox talks at least one week prior to commencement of works. The proposed schedule, to be considered as a live document, shall be consistent with the programme of works. Additional toolbox talks shall be added as required based on circumstances such as new operatives or subcontractors begin on site, unforeseen risks, repeated observation of bad practices, perceived lack of awareness and pollution event.

3.2.4 Specifically, the Contractor provides, as a minimum, the following environmental training:

- Training on the effective use of spill kits (on ground and in surface waters), to be provided on a regular basis (to account for staff/subcontractor changes etc). Training to be undertaken by a suitably qualified individual; and

- Training on silt mitigation e.g. effective installation of silt fencing etc., silt mitigation measures to relevant construction / site staff.

3.2.5 The Contractor maintains records of all toolbox talks and training and makes these records available to the Employer if so requested.

4. Environmental Incident and Emergency Response

4.1. GENERAL REQUIREMENTS

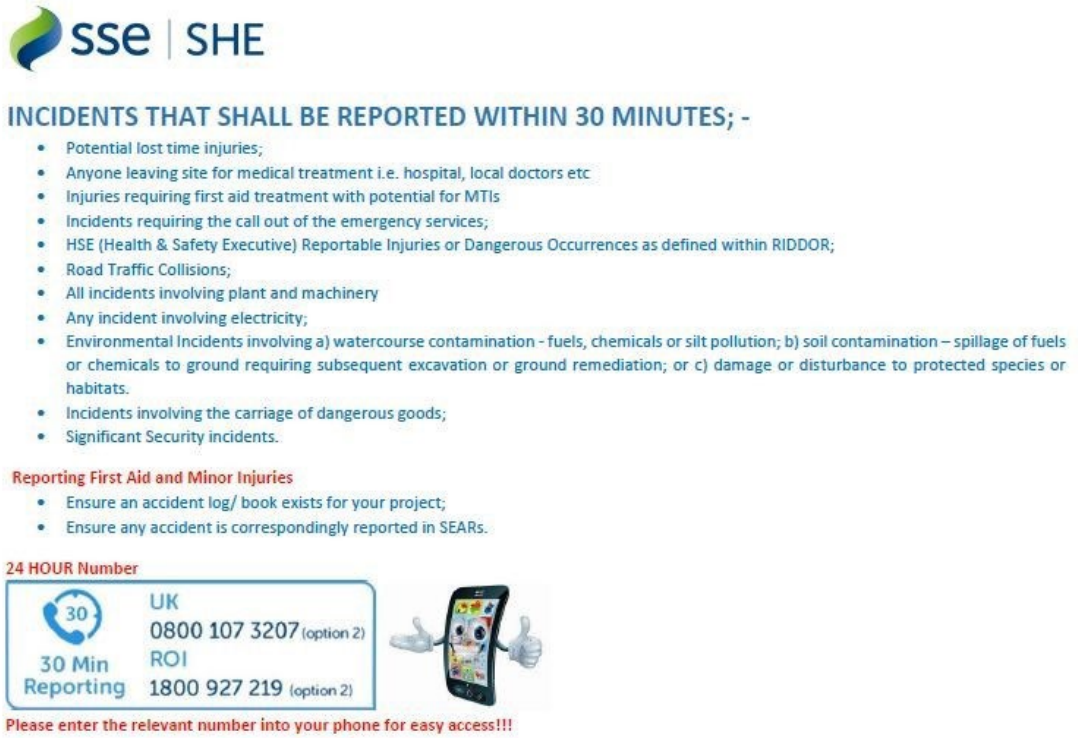
4.1.1 The Contractor prepares a detailed Environmental Incident and Emergency Response Plan (EIERP) in line with GPP21 Pollution Incident Response Planning, in particular sections 2.1.-2.4. and GPP22 Dealing with spills (see Part 3). This must include a key contacts list (internal to the project and Employer) as well as emergency external contacts (e.g. spills contractor, SEPA Pollution Hotline, Scottish Water) to enable timely appropriate response.

4.2. INCIDENT RECORDING

4.2.1 An SSE Safety and Environmental Awareness Report (SEAR) is required to be completed for any potential or actual environmental incident or emergency which occurs or is noted on site. These are to be reported by the Contractor to Employer as set out within the Incident Response Plan. The plan will contain contact details for the Employer's Project Manager, Environment Manager and H&S Manager as a minimum.

4.2.2 If a significant incident occurs (reaching the thresholds provided in Figure 1), then it must be reported by phone within 30 minutes using the 24hr reporting line.

Figure 1 SSE SHE Incident Reporting



4.3. SERIOUS INCIDENT REPORTING

4.3.1 In the event of any serious breach of health and safety or environmental obligations relating to the development during the period of this consent, the Employer will provide written notification of the nature and timing of the incident to the Scottish Ministers, including confirmation of remedial measures taken and/or to be taken to rectify the breach, within 24 hours of the incident occurring.

4.3.2 This is in addition to notifying the appropriate regulator of any serious breach (e.g. SEPA, NatureScot, Historic Environment Scotland, The Highland Council). The Independent ECoW will report to the Highland Council in accordance with paragraph 6.2.3.

5. Management of Change and Environmental Technical Queries

5.1. GENERAL REQUIREMENTS

5.1.1 During the construction of the Development, it is considered reasonable to presume that certain eventualities will partially or fully preclude the implementation of specific standards and processes outlined within the CEMP. In these events, the Contractor provides justification to the Employer via the Technical Change Control Procedure set out within the Works Contract. The query must outline the reasons for any departure from this CEMP and detail a proposed alternative approach that does not compromise environmental protection.

5.1.2 Proposals must be in cognisance of available guidance (including information listed in Part 3) and specific constraints set out within this CEMP and its appendices. The alternative proposals shall only be adopted following consideration and acceptance of the Employer and the Independent ECoW and/or Geotechnical Engineer where relevant.

5.1.3 All relevant Risk Assessments and Method Statements must also be updated to reflect any change then reissued to the Employer and Independent ECoW for their acceptance.

5.1.4 Material changes will require consultation with the Planning Authority and relevant consultees. The Contractor includes any additional requirements in the Technical Query and updated method statements to detail how compliance with the consent shall be maintained.

5.2. MICROSITING

5.2.1 Micro-siting site infrastructure (wind turbines, buildings, masts, areas of hard standing and tracks), will be limited to within the application site boundary and shall be constructed in the location shown on plan reference Site Layout Plan (Appendix 3). Wind turbines, buildings, masts, areas of hardstanding and tracks may be adjusted by micro-siting within the site. However, unless otherwise approved in advance in writing by the Planning Authority in consultation with NatureScot, SEPA and the Independent ECoW, micro-siting is subject to the following restrictions as required by Planning Condition 10:

- infrastructure may be micro-sited within 50 metres with the exception of the sub-station which may be micro-sited within 100m;
- no wind turbine foundation shall be positioned higher, when measured in meters Above Ordinance Datum (AOD), than 10m;
- No micro-siting shall take place within areas of peat deeper than currently shown for the relevant infrastructure on Figure 10.2 of the Environmental Impact Assessment Report (Appendix 5); and
- All micro-siting (to within the above restriction) must be agreed in writing in advance by the Employer and Independent ECoW. This written record will be kept by the Contractor and Employer.

5.2.2 Any relocation of site infrastructure beyond the restrictions (set out in 5.2.1 above) must be approved in writing by the planning authority, NatureScot and SEPA. Requests for relocation beyond the limits must be in accordance with Consent Condition 10 Micro-siting (full text of the condition) as set out at the start of this document. Relevant information must be developed by the Contractor and issued to the Employer, who will seek agreement with the planning authority and statutory consultees as required.

5.2.3 A plan showing the final position of all infrastructure forming the wind farm shall be submitted to the Employer within one month of the completion of the works. The plan shall also specify areas where micro-siting has taken place and, for each instance, be accompanied by copies of the Independent ECoW or Planning Authority's approval, as applicable.

6. The Ecological / Environmental Clerk of Works (ECoW)

6.1. OVERVIEW AND TERM OF APPOINTMENT

6.1.1 The Independent ECoW was appointed in 2022 and is employed as an independent consultant by the Employer. In advance of the commencement of development, this appointment was approved by the planning authority after submission of qualifications and experience details (in accordance with Consent Condition 12).

6.1.2 The Employer will advise the planning authority as soon as reasonably practicable if, for whatever reason, the Independent ECoW is replaced. The Employer will advise, in writing, of the identity of replacement independent and suitably qualified Independent ECoWs for approval by the planning authority.

6.1.3 The Independent ECoW role extends for the duration of the works to construct the Bhlaraidh Wind Farm Extension and for post-construction reinstatement works. The lead Independent ECoW will draw on a team of appropriately qualified ECoWs, ecologists, ornithologists and hydrological specialists with suitable experience working in comparable habitats and projects.

6.1.4 The Independent ECoW Team prepared the Species Protection Plans (Appendix 6), Breeding Bird Protection Plans (Appendix 7) and undertook the necessary pre-commencement ecological surveys.

6.1.5 The Independent ECoW will monitor compliance with the ecological, ornithological and hydrological commitments provided in the EIAR (and further environmental documents submitted in support of the Application), CEMP, Peat Management Plan, Habitat Management Plan, Species Protection Plans and Breeding Bird Protection Plans.

6.1.6 In the event of non-compliance, inadequate control, protection measures, or area of concern the Independent ECoW will immediately inform the Employer and Contractor. This may be verbally in the first instance for urgency and followed up in writing. The Contractor will undertake action to avoid, minimise and mitigate adverse environmental effects.

6.1.7 The Contractor consults with the Independent ECoW prior to undertaking specific works as detailed below and considers the Independent ECoW's advice at all times. The Independent ECoW ensures that records are maintained to support key decisions and advice given to the Contractor, including those set out in section 5.

6.1.8 The Independent ECoW will report findings, observations, and recommendations to the Contractor and Employer.

6.1.9 The Independent ECoW assists the Employer with the supply of relevant information for compliance assessment.

6.1.10 The Independent ECoW will liaise with and provide reports (as required) to the Planning Authority, NatureScot and SEPA on matters falling within their role and responsibilities.

6.1.11 The Independent ECoW is an advisory, oversight and monitoring role. This is not a replacement or substitute for the Contractor's Environmental Advisor (paragraph 1.2.1) or defers the Contractor's responsibility to implement good environmental practice.

6.2. ECOW AUTHORITY TO ORDER A STOP

6.2.1 Where the Independent ECoW disagrees with works being undertaken by the Contractor, that could lead to an incidence of non-compliance with the planning conditions or measures detailed

in the EIA Report, CEMP or environmental authorisations (e.g. CAR licence), the Independent ECoW informs the Employer at the earliest practical opportunity. On advice of the Independent ECoW the Employer's Project Manager shall stop the works or parts thereof as appropriate.

6.2.2 Works may not re-commence (following a stop as described above) unless and until the Independent ECoW has confirmed in writing that they are satisfied that such measures are as required and any potential or actual breach shall not re-occur.

6.2.3 The Independent ECoW will report, to the Planning Authority, any incidences of serious non-compliance with the environmental and ecological conditions at the earliest practical opportunity. This is undertaken by uploading details of any non-compliance as required under Condition 12 (sub-clause 1d) to the Highland Councils eDevelopment Portal noting reference 21/04/04080/S36 and using the Post Submission Additional Documents (PSAD) option[3]. A copy is also to be sent by email to the case officer and eplanning@highland.gov.uk.

6.3. REVIEW OF CONTRACTOR PROPOSALS AND MONITORING COMPLIANCE

Review of Contractor Plans and Documentation

6.3.1 The agreement of the Independent ECoW will be sought by the Contractor on the Contractor's proposals for schemes of work/ construction activities and mitigation/ protection measures. In addition, the Independent ECoW will review and feedback on Risk Assessments and Method Statements where required (section 2.3).

6.3.2 The Independent ECoW is to be informed of proposed new construction areas at least one week in advance (minimum of 48 hrs) of proposed works. The Contractor's Environmental Advisor will implement pre-works surveys and advise on control methods (paragraph 1.2.2).

Compliance Monitoring

6.3.3 The Independent ECoW will monitor Contractor implementation of the requirements set out within this CEMP, the Consent, EIAR Commitments, regulatory authorisations (e.g. CAR licences, protected species licences) and accepted good practice.

6.3.4 The Contractor's Environmental Advisor (on behalf of the Contractor) will obtain regulatory authorisations and the Independent ECoW, as part of their compliance monitoring role, will monitor the implementation of specified measures on behalf of the Employer and Planning Authority.

6.3.5 Further responsibilities of the Independent ECoW, relating to specific activities, is set out within the following sections of this document:

- Pollution prevention and mitigation, section 7;
- Temporary drainage requirements, section 8 and with reference to Appendix 4 Typical Drainage Schematics and Appendix 8 Water Quality and Fish Monitoring Plan;
- Water crossings, section 10
- Species and habitat protections in relation to construction activities, section 12 and with reference to Appendix 6 Species Protection Plan and Appendix 7 Breeding Bird Protection Plan;
- Excavation, soil and peat handling, section 14 and with reference to Appendix 5 Peat Depth Drawings and Peat Management Plan.

[3] Discharge of Conditions, 12, 15, 24 and 29 of 21/04080/S36 – Bhlaraidh wind farm extension, letter from Alison Harvey, The Highland Council, 2 February 2023

- Reinstatement, section 15
- Borrow pit works, section 19

6.4. INSPECTION AND REPORTING

Weekly Inspection and Log

6.4.1 The Independent ECoW conducts weekly inspection of the construction site. This will include a visual assessment of the effectiveness of environmental management (e.g. site pollution prevention measures).

6.4.2 The Independent ECoW keeps a record of the following:

- pre-works or pre-clearance checking surveys (in the days running up to works initiating in an area for birds, species and habitats),
- animal sightings and signs (including birds, in addition to other site ornithological monitoring),
- weekly checks on the effectiveness and integrity of silt and pollution prevention measures, and
- record of tasks carried out and written record of all verbal advice given.

6.4.3 The Independent ECoW issues a weekly log of the above and issues it to the Contractor and Employer, within three working days of week end (unless otherwise agreed with the Employer). This is in addition to immediate notification in response to observations, as set out in paragraph 6.1.6

Environmental Data

6.4.4 The Independent ECoW maintains a GIS database of key recordings made during the construction period. Field records will use GPS technology captured into a field GIS system.

Final Inspection and Report

6.4.5 On completion of each phase of works (i.e. site investigation, enabling works, wind farm construction), the Independent ECoW produces a final report to the Employer documenting the environmental and ecological effects of the works phase. The evidence for effects will be based on findings included in the minutes of weekly/fortnightly meetings, weekly logs and other recorded information maintained by the Independent ECoW. The report will relate results to residual effects predicted in the site's EIA Report documents. The report will be made available to the Contractor and the Planning Authority.

6.4.6 The Independent ECoW will map all areas reinstated using GIS, maintaining this record throughout the construction period and provide electronically to the Employer at handover. This will include areas identified as turves, hydro seeded, or still to be seeded within the 2 Year defect period.

6.4.7 The Independent ECoW undertakes a final inspection of reinstatement, as recorded above (paragraph 6.4.6) and as described in Section 15.3. The Independent ECoW establishes fixed point photography locations for future monitoring, with baseline photographs taken at handover.

6.5. MEETINGS AND BRIEFINGS

Site Meetings

6.5.1 The Independent ECoW attends regular (typically weekly) meetings which will include representatives from the Employer, Contractor, sub-contractors. The purpose of these meetings is to:

- review the effectiveness of mitigation / controls as construction progresses in the context of ecological and environmental mitigation,
- discuss construction programme for the following week / fortnight look-ahead and agree actions on these matters, and
- Discuss incidents and the closure of incidents (as required).

Site Briefings

6.5.2 These will be undertaken by the Independent ECoW or Contractor's Environmental Advisor (as agreed with the Independent ECoW). The delivery of environment-related inductions and Toolbox Talks will support in task briefings where specific environmental constraints have been identified. This training will set out the responsibilities of all site staff to ensure that work is carried out in accordance with environmental protection requirements, planning permissions and law. Task specific briefings will include, and not be limited to, specific controls in place to protect habitats and species such as exclusion zones.

6.5.3 Site inductions will include instruction on the circumstances when the Independent ECoW should be contacted, and the relevant phone numbers.

7. Pollution Prevention and Mitigation

7.1. RESPONSIBILITY

7.1.1 The Contractor is responsible for pollution prevention for the duration of the contract and until such time as permanent measures, such as permanent drainage and silt mitigation controls, are deemed to be adequate and appropriately constructed. This responsibility will include the actions of any third party who is sub-contracted by the Contractor or otherwise involved in the project.

7.1.2 The Contractor is familiar with and executes works in accordance with good practice, as set out in SEPA Guidance for Pollution prevention (GPPs) and Pollution Prevention Guidelines (PPGs), Engineering Guidance, General Binding Rules (Water Environment (Controlled Activities) (Scotland) Regulations) and other guideline documents (including those detailed in Part 3).

7.1.3 The Contractor must provide RAMS (as set out in section 2.3) that appropriately address pollution prevention good practice, including any further measures set out in this document. This CEMP forms part of the Works Contract (section 1).

7.1.4 The Contractor ensures that all staff and subcontractors working on site will be familiar with pollution prevention and mitigation measures as detailed in this document; this includes subcontractors, Employer's direct contractors and other Employer's representatives working on the site.

7.1.5 The Contractor ensures that all authorisations required under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (the "CAR" Regulations) are in place. Authorisations may be in place prior to construction (e.g. for construction site run-off and water crossings) or are obtained by the Contractor prior to an operation being carried out (e.g. water abstraction for dust suppression during summer months). For further information on water crossings (and associated CAR authorisations) see section 10.

Construction Run-off Permit

7.1.6 All site discharges are regulated under CAR. A Construction run-off permit will be sought by the Contractor from SEPA prior to the commencement of any operations on-site. The Contractor will act as Responsible Person.

7.1.7 A Pollution Prevention Plan will be prepared by the Contractor for Bhlaraidh Wind Farm Extension in accordance with guidance provided by SEPA for Construction Sites and will include (not be limited to) the relevant measures set out within this CEMP.

Abstraction Authorisations

7.1.8 Where abstraction of water exceeds the General Binding Rules set out under CAR, the Contractor will obtain the necessary permissions from SEPA for the abstraction of water (e.g. for dust suppression).

7.1.9 In all cases the Independent ECoW is consulted in advance of (and must accept prior to) abstraction of water on site (e.g. from watercourses or lochans). The Contractor's Environmental Advisor (in conjunction with the Independent ECoW) carries out surveys immediately prior to activity to check for breeding birds or mammal activity in proximity to abstraction.

7.2. GENERAL POLLUTION PREVENTION MEASURES

7.2.1 The following points (not exhaustive) indicate general pollution prevention measures in accordance with those highlighted within the guidelines referenced in this document and the EIA Report. Pollution Prevention measures relating to specific tasks are also detailed in the respective sections of this document.

- Any material or substance which could cause pollution, including fuels/oils, wet cement, raw concrete or silty water will be prevented from entering groundwater, surface water drains or watercourses by the appropriate use of and appropriate placement of (temporary) silt fences, cut-off drains, silt traps and drainage to vegetated areas where appropriate.
- Where a minimum buffer distance of 50m from surface water cannot be achieved for high risk activities (e.g. crushing, refuelling, stockpiling, use of cementitious materials), advice will be sought from the Independent ECoW and a minimum distance will be agreed with the Employer.
- Consider local weather conditions and patterns including rainfall and wind direction. Take this into account when planning certain activities (e.g. topsoil stripping) for appropriate control of dust and silt.
- Any sign of failing water treatment measures or sight of silted or contaminated water entering any watercourse on site will be reported immediately (section 4).

Fuelling and Pumping Safeguards

- External fuel delivery lorries will only be allowed as far as the site compound where the refuelling area will be equipped with an impermeable base with oil interceptor (in accordance with Guidance for Pollution Prevention, reference provided in Part 3).
- Fuel transfer / refuelling and pumping will be undertaken by specifically trained and competent staff or undertaken under competent supervision.
- During fuelling and pumping, pumps will not be left unattended at any time.
- Areas of waste oil / fuel / chemical storage and permanent refuelling will be located 50m away from watercourses or drainage paths. Where this is not possible, advice will be sought from the Independent ECoW and a minimum distance will be agreed with the Employer.
- Storage will be secured to prevent the public or animals from gaining access.
- Storage areas will be sited on an impervious base to prevent the downward percolation of contaminants to natural soils and groundwater.
- Siting of storage will be in a manner so as to avoid damage from collisions or other impacts that could compromise containers.
- All refuelling and pumping will be carried out at least 50 metres from surface water. Where this buffer distance cannot be achieved a minimum distance will be agreed with the Independent ECoW.
- Fuel pipes on plant, outlets at fuel tanks etc will be regularly checked and maintained to ensure that no drips or leaks to ground occur. Records of checks will be maintained and made available to the Employer on request.
- Irrespective of the buffer distance and location of refuelling, drip trays/ plant nappies will be available (open metal drip trays are not acceptable).

Spill Prevention

- The Contractor carries out daily inspections of oil/fuel storage areas and plant. The frequency and responsibility for undertaking these inspections will be recorded by the Contractor and communicated to the Employer prior to commencement of the works.

- Spill kits will be available within each plant and close to identified pollution sources (e.g. fuel storage areas) or sensitive receptors (e.g. water course crossings).
- Mobile plant will not be left unattended on site beyond the working day and must be stored on intercepted hard standing overnight.
- Plant nappies will be positioned under any stationary mobile plant to prevent oil contamination of the ground or surface water. In certain circumstances it may not be practicable or safe to use a plant nappy[4], in this case the Contractor will seek agreement with the Independent ECoW on an appropriate approach (see section 5.1).

Silt Pollution Prevention

- Any silty water generated on site will ideally be settled out as much as possible through drainage mitigation measures (e.g. silt traps) and channelled into suitable vegetated areas at least 50m from watercourses where possible. Where this buffer distance cannot be achieved a minimum distance will be agreed with the Independent ECoW. Settlement must take cognisance of any protections and restrictions noted in the Environmental Risk Map (section 3) or by the Independent ECoW.
- All stockpiled materials will be stored in designated areas and isolated from any surface drains and a minimum of 50 metres away from watercourses. Where this buffer distance cannot be achieved a minimum distance will be agreed with the Independent ECoW. Aggregate or fine materials storage with dust or run off potential will be enclosed and screened/sheeted.

Concrete Washout

- Washing out of concrete wagons on site shall only be permitted when the Contractor has provided a designated, suitably prepared washout area with signage identifying the area as suitable for concrete wagon washout.
- The concrete 'washout' in the designated area shall not be emptied into any watercourse and shall be appropriately treated or disposed of in accordance with the Site Waste Management Plan.
- Tools, equipment or materials will not be washed in watercourses. Mortar mixing and material storage areas must be away from watercourses.

Flocculants

- There will be no use of flocculants permitted to treat drainage where they have the potential to alter water chemistry. Any proposals for the use of flocculants must be agreed with the Independent ECoW, Employer's Project Manager and SSE Environmental Manager. It is anticipated that SEPA authorisation would also be required.

7.3. DUST MANAGEMENT PLAN

7.3.1 The Contractor implements the following mitigation measures to minimise dust emissions during the Works:

- Local road network will be protected from mud, debris or other loose or deleterious material deposits.
  - Wheel cleaning and lorry sheeting measures will be employed as required.
  - A road sweeper will be used where required.

[4] For example, uneven ground where a slope would make the plant nappy ineffective or on soft/ uneven ground where it may be dangerous for an operative to reach under plant.

- Adequate supplies of water are made available for use in dust suppression units/bowsers.
  - Tracks and hardstanding areas are kept clean and, if unsealed, are kept damp during prolonged spells of dry weather or as required to suppress dust emissions.
  - Excavations and excavated materials are kept damp by water spraying or misting and stockpiles are dampened down and if necessary, covered or screened.
  - Borrow pit working areas are kept damp by water spraying or misting if required to suppress dust emissions.
- Waste material is stored in a controlled manner in a designated area.
- Dust collection systems and / or dampening systems are used on all blast-hole drilling machines (if used).
- Site speed limit will be enforced and reduced to manage dust when required.
- No burning of materials is permitted on site.
- Dust-contaminated run-off water (e.g. arising from dust suppression) must be prevented from discharging to watercourses untreated.

7.3.2 The Contractor shall maintain a Dust Suppression Register measures employed on hard standings, tracks, excavation and storage areas.

7.3.3 Abstraction of water is an activity regulated by SEPA, see section 7.1.8.

7.4. NOISE MITIGATION PLAN

Normal Working Hours

7.4.1 Normal construction hours will be 07:00 to 19:00 Monday to Friday and 07:00 to 14:00 Saturdays. There shall be no construction traffic movements to or from the Site outwith these hours or on Sundays. In the event of work being required out with these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority will be notified prior to these works taking place wherever possible.

Crushing Equipment Working Hours

7.4.2 Operation of crushing equipment located within / next to borrow pits will generally be limited to 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 on Saturdays, with no operation on Sundays.

Blasting Working Hours

7.4.3 Any blasting on site shall only take place between the hours of 07:00 to 19:00 on Monday to Friday inclusive and 07:00 to 13:00 on Saturdays with no blasting taking place on a Sunday or on a Public Holiday unless otherwise approved in advance in writing by the Planning Authority.

Extraordinary Working Hours

7.4.4 Any extraordinary site work would be programmed and agreed in advance with the Local Authority.

Noise and Vibration Control Measures

7.4.5 Due to ecological sensitivity, any works which may involve large scale noise or vibration (such as pile driving or blasting) will be undertaken only with prior consultation with the Independent ECoW and in accordance with ecological protection plans (section 12).

7.4.6 Good site practices will be implemented by the Contractor onsite to ensure no significant adverse effects. Section 8 of BS5228-1:2009+A1:2014 (BSI, 2008) recommends a number of simple control measures as summarised below that would be employed onsite:

- 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 would be programmed and agreed in advance with the Local Authority as detailed in the CEMP.
- Ensure all vehicles and mechanical plant are 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 to minimise noise during this operation.
- Ensure all ancillary plant such as generators and pumps would be positioned to cause minimum noise disturbance and, if necessary, temporary acoustic screens or enclosures should be provided.

7.4.7 Blasting operations shall adhere to good practice as set out in BS 5228-2:2009+A1:2014 and in PAN 50 Annex D Paragraph 95. Blasting will be undertaken in strictly controlled conditions with the agreement of the relevant authorities.

7.5. LIGHT MANAGEMENT

7.5.1 Temporary lighting must be directed away from watercourses and an unlit corridor of 30m either side of watercourses is maintained.

7.5.2 Compound lighting shall face inwards to reduce light pollution and impact to wildlife.

7.6. COSHH

7.6.1 The Contractor is responsible for ensuring that all materials ordered or brought to site listed as hazardous under the Control of Substances Hazardous to Health (COSHH) Regulations are accompanied with a hazardous information sheet and COSHH Assessment for the safe use of each substance. The Contractor complies with the COSHH Regulations. This includes appropriate containers that are secured, labelled and bunded.

7.7. WINTER MAINTENANCE

7.7.1 Where clearance of snow is required, this must be undertaken mechanically and with care not to dislodge underlying road surface material.

7.7.2 Use of de-icers (e.g. grit/ road salt) is not recommended and will only be permitted under specific conditions where use is considered essential, in agreement with the Employer and Independent ECoW. The application of de-icers must be localised and targeted to minimise adverse environmental effects to surrounding vegetation and prevent run-off to surface water.

7.7.3 De-icers are pollutants and must be stored in accordance with good practice for chemical storage. Protected from the weather and at least 50m from surface water.

8. Drainage

8.1. SCOPE AND MINIMUM REQUIREMENTS

8.1.1 All temporary drainage measures are to be agreed in advance by the Independent ECoW (section 6) to ensure appropriate pre-works surveys and other considerations have been addressed prior to implementation.

8.1.2 The Contractor submits all temporary drainage designs and drawings as required to comply with conditions of the CAR, including Construction run-off Permit (see section 7).

8.1.3 The Contractor undertakes maintenance of all temporary and permanent drainage solutions as and when required at a frequency at least weekly whilst the Contractor maintains a Drainage Maintenance Register and issues this to the Employer's Project Manager on a weekly basis.

8.1.4 Temporary drainage should be as required to comply with SEPA guidance and must accommodate a 1:200 year event as a minimum but may be designed to accommodate larger flows depending on the specific site conditions.

8.1.5 The Contractor designs and constructs a drainage system including all silt mitigation measures necessary to prevent the pollution of existing drainage systems and watercourses for construction and post construction activities.

8.1.6 Except where necessary to facilitate the crossing of a watercourse, works will typically be undertaken out with 50m of any watercourse. Any exception to work with reduced distances must first be agreed with the Independent ECoW.

Discharge of Water

8.1.7 All drainage associated with the works, with the exception of that carrying purely green field 'clean' run-off, is not permitted to discharge directly into any existing drainage or watercourse without treatment.

8.1.8 The Contractor does not discharge water unless they have acceptance from the Independent ECoW (through a permit to pump system of notification, in advance of works), and complied with the requirements of CAR. This includes the pumping of standing water from an excavation.

8.1.9 The Contractor does not discharge any drainage within 50m of a watercourse unless accepted otherwise by the Employer's Project Manager and the Independent ECoW.

8.1.10 The construction compound and laydown area(s) are free draining with oil interceptors and contain a bunded area for maintaining vehicles and plant, or other pollution control measures, as appropriate / required to protect surface water.

Permit to Pump

8.1.11 A 'permit to pump' procedure will be in place prior to water being pumped from any excavation. The Contractor seeks the Independent ECoWs agreement prior to granting a 'permit to pump'.

Clean Water Diversion

8.1.12 Where possible, green field run-off will be kept separate from silty water or other potentially contaminated water. Where appropriate, interceptor ditches and other drainage diversion measures will be installed (prior to excavation works) in order to collect and divert green field run-off away from construction disturbed areas.

8.2. SILT MITIGATION AND SETTLEMENT PONDS

8.2.1 The Contractor creates and maintains silt mitigation to protect all watercourses, which may be affected by the works. The Contractor maintains these weekly to the satisfaction of the Employer's Project Manager and the Independent ECoW.

8.2.2 All drainage associated with the works, with the exception of that carrying purely greenfield run-off, is not permitted to discharge without passing through a SUDS treatment system or equivalent, as required by the Construction Run-off Permit, GBR 10 and within SEPA guidance.

8.2.3 The Contractor channels separately silty water drainage to vegetated areas at least 50 metres from watercourses to allow the settlement of solids. Where settlement over vegetation is not ecologically sound (e.g. involving intact blanket bog), or is not practical or adequate to deal with the volume of silt generated, the Contractor provides adequately sized settlement lagoons.

Settlement

8.2.4 Silt laden run off should be expected from any areas of recently exposed soil or rock. This silt laden run-off will be captured and directed via berms or ditches towards specially constructed sediment control structures and will not be allowed to be discharged directly to the water environment.

8.2.5 Siting of settlement ponds will take into consideration access requirements for reinstatement and maintenance (for example: periodic silt removal, expansion of ponds or incorporation of additional silt mitigation measures, etc.).

8.2.6 The Contractor discusses and agrees the location of lagoons and other drainage mitigation measures with the Independent ECoW prior to associated works taking place. The Contractor is responsible for ensure any lagoons are adequately sized.

8.2.7 Details of typical settlement ponds and silt mitigation measures are provided in Appendix 4 (Schematic 1 Settlement Ponds, Check Dams and Silt Fences). Additional filtration measures may include flow attenuation measures such as weirs, rock bars and / or anchored and embedded straw bales within settling ponds or between series of ponds.

8.3. BORROW PIT DRAINAGE

8.3.1 Schematic representation of a typical borrow pit drainage arrangement is provided in Appendix 4 (Schematic 4 Borrow Pit).

8.3.2 The Contractor incorporates a drainage system compliant with GBR 10C of CAR that includes a SUD system or equivalent.

8.3.3 The Contractor channels borrow pit drainage to settlement ponds located a minimum of 50m from any watercourse.

8.3.4 The Contractor constructs all necessary drainage prior to commencing excavation of the borrow pit.

8.4. TURBINE FOUNDATIONS AND CRANE HARDSTANDINGS

8.4.1 Schematic representation of a typical turbine base and crane hardstanding drainage arrangement is provided in Appendix 4 Typical Drainage Schematics (Schematic 5).

8.4.2 Foundation excavations for turbines are generally below the level of the surrounding ground and hence surface water ingress from up slope or groundwater seepage may occur, leading to standing water within the base of the excavation. A 'permit to pump' procedure will be in place prior to water being pumped from an excavation (see 8.1.11).

8.5. CONSTRUCTION COMPOUNDS AND CONTROL BUILDINGS

8.5.1 Schematic representation of a typical drainage arrangement around construction compounds and control building excavations are provided in Appendix 4 (Schematic 6 Construction Compound).

8.5.2 As with tracks and borrow pits, green field run-off and development run-off will be kept separate and appropriate silt mitigation measures will be deployed. Pumping of water from excavations is subject to a 'permit to pump' (see 8.1.11).

8.5.3 The construction compound(s) will be free draining and contain a bunded area draining to oil interceptor (or similarly robust alternative) for bulk fuel storage and maintaining vehicles and plant, or other pollution control measures, as appropriate / required to protect surface and ground water. Any alternative to a bunded area suggested by the Contractor must be agreed with the Employer.

8.6. ACCESS TRACK DRAINAGE

8.6.1 The Contractor provides silt traps / catch pits at the inlet of all cross drains to prevent the pipes becoming blocked and prevent erosion at the inlet points. Silt traps / catch pits are designed to allow access by gully suckers to remove silt during the operational phase of the wind farm and are designed to present no risk to wildlife, whilst permitting unrestricted water flow into the catch pit. An illustration of drainage arrangements is provided in Appendix 4 (Schematic 3 Cut and Fill Track).

8.6.2 The Contractor erects and maintains silt fences to protect all watercourses, which may be affected. The Contractor maintains these.

8.6.3 All drainage channels are sufficiently wide as is practicable to allow wildlife to safely enter/exit the channel. Slope angles are a minimum of 1(v):3(h), except where the Contractor can demonstrate a more efficient design.

8.6.4 The Contractor provides scour / erosion protection to slow the flow of water.

8.6.5 The Contractor provides permanent check dams / water bars (flow barriers or dams constructed across the drainage channel) at regular intervals within drainage ditches. Check dams are required in order to reduce the velocity of water and therefore allow settlement of coarser sediment particles, as well as silt at low flow conditions. Reduction in velocity will also prevent scouring of the drainage channel itself.

8.6.6 Check dams are constructed of clean aggregate graded 50mm – 300mm and are embedded into the side walls and invert of the excavation by at least 100mm. The number and location of check dams is dependent on the slope gradient, flow velocity and volume of water, the minimum frequency of check dams will generally be such that the top of the downstream check dam is level with the toe of the next check dam upstream.

8.6.7 Green field run-off and development run-off will be kept separate where possible and will be channelled separately to suitably vegetated areas at least 50 metres from watercourses to allow the settlement of solids on site. Schematic arrangements for tracks and watercourse crossings are illustrated Appendix 4 (Schematic 2 Tracks and Watercourse Crossings).

Floating Track

8.6.8 Due to the relatively shallow depth of peat, it is not anticipated that floating sections of track will be required. However, if there is any unforeseen requirement to construct this type of track then intercepting ditches (V shaped intercepting ditches in particular) should be avoided for floating

track as these can lead to a lowering of the existing water table. The floating track should stand above the bog and therefore rainfall should be contained within the bog as previously.

8.7. PEAT AND SOIL STORAGE DRAINAGE

8.7.1 The Contractor considers the location of any temporary peat or soil storage areas such that erosion and run-off is limited, leachate from the stored material is controlled and stability of the existing ground, particularly in peatland areas, is not affected. The Contractor also gives consideration to the impacts of poor drainage control in any areas where peat is used in reinstatement (sections 14 and 15).

8.7.2 Interceptor ditches, down slope drainage collection systems, containment berms (embedded where appropriate), and appropriate drainage mitigation measures will be required as with other infrastructure described above.

8.7.3 The Contractor carefully selects the locations and designs the peat and other spoil storage requirements including methods for reinstatement works and incorporated drainage elements. Such design will be prepared and agreement sought from the Independent ECoW and Employer prior to works commencing. Further peat storage requirements are provided in section 14.

9. Water Quality and Fish Monitoring

9.1. GENERAL REQUIREMENTS

9.1.1 The full Water Quality and Fish Monitoring Plan (WQFMP) is set out in Appendix 8.

9.1.2 The Employer is undertaking monthly water quality monitoring and has obtained baseline surface water quality data prior to commencement of the works. Fish population monitoring began with a baseline survey undertaken in 2022 in accordance with Marine Scotland guidance (Monitoring watercourses in relation to onshore wind farm developments, 2021).

9.1.3 Monitoring of water quality and fish population monitoring will continue over the duration of the works in order to identify any significant changes of water quality which may be attributed to the construction works. The scope, location and frequency of monitoring has been agreed with SEPA prior to commencement in accordance with Planning Condition 29.

9.1.4 A monthly monitoring report on the findings of the water quality monitoring exercises will be prepared and provided to the Employer. Any important findings or environmental issue of concern observed will be reported immediately to the Employer.

9.1.5 Where a decrease in water quality resulting from construction works is observed the Contractor will undertake remedial measures and will bear the costs of all associated sampling and investigation. The Contractor may wish to undertake confirmatory sampling and analysis at any point during the works at their own cost.

9.1.6 During the main construction phase weekly visual checks of the water management features and downstream hydrological features will be undertaken by the Independent ECoW when construction activities (i.e., ground-breaking and or erection works) are within 500 m or upstream of a monitoring location.

9.2. CONTRACTOR'S VISUAL AND FIELD WATER QUALITY MONITORING

9.2.1 The Contractor ensures that all personnel and visitors on site are encouraged (at site inductions) to report visual indications of changes in water quality (e.g. discolouration or other evidence of contamination) in any watercourses on site.

9.2.2 The Contractor undertakes daily visual inspections of the watercourses on site. The Contractor's monitoring records will include the following minimum information:

- Antecedent and current weather conditions;
- Current construction activities within the vicinity and in particular up stream or up gradient of the observation point;
- Visual assessment of water colour, turbidity and flow rate;
- Evidence of chemical contamination;
- Visual evidence of silt or sediment pollution within the water column or on the bed of the watercourse/standing water body.
- Details on any communication, corrective action and / or mitigation undertaken as a result of any water quality issues observed during the monitoring visit.
- Visual monitoring records will be kept by the Contractor and made available for review by the Independent ECoW and Employer

9.2.3 Where evidence of pollution is observed to the water environment, emergency response procedures will be implemented and the incident will be reported to the Employer within

30minutes (Section 4). Remedial measures will be implemented immediately and details of action taken will be recorded.

9.3. FISH POPULATION MONITORING

9.3.1 The Employer is undertaking monitoring of fish populations, included within Appendix 8 Water Quality and Fish Monitoring Plan.

9.3.2 The surface water and fish monitoring programme is implemented and maintained by the Employer and undertaken by an environmental consultant appointed by the Employer.

9.4. PRIVATE WATER SUPPLIES (PWS)

9.4.1 All surface water PWS sources are located at least 1km from construction works. Many of the supplies identified within the EIAR have now been connected to the water main or are groundwater sources. One surface water source, supplying three properties has remote hydraulic continuity with the development, and one ground water source, at the existing wind farm substation compound. A Private Water Supply Risk Assessment has been undertaken and is provided in Appendix 9.

9.4.2 Monitoring of the PWS (Table 2) will begin with baseline data collection following completion of enabling works, anticipated August 2024. Monitoring of these sources will continue throughout construction of the main wind farm.

Table 2 Private Water Supply

PWS Identifier	Source NGR	Source Type	Notes
PWS 1 Bhlaraidh Wind Farm Substation	NH 36889 20317	Goundwater borehole	Groundwater supply. Supplies the substation welfare facilities. 105m from the temporary construction compound required for wind farm construction.
PWS 6 Briarbank	NH 45574 19178	Surface Water	Sourced from Allt Saigh. Supplies three properties. The Development is partially within the upper catchment.

9.4.3 Local residents will be kept informed of construction activities via the Community Liaison Group (CLG) which will be established prior to the commencement of construction to facilitate engagement between the Developer, the Contractor and local residents / representatives of communities who may be impacted by construction activity.

9.4.4 Measures to prevent pollution of water, as prescribed in sections 7 and 8, minimises the risk to PWS sources. Onsite visual monitoring of water quality by the Contractor/ Environmental Advisor, Independent ECoW and the Employer's monthly monitoring programme (detailed in the WQFMP in Appendix 8) will note any deterioration to water quality during construction to enable appropriate action to be taken.

Emergency Contingency Measures

9.4.5 In the event of a pollution incident, the Contractor notifies all potentially affected downstream users.

9.4.6 If the quality of a PWS is suspected or shown to be negatively affected by the works the Contractor ceases to work upstream of the supply until an alternative drinking water supply has been provided to the user(s) of the PWS and the cause of the PWS pollution has been identified and remediated.

9.4.7 Where supplies are affected or disrupted as a result of pollution arising from the construction works on the wind farm site, the Contractor arranges for an alternative water source to be installed until such time as the existing supply is reinstated to an appropriate quality.

9.4.8 Where it is demonstrated that disruption of a supply has been caused by works, the Contractor bears all costs associated with additional sampling, monitoring and installation of temporary or alternative supplies.

10. Watercourse Crossings

10.1. GENERAL

10.1.1 The Controlled Activities (Scotland) Regulations 2011 regulate activities in or in the vicinity of rivers, lochs and wetlands, including engineering activities like temporary or permanent river crossings. Works may require (depending on the nature of the works) Registration with, or a Licence from, SEPA.

10.1.2 CAR authorisations for water crossing designs will be obtained by the Contractor in advance of commencement of works (paragraph 1.2.5). Anticipated crossing design types have area set out within Technical Appendix 9.1 Watercourse Crossing Schedule of the EIAR.

10.1.3 Should the Contractor wish to vary the design or approach, set out in CAR authorisations, then they must detail any variation to agreed approach prior to commencement of the works, i.e. detailed plans for works in the vicinity of surface water. The Contractor submits these plans to the Employer and SEPA (via the Planning Authority) for acceptance. There may be a significant delay if a licence (or change to authorisation) is required.

10.1.4 The Independent ECoW is consulted in advance of (and must accept prior to) all temporary watercourse crossing works. The Independent ECoW oversees surveys immediately prior to construction or upgrading to identify areas of fish and mammal activity in and around watercourses. Prior to in-channel works, where deemed necessary by the Independent ECoW, an exclusion zone may be put in place and fish rescue undertaken.

10.1.5 Operating and crossing vehicles or plant within water courses (including to ford) is not permitted unless pre-agreed with the Independent ECoW. It will be the responsibility of the Contractor to agree an approach with the Independent ECoW and to provide any necessary information e.g. methodology, plan specifications and habitat protection measures.

10.1.6 If there is disturbance to the riverbed then work should not be carried out during fish spawning times and fish emergence times. Key fish species to consider include salmon and trout (normally October – May) and Lamprey species (normally March – July). However, these times can vary and contact must be made with the local district salmon fishery board.

Temporary Water Crossings

10.1.7 Where feasible, span structures are preferred to prevent encroaching on the bed or banks of the watercourse.

10.1.8 All temporary crossing will comply with the General Binding Rules (primarily GBR 6) of the CAR and/or be included within the authorisation for the permanent crossing.

10.1.9 In accordance with good practice temporary construction methods (section 18), the most appropriate method of isolation will be identified to provide the highest level of pollution prevention.

10.1.10 The Independent ECoW is consulted in advance of all temporary watercourse crossing works and must agree methodology in advance.

Fording or Operating Vehicle, Plant or Machinery In or Near Water

10.1.11 Fording is not permitted. In specific circumstances, where there is no alternative available, it may be pre-agreed with the Independent ECoW to operate within water (e.g. for the purpose of placing a temporary crossing). This work must be undertaken in accordance with General Binding Rule 9, good practice (section 7) and in consideration of the sensitivity of the watercourse (section 10.1.6).

10.2. DESIGN PHILOSOPHY

10.2.1 The Contractor adheres to general good practice in Watercourse Crossing design in line with relevant good practice (including guidance listed in Part 3).

10.2.2 All watercourses over which the access roads cross will be routed through culverts or under bridges appropriately sized and designed not to impede the flow of water and allowing safe passage for wildlife. They will be visually in keeping with the surroundings and low maintenance.

10.2.3 The Contractor consults and complies with the requirements of the relevant Statutory Authorities, Utilities and Service Providers, including the onsite Independent ECoW and the Employer for the construction of any culverts or bridges.

10.2.4 Permanent watercourse crossings will be bottomless culverts or traditional style bridges, with no construction on bed or banks. The Contractor provides watercourse crossing structures (i.e. bridges) with sufficient clear span as to ensure no works are required within one metre of the watercourse, unless accepted in writing by the Employer's Project Manager (in accordance with section 5 Management of Change), to minimise impact to the bed and banks.

10.2.5 Where temporary closed culverts are necessary, as far as practicable, they will be over-engineered so that it can be sunk into the bed of the watercourse allowing riverine substrate to stabilise on the floor of the culvert (i.e. leaves the watercourse in as natural condition as possible).

Sizing

10.2.6 All river crossings will be designed to convey a minimum 1:200 year + climate change storm event, and individually sized and designed to suit the specific requirements and constraints of its location. The Contractor designs all new and upgrades any existing structures spanning watercourses to accommodate the flow resulting from the 1:200 year + climate change storm event. The Contractor designs these structures to ensure they do not affect any existing floodplain or the downstream flow characteristics of the watercourse, unless subsequently agreed by the planning authority in consultation with SEPA. Any alternative design should show proposed flood water flow paths which should pass through relief channels where the track needs to be raised to approach the crossing. In other areas the track should be kept at existing land levels to allow flow paths to overtop the track. The design should be shown to only have an impact on flooding on the immediate area of the crossing.

10.2.7 Where the Contractor demonstrates the passing of the unrestricted flow from the 1:200 year + climate change storm event negatively affects the downstream catchment the Contractor designs the access track and associate drainage to ensure any surcharging during the 1:200 year + climate change storm event does not jeopardise the structural integrity of any assets while protecting the downstream catchment.

Erosion Protection

10.2.8 Erosion protection is generally required at the outlet of the culvert (and to a lesser extent at the inlet). However, by appropriately sizing and designing the structure erosion can be minimised reducing the need for any engineered protection.

10.2.9 Where possible the design will avoid using artificial bank reinforcement, and the watercourse kept as natural as possible. Bank protection measures will have to be justified to SEPA regardless of the required level of authorisation (under the Controlled Activities Regulations) required.

11. Waste Management

11.1. GENERAL REQUIREMENTS

11.1.1 In accordance with best practice, the Contractor shall create and maintain a Site Waste Management Plan (SWMP). This is to manage waste effectively, reduce the amount of waste produced and collate measured waste data required by the Employer.

11.1.2 The SWMP will forecast and record all waste types and volumes arising from the Development. A simple construction SWMP checklist can be found on NetRegs (Part 3).

11.1.3 The minimum percentage rate for diversion of site wastes from landfill expected by the Employer is 85%.

11.1.4 The Contractor utilises only certified waste carriers / waste contractors and maintains records of these contractors (carriers, transfer station, waste recipient etc) as part of the SWMP documentation onsite.

11.1.5 Welfare facilities will either connect directly to the foul sewer, self-contained storage tanks or to a septic tank, subject to approval from Scottish Water and 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.

11.2. SWMP DEVELOPMENT AND RECORDS REQUIRED

11.2.1 The Contractor's SWMP shall provide details on how waste reduction shall be implemented at the site and how this will be monitored throughout the construction phase. The Contractor's Environmental Advisor takes responsibility for implementation and monitoring of the SWMP.

11.2.2 The Contractor shall include the following within the SWMP as a minimum:

- Identification of the Employer, the Contractor; the person(s) who drafted the SWMP and the person(s) who will be responsible for its implementation, monitoring and review during and upon completion of construction works.
- The minimum percentage rate for diversion of waste from landfill expected by the Employer or set by the Contractor (if proportion diverted is greater), measured in tonnes. (see paragraph 11.1.3)
- Waste streams expected to arise over the duration of construction and the anticipated destination of these of wastes:
  - a description of each waste type expected to be produced in the course of the project, with the relevant European Waste Catalogue code assigned to it.
  - an estimate of the quantity (in tonnes) of each different waste streams / type of waste expected to be produced during each construction activity.
  - Identification of the waste management actions proposed for each different waste type, including reuse/recovery, recycling and disposal.
- a written statement demonstrating what actions are to be taken to minimise the volume of each type of waste produced prior to commencement of the activity generating the waste, e.g:
  - provision of bins to segregate waste and recyclable materials within all welfare facilities in-line with the preliminary, non-exhaustive waste streams identified;

  - provision of separate, suitably robust skips for general waste and separate recyclable materials within the main site compound in-line with the preliminary, non-exhaustive waste streams identified.
  - management of expected and unexpected hazardous/special waste. i.e. provision of secure bunded containers to store waste oils / fuels / lubricants and oily rags prior to removal from site.
  - re-use of materials such as concrete formwork and reinforcement “seating” steel.
  - material arising from excavation works may be reused as fill material where suitable (and not posing environmental risks).

- A site plan showing all waste disposal/recycling locations and material storage areas.
- Identification of the proposed Waste Contractor(s) and the requirements imposed on them, i.e. completion of Waste Transfer Notes (WTN)/Consignment Notes (CN).
- WTN for all materials removed from site comprising the following information:
  - European Waste Catalogue (EWC) codes;
  - description of waste removed from site;
  - date and time waste removed from site;
  - weight (in tonnes) of waste removed from site;
  - name of Waste Contractor Operative;
  - location of waste disposal site which is to be used; and
  - weigh of waste / recyclable material, i.e. waste facility will include weight bridge.
- All estimated and actual waste itemised (by waste stream as a minimum) in tonnes and the recovery rate.

11.3. SWMP IMPLEMENTATION AND MONITORING

11.3.1 The Contractor’s Environmental Advisor checks the contents of the site waste and recycling skips on a weekly basis to ensure waste is being correctly segregated. Non-compliance will be highlighted at the weekly progress meeting and appropriate actions taken e.g. a toolbox talk to all working parties.

11.3.2 The Contractor shall demonstrate compliance with the responsibilities outlined in Duty of Care for Waste and refers to the good practice principals detailed in A Simple Guide to Site Waste Management Plan (see Part 3).

11.3.3 For monitoring and auditing purposes, the Contractor’s Environmental Advisor implements and maintains a Waste and Recycling Record under the SWMP. As a minimum, this includes a record of all waste leaving the site, including copies of all WTN/ CN in-line with the relevant requirements. Information on the end treatment of each waste shall be collected and retained (e.g. from the Contractor’s waste broker).

11.3.4 Waste management is monitored by the Contractor’s Environmental Advisor and reviewed monthly against the estimate set within the Contractor’s detailed SWMP. Where necessary, changes are implemented in order to revise site activities if performance is below the set recycling target.

11.3.5 Waste management will be a recurring agenda item for all regular meetings as required by this document. The Contractor’s Environmental Advisor provides an update on the achieved percentage of recycling and any actions that are required to be implemented.

11.4. WASTE REPORTING TO EMPLOYER

11.4.1 A Monthly Waste Summary must be provided to the Employer's Project Manager by the fifth working day of each month. This must contain actual measured waste data for the previous calendar month, including:

- types of waste generated (summarised by EWC Code and waste description);
- measured volume of each waste type generated (in tonnes); and
- end treatment of each waste type (i.e. volume or percentage of each waste that is recycled, recovered/reprocessed, waste to energy or landfill).

11.4.2 Upon completion of works, the Site Waste Management Plan will be provided to the Employer. This will contain pre-construction estimated and actual waste itemised (by waste stream as a minimum) in tonnes and the recovery rate of each waste.

12. Ecological Protection Plans

12.1. OVERVIEW

12.1.1 The Independent ECoW Team have produced ecological protection plans that will be updated (as required) over the course of development. The Independent ECoW shall monitor the Contractor and their Environmental Advisor's implementation of the Species Protection Plan (section 12.3 and Appendix 6), Breeding Bird Protection Plan (section 12.4 and Appendix 7) and Habitat Protection Plan (section 12.2). The Independent ECoW will monitor compliance with these plans over the duration of development and restoration of the site. Wider Independent ECoW responsibilities are set out in section 6.

12.1.2 In addition to the Ecological Protections set out within this chapter, relevant monitoring and controls are detailed elsewhere within this CEMP. These include:

- Water Quality Monitoring that will continue throughout Works (section 9),
- General good practice measures and Guidance for Pollution Prevention produced by SEPA will be adhered to (referenced in Part 3),
- Pollution prevention measures will be installed and maintained as appropriate (sections 7), and,
- Appropriate temporary drainage measures (section 8).

12.1.3 The controls set out in this section of the CEMP (listed above and elsewhere) instruct pre-works surveys to be undertaken by the Contractor's Environmental Advisor and for appropriate safeguards to be put in place to protect ecological features.

General Requirements

12.1.4 The Contractor is required to comply with all regulations, guidance and control measures (detailed within Ecological Protection Plans, elsewhere within this CEMP or as required by the Independent ECoW).

12.1.5 The Contractor ensures that all working parties are aware of the emergency response procedures to be followed in the event of a pollution incident (including section 4).

12.1.6 Any changes to protection measures, mitigation approach or method statements must be agreed in accordance with section 5. This will be in partnership with the Independent ECoW and may also include Nature Scot, SEPA and Planning Authority as applicable.

12.1.7 The Contractor accesses and egresses the site via the plant access routes identified, any deviation must be agreed with the Independent ECoW and Employer.

12.1.8 The Contractor takes into account constraints as identified in Appendix 2 Environmental Constraints Map These must be used in preparation of RAMS and in briefings to working parties on site, as applicable to their role.

12.1.9 The Contractor reports any sightings of protected wildlife including (but not limited to) otters, water vole, hare, or breeding birds to the Independent ECoW on the day of the sighting.

12.1.10 Any abstraction of water may impact breeding birds, fish or other species and therefore consultation with the Independent ECoW must be undertaken in advance, see paragraphs 7.1.8 and 7.1.9 of this CEMP for further information.

12.1.11 The following sections include additional measures specific to habitats, birds or other species.

12.2. HABITAT PROTECTION PLANS

12.2.1 The Bhlaraidh Wind Farm Extension site is within an upland peatland habitat that includes standing and running waterbodies. The planned temporary construction compound lies adjacent to the River Moriston Special Area of Conservation (SAC), is designated for freshwater pearl mussel and Atlantic salmon.

12.2.2 Habitat protection may be defined as the set of measures used to minimise the risk of damage or destruction to the terrestrial and aquatic habitats of the site, including groundwater dependent terrestrial ecosystems (GWDTE), and downstream ecosystems. Further information on the protection of wetland ecosystems is provided below.

General Habitat Protection Measures

12.2.3 The Contractor will discuss and agree the requirement for demarcation with the Independent ECoW and the Employer prior to commencement of any works. Buffer zones will be demarcated by the Contractor's Environmental Advisor, where necessary, and confirmed with the Independent ECoW.

12.2.4 The Contractor maintains a 50m buffer between working areas and watercourses where possible except at watercourse/open drain crossing points. Any buffer zones less than 50m have to be authorised by the Independent ECoW, the minimum buffer zone is 10m.

12.2.5 The Contractor will restrict all works and movements as far as possible to the footprint of the planned infrastructure and turbine bases identified or as agreed with the Independent ECoW, thus avoiding watercourse buffer zones and areas of sensitive peatland.

12.2.6 Where possible, the Contractor avoids works and vehicle movements in areas of wet bog and excessive peat depth. In addition, current good working practices will be applied in order to ensure stabilisation of peat.

12.2.7 The Contractor will use bog mats and low ground pressure plant as appropriate, especially for vehicle/plant movement in areas of deep peat where plant movement cannot be avoided.

Sensitive Habitats

12.2.8 Protection of sensitive habitats (through avoidance and minimisation of damage and loss) like active blanket bogs and GWDTE is required as these habitats are recognised as important under the EC Directives.

12.2.9 Sensitive habitats, such as the two small areas of M11 (flush) and M15b (wet heath) habitat (shown in Appendix 2), will be physically marked out on site to protect them from disturbance during construction.

12.2.10 Pre-works surveys will include identification of sensitive habitats. Measures to protect the habitats, and the hydrology that sustains them, may include micro siting (section 5.2) or erecting exclusion zones. This is in addition to pollution prevention and mitigation measures to protect water quality set out in section 7.

12.2.11 All site working practices need to consider their possible effects on sensitive habitats and soils and mitigate significant negative effects as far as is reasonably possible.

12.2.12 The Contractor makes best use of excavated turf and peat as part of reinstatement procedures (see Sections 14 and 15).

12.2.13 Micro-siting of infrastructure and/or the configuration of the construction working areas within the Development (see section 5) will seek to avoid localised ecological sensitivities wherever possible. This will include, but will not be limited to:

- Maximising the distance of infrastructure and the associated construction working areas from watercourses, and water vole burrows.
- Maximising the distance of infrastructure and the associated construction working areas from the two small areas of M11 (flush) and from areas of M15b (wet heath) habitat (shown in Appendix 2).
- Minimising the extent of construction work within wetland (i.e. wet heath and blanket bog).

Juniper and Dwarf Birch

12.2.14 Juniper and dwarf birch are common in some areas of the site. Pre-works surveys for these plants will be undertaken by the Contractor's Environmental Advisor, in conjunction with the Independent ECoW. Where these plants are likely to be disturbed or harmed by the works they will be transplanted to a suitable location agreed with the Employer's Project Manager and Independent ECoW.

12.3. SPECIES PROTECTION PLAN

12.3.1 Detailed Species Protection Plans are provided within Appendix 6, this includes details of protection measures that will be implemented for specific sensitive species.

12.3.2 Species protection may be defined as the set of measures used to minimise the risk of disturbance, injury or death to species of nature conservation interest. Particular attention is paid to species protected under EC and/or UK legislation. This includes mammal, fish and eel species.

General Species Protection Measures

12.3.3 The following working methods and constraints shall be imposed in order to avoid harm or disturbance to species. The Contractor ensures that:

- All working parties will be briefed through a Toolbox talk by the Contractor's Environmental Advisor (as agreed with the Independent ECoW) on the potential presence of any protected species, the potential for offences to occur, and the working methods to follow to ensure that the risk of disturbance due to the works is minimised;
- Excavation and reinstatement works will take place using the minimum number of vehicles and personnel possible;
- Wherever possible, excavation works will be completed rapidly such that trenches are left open for the least amount of time and refilled within the same day, if at all possible. This is to minimise the risk of animals falling into any open trenches. Any trenches left open overnight shall have a means of escape for any animals that may fall in. this will be generally achieved by including a bank of 45° slope or if this is not achievable, a ramp for animals to climb out;
- Any temporarily exposed open pipe system shall be capped in such a way as to prevent animals gaining access, which is a particular risk when contractors are off site;
- Access to important feeding and watering sites shall be maintained, e.g. construction materials or fencing shall not obstruct existing mammal trails as far as reasonably practicable;
- Equipment and materials, including chemical storage, will be stored securely to prevent animals from gaining access;
- Where security (or other) lighting is employed, this will be directed away from any areas of scrub, hedgerow, woodland or watercourses;
- In keeping with good practice, speed limits along the access road will be restricted to 20mph to reduce the risk of accidental collisions of works traffic with animals;

- No fires will be permitted as part of the works; and
- Reduction of litter and anthropogenic foods which may attract brown rats (which compete with water voles for food and habitat) will be carried out at the start and end of works, along with removal of all construction related materials periodically through the contract period.
- All works close to watercourses and waterbodies must follow good practice measures outlined in the Guidance for Pollution Prevention (GPP5): Works and maintenance in or near water (section 7).
- Where possible, watercourse crossings would be suitably designed to allow continued mammal and fish movement along watercourses and would minimise riparian habitat loss. This would also reduce the risk of mammals crossing tracks and being involved in vehicle collisions.
- All open excavations are ramped to enable easy exit by otter and other species;
- Culvert pipes stored on site are capped, or if caps are not available, pipes are stored vertically, to prevent entrapment.
- Design of any permanent or temporary lighting is such that it is directed away from watercourses and that an unlit corridor of 30m either side of watercourses is maintained.
- To help maintain the value of watercourses present on site, all construction related materials will be removed periodically through the contract period (where appropriate) and on completion of works.
- Be aware that otter or other species may shelter in stacked pipes or beneath pallets. These features shall be inspected daily before the start of works and any temporarily exposed pipe system shall be capped when staff are off site.

Species Licences

12.3.4 If required, the Contractor's Environmental Advisor (or ecologist on behalf of the Contractor) will make relevant licence applications (e.g. licence to disturb) to NatureScot and undertake related mitigation measures in accordance with any licence obtained. Where a licence is required, the Contractor's Environmental Advisor will make the application approximately 40 days prior to any works commencing to ensure the licence is in place. Where a licence needs to be expedited, the Contractor's Environmental Advisor will contact NatureScot licencing directly.

12.3.5 The Independent ECoW will monitor the implementation of any species and habitat protection plans, checks compliance with control measures and terms of any Licence to Disturb which might be required.

Individual Species Protection Plans

12.3.6 Some species are protected by law, and it is therefore particularly important that all legislative requirements are met, and mitigation measures complied with. Species Protection Plans (SPPs) have been developed for the sensitive/ protected species that may be encountered. Individual SPPs are provided in Appendix 6 and have been collated using information from the EIAR, good practice and statutory authority guidance.

12.4. BREEDING BIRD PROTECTION PLAN

12.4.1 A detailed Breeding Bird Protection Plan is provided within Appendix 7 this includes details of protection measures that will be implemented for specific sensitive bird species.

12.4.2 All bird species are protected by law. Under the Wildlife and Countryside Act 1981 (Appendix I) it is an offence to kill them or damage their nests and eggs. Species listed in Schedule 1 of the Act are specially protected, so that it is an offence merely to disturb them while nesting.

However, if disturbance to the nest of any other bird species without special protection were sufficient to prevent parent birds from incubating their eggs or feeding their nestlings, so that the brood died, this could be regarded as an offence under the 1981 Act.

12.4.3 In accordance with the Breeding Bird Protection Plan, during bird breeding season (March to August inclusive), the Contractor's Environmental Advisor (in conjunction with the Independent ECoW) will survey to locate the nests of wild birds prior to the commencement of any work. These will be carried out in advance of all construction activities and will involve a walkover of the work area for nests. Where sensitive species may be present, checks will also be made for these species out to the relevant disturbance distance, access permitting.

Black Grouse

12.4.4 Seasonal (March to July) No Stopping / No Parking restrictions are in place along part of the access track (set out in Appendix 2). Restrictions may be extended should further Black Grouse lekking or other sensitive bird species breeding be identified in proximity to other access tracks or planned construction activities.

13. Archaeological Protection

13.1.1 The nearest heritage asset, identified within the EIAR, is over 1km from the Development. The potential for unrecorded archaeological features and artefacts remains.

13.1.2 Any construction works involving ground disturbance will pay due attention to the potential presence of unknown features or structures. In the event of an unexpected discovery, work will halt in proximity to the finding. The Contractor will inform the Employer and Archaeological support will be provided as required by an Archaeological Consultant appointed by the Employer.

13.1.3 Where required, and if applicable, an Archaeological Consultant appointed by the Employer will prepare a methodology for the identification, preservation and recording of archaeological remains at the site ('Written Scheme of Investigation' (WSI)). The contents of the WSI will generally be agreed with the Planning Authority's archaeologist and measures prescribed undertaken prior to recommencement of works in proximity to the finding as appropriate.

14. Excavated Materials

14.1. GENERAL REQUIREMENTS

14.1.1 In advance of each main phase of works, the Contractor (in consultation with Independent ECoW, and other specialists where required, e.g. Geotechnical Engineer), provides a method statement detailing expected volumes, material classification (see section 14.2 Classification of Excavated Materials), storage and reuse procedures for the excavated materials anticipated from that particular work area. This includes information on soil and peat types, volumes, temporary storage areas and a management / reinstatement scheme for peat reuse areas, including:

- plans showing the details of peat/soil stripping and excavation at the site and the storage and proposed use and replacement of peat (including borrow pit areas), topsoil and subsoil; and
- a method statement setting out the measures to protect peat during excavation, storage and handling.

14.1.2 The Contractor liaises with SEPA on all aspects of waste management, if required, to ensure compliance with all appropriate regulatory controls prior to and during construction works.

14.2. CLASSIFICATION OF EXCAVATED MATERIALS

14.2.1 Classification of excavated materials depends on their status and identified re-use in reinstatement works. In order to ensure compliance with relevant waste legislation, excavated materials will require to be classified onsite. Four initial classes of excavated materials may be identified during construction:

- **Turf**: Surface layer of living vegetation and underlying fibrous subsoil.
- **Mineral Soil**: Highly variable composition, which will depend on underlying geology, depositional environment or provenance if made ground. Refer to British Soil Classification System BS5930: 1999, “Code of Practice for Site Investigations” (Table 13).
- **Upper layer of peat**: The upper layer of a peat bog in which organic matter decomposes aerobically may be fibrous or pseudo-fibrous (plant remains recognisable), spongy, of low strength although consolidated, retains integral structure and can stand unsupported when stockpiled >1m. Such material is generally found within the top 1m of peat, although may extend beyond this to depths of up to 2m depending on the degree of decomposition and degree of humification of the peat.
- **Deeper layers of peat**: In the deeper layers of peat in which organic matter decomposes anaerobically. Material is unconsolidated, amorphous (recognisable plant remains absent), plastic, has high water content and low tensile strength and is unable to stand unsupported >1m when fed.

14.2.2 When defining excavated materials suitability for reuse, the Contractor considers the material classes defined in Chapter 2 of the Management of Extractive Waste (Scotland) Regulations 2010. Any material that is not immediately suitable for a predetermined use without the requirement for treatment (e.g. dewatering) is classed as waste and requires to be dealt with in accordance with the Contractor’s Site Waste Management Plan.

14.2.3 Detail relating to the peatland landscape, characteristics of the peat and expectant excavation and reuse volumes is outlined in the Peat Management Plan (PMP). Further refinement of the excavated and reuse volume estimates within the PMP has been undertaken following further ground investigation and design of the construction works.

14.3. SOIL STORAGE AND MANAGEMENT

General

14.3.1 The Contractor creates, and maintains, an Excavation Register, which is updated weekly and details the location and extent of all open excavations and the current and original location of all stockpiled material. The Contractor makes this available to the Employer upon request.

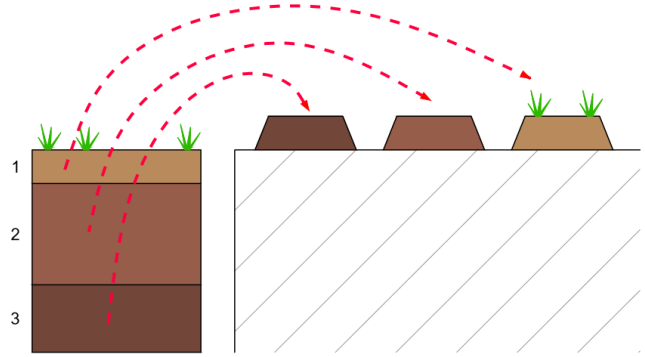
14.3.2 The Contractor ensures works will be programmed in such a way as to minimise the amount of time excavated areas / exposed soil is left open to the elements.

14.3.3 The Contractor pays special attention to the risk of slope instability and peat slides and follows the advice and guidance of the Geotechnical Engineer. The Contractor ensures that under all conditions, the ground surface stability is fully maintained both during and post-construction.

14.3.4 Distinct horizons of soil (subsoil and topsoil) or peat (catotelmic, acrotelmic and turves) will be stored in separate stockpiles, see Figure 2. The maximum permissible height for stockpiles for peat will be 1m and 2m for other soils. Stockpiles will be formed avoiding excess consolidation during placing and with naturally stable side slopes. Turves must be stored turf side up and must not be allowed to dry out.

14.3.5 Stripped materials will be carefully separated to keep peat and other soils apart, and stored in appropriately designed and clearly defined, separate stockpiles.

Figure 2 Turve Excavation and Storage



Spoil Storage

14.3.6 Where material is not required for immediate reinstatement, temporary storage may be required. To minimise handling and haulage distances, where possible excavated material will be stored local to the site of excavation and / or local to the end–use site where it is required for re-profiling, reinstatement or ecological restoration purposes (e.g. areas allocated for restoration in the Development's Habitat Management Plan). The Contractor agrees storage location(s) with the Independent ECoW prior to commencement of main phase of works. The storage location will be subject to scrutiny against known constraints, e.g. sensitive habitats, archaeological features and areas of peat slide risk.

14.3.7 Temporary storage locations will be appropriately located and designed to minimise impact to sensitive habitats and species, prevent risks from material instability (particularly in peatland areas) and runoff into watercourses.

14.3.8 Stockpiles will be isolated from any surface drains and a minimum of 50m away from watercourses, unless otherwise agreed with the Independent ECoW. Stockpiles will include appropriate bunding to minimise any pollution risks where required.

14.3.9 Where the excavated material is identified to be required elsewhere in restoration works, although re-use is not imminent, the Contractor may assess specified areas within the working borrow pit suitable temporary storage locations. The Contractor ensures that the handling of the stored material is kept to a minimum and appropriate drainage, pollution prevention and material stability measures are designed prior to the temporary deposition of the material, ensuring material is maintained in a suitable condition for future use.

Peat Storage

14.3.10 Requirements for peat stability are provided in section 14.4 below. Further requirements for appropriate peat storage include:

- to minimise temporary storage where possible through immediate reuse of excavated peat (where possible)
- where temporary storage is required, storage locations shall be as local as possible to the site of excavation or reuse.
- Peat will not be stored for more than 6 months and turf (including acrotelmic turf) will be placed in a permanent position after much shorter storage, to ensure rapid regeneration.
- Turves will be stored separately with vegetation facing up and watered as appropriate.
- Peat will not be temporarily stockpiled in depths greater than 1 meter.
- The Contractor employs a construction management team and plant operators of proven experience of working in comparable environments, including a working knowledge of peat management and drainage, excavation, track construction and reinstatement and restoration.
- Turves should be cut with a larger excavator bucket (e.g. 1200mm or 4 foot), where practical, to increase depth/ width of turve and improve the likelihood of reinstatement success. Larger turve depths will reduce likelihood of collapse and support peat dressing (i.e. 50cm minimum depth).
- The turves must not be allowed to dry out. The Contractor and the Independent ECoW monitor (weekly during dry periods) the condition of stored turves and peat. Where desiccation is evident, as determined by the Independent ECoW, the Contractor provides a means of irrigation to ensure the continued viability of the turves and peat.
- Potential erosion and drying of peat will be mitigated through a robust drainage design, use of silt traps where required and localised protection such as cut-off trenches, settlement ponds or barriers at watercourses and crossings.

14.3.11 The Contractor undertakes turf and soil stripping and excavation works in accordance with best practice as described in relevant guidance documents in Part 3, in particular; Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste (2012).

14.3.12 During construction, excavated material will not be placed / stockpiled on peat areas such that extra loading would increase the likelihood of failure and the excavations within peat would be minimised wherever possible.

Peatland Restoration

14.3.13 The development is conditioned to undertake peatland restoration as part of the Habitat Management Plan. It is the projects' intention to utilise peat, not required for reinstatement

purposes, as infill for hagged areas identified for peatland restoration within the Habitat Management Plan. This is proposed to minimise peat handling and bring forward restoration of degraded areas reducing the stockpiling of peat for future restoration works. This work will be considered in accordance with Management of Change requirements set out within section 5 requiring decision making to include the Employer and Independent ECoW prior to commencing.

14.3.14 Requirements set out in 15.2 Regeneration and 15.3 Reinstatement Monitoring below also applies to areas of restored peat.

14.4. PEAT STABILITY AND STORAGE

14.4.1 In addition to the storage and management controls set out elsewhere in section 14, the absence of good practice methods, general construction activities can have a destabilising influence on peat and result in peat slides. Consequently, the following general measures shall be adopted to minimise the risk of peat slide:

- A Geotechnical Engineer (paragraph 1.2) will be provide specialist advice and guidance pertinent to peat stability.
- Raise construction staff awareness of the issues surrounding the peat environment and slide susceptibility, i.e. highlight peat landslide risk assessment information (e.g. peat instability indicators, best practice and emergency procedures) in tool box talks with relevant operatives e.g. plant operators.
- To prevent the accelerated degradation and erosion of peat, off-track plant movements shall be minimised as far as reasonably practicable.
- The Contractor develops an emergency plan relating to peat slide, providing instructions for site staff in the event of a peat slide or discovery of peat instability indicators.

14.4.2 Maintaining existing hydrological regimes is an important consideration in minimising peat slide risk. Consequently, the following measures shall be adopted:

- All existing drainage paths shall be maintained and where necessary, directed through the constructed track via cross-drains incorporated at appropriate intervals.
- Robust temporary and permanent drainage systems shall be designed by the Contractor, incorporating the philosophies outlined in this CEMP.
- The drainage arrangements will ensure against the concentration of flows and /or result in over-/under-saturation of the peat.
- Measures shall be put in place to ensure drainage systems are well maintained, to include the identification and demarcation of zones of sensitive drainage or hydrology in areas of construction.

14.5. CABLING WORKS

14.5.1 Turbines are likely to be connected by electrical circuit ‘arrays’, with the output connecting to the new on-site substation. The cabling for this would be laid in trenches of varying width (depending on the number of cables) and approximately 1m in depth alongside the site access tracks where suitable, or otherwise in accordance with the requirements set out within section 5.

14.5.2 These trenches would also carry earthing and communications cables.

14.5.3 Prior to cabling works commencing in any area, the cabling Contractor walks each cable route section and consults with the Independent ECoW to verify any updates to Environmental Constraints maps and to identify all sensitive areas (e.g. soft ground, watercourses,

watercourse crossing points, steep slopes) and all other potential constraints and sensitive receptors which may be impacted by his works.

14.5.4 The cabling Contractor stores excavated materials in close proximity to the excavated trench, however, consideration will be given to minimising impact to sensitive habitats and species, prevent risks from material instability (particularly in peatland areas) and run off into watercourses.

14.5.5 Cables would be laid directly in trenches with a sand surround and then backfilled with excavated sub-soil and peat topsoil. Alternatively, cable ducts could be installed underground. Backfill materials and the cables pulled through following completion of the duct installation or cables could be installed directly into the ground by use of cable ploughs. Earthing cables and communications cables would be included in the same trench where practicable.

14.5.6 Trenches will be reinstated as soon as possible to minimise the time they are left open and to avoid trenches acting as conduits for surface water, causing erosion and potential silt run off.

14.5.7 The cabling Contractor handles peat in accordance with measures set out above.

14.5.8 The cabling Contractor reinstates trenches and vegetation using the turves or soils stripped and stored during the cable trench excavation. Turves with their intrinsic seed bank will ensure reinstatement of vegetation as reinstatement of cable trenches will be undertaken immediately following cable installation (usually within 1 week of trench excavation).

14.5.9 To maintain local hydrological conditions and hydraulic connection in sensitive habitats (e.g. near GWDTEs) mitigation may be required within the trench. This may include clay plugs/ peat bunds to prevent the trenches from becoming a preferential flow path for water flows. The number of in trench cut-offs or bunds to be installed will be proportionate to the gradient of the trench section and take into account the elevation differential to avoid excessive head on the clay plugs/peat bunds. Where wetlands with more discrete groundwater flows are intercepted (e.g. spring and flush habitats) a clay plug may be placed immediately either side of the spring or flush feature to maintain the original hydrological conditions/flows within the wetland on either side of the cable trench.

14.5.10 Where cable trenches cross watercourses, consideration will be given to directional drilling where possible as this offers reduced risk to the water environment and minimal reinstatement.

15. Reinstatement

15.1. GENERAL REQUIREMENTS

15.1.1 The Contractor undertakes all reinstatement works associated with the Development (in consultation with Independent ECoW, and other specialists where required). Reinstatement works are those undertaken during construction and aim to redress temporary hardstanding areas and any damage inflicted on the landscape as part of the construction works.

15.1.2 Where practicable, reinstatement and re-profiling of, and around, infrastructure will be undertaken as the work front progresses, or as soon as is practical following substantial completion of discrete works areas. Early reinstatement and re-profiling are encouraged to minimise visual impact, reduce requirements for temporary storage / stockpiling of soils and to promote reestablishment of vegetation as early as possible.

15.1.3 Reinstatement is primarily undertaken using in-situ and site-sourced materials (turves and peat). Reinstatement of vegetation will be focused on natural regeneration utilising peat or other vegetated turves or soils stripped and stored with their relevant seed bank. To encourage stabilisation and early establishment of vegetation cover, where available, peat turves or other topsoil and vegetation turves in-keeping with the surrounding vegetation type will be used to provide a dressing for the final surface.

15.1.4 Where turve redressing proves unsuccessful or where turves are lacking due to prevalence of extensive erosion features and associated bare peat, re-seeding (e.g. hydro-seeding) will be part of reinstatement measures (Section 15.2). Where erosion has resulted in the wholesale loss of the peat resource and exposures of mineral soil are evident, re-establishing peat horizons will be required prior to the application of seed.

15.1.5 Where deemed suitable, and in accordance with the Peat Management Plan, excavated peat from cut and fill sections of infrastructure will be used for redressing infrastructure embankments. No mineral soil (especially clay-rich soils) will be used for dressing the side slopes of tracks to prevent silt runoff. Considering local topography, the Contractor ensures that reinstated embankments and temporary construction features compliments surrounding landform and avoids creation of patently engineered construction edges.

15.1.6 Where feasible, to prevent erosion via scour from runoff and facilitate vegetation re-establishment, any down-slope embankments will be graded such that the slope are shallow-tapered and there is a gradual transition with the surrounding / existing ground profile. The Contractor avoids the creation of steep, unvegetated embankments. Where these are entirely unavoidable, the Contractor incorporates suitably designed erosion protection measures in consultation with the Geotechnical Engineer. The Contractor avoids the introduction of any synthetic liners, unless deemed unavoidable from a safety or engineering integrity perspective.

15.1.7 Outline design proposals for borrow pit re-profiling, including details on reinstatement material origin and classification, placement method, final ground profiles and surface dressing will be submitted by the Contractor, signed-off by the Geotechnical Engineer and agreed by the Independent ECoW prior to commencement of re-instatement. This will be in accordance with the requirements set out in the Borrow Pit Scheme of Works.

15.1.8 As required by the Borrow Pit Scheme of Works, the Contractor maintains comprehensive records of the location, depth and volumes of all materials used in reinstatement and restoration of the borrow pits, including photographic evidence.

15.1.9 Prior to completion, the Contractor removes every piece of litter or waste and cleans the site. In addition, the Contractor will reinstate (to as near original condition as possible) grassed areas

and other natural vegetation, gates, fences and other property affected temporarily by the works.

15.1.10 Any accidental damage or other construction effects are repaired and reinstated or restored by the Contractor to the Employer's satisfaction and in accordance with the Planning Consent and any agreements with the landowners, all prior to taking over by the Employer.

15.2. REGENERATION

15.2.1 Where there are insufficient turves for top dressing, hydro-seeding may be an acceptable method of vegetation reinstatement. The Contractor submits proposals for re-seeding, including seed mixes and application methods, to the Employer and Independent ECoW for acceptance. The Contractor ensures that selection, agreement and procurement of seed mix is undertaken in a timely manner (e.g. in the summer prior to a seed application the following spring) to ensure that seed application is undertaken as early as feasibly possible.

15.2.2 In areas disturbed by construction activities. i.e. notwithstanding the HMP peatland restoration works, the Contractor is responsible for the success of the regeneration measures, including reinstatement, re-vegetation / hydro-seeding etc. post-construction.

15.3. REINSTATEMENT MONITORING

15.3.1 Throughout the construction period the Independent ECoW records the location of reinstatement undertaken, further detail of this duty is provided in Section 6.

15.3.2 Within three months of completion of works in any area, the Independent ECoW inspects the Contractor's reinstatement efforts to determine satisfactory placement of sub-soil, topsoil and turves. The Independent ECoW makes recommendation to the Employer and Contractor for additional effort, e.g. re-seeding.

15.3.3 The Contractor undertakes remedial works if the Independent ECoW determines that initial reinstatement is sub-standard or unlikely to deliver required vegetation establishment within at least one growing season. Furthermore, the Independent ECoW records any areas where bare soil/peat prevail and where preferential drainage pathways have been created or are likely to form post construction. The Contractor ensures that such areas are adequately protected from scour and sediment mobilisation that could potentially overwhelm the permanent drainage. The Contractor designs and implements appropriate protection measures.

15.3.4 The Independent ECoW undertakes a final inspection of all reinstated areas at the end of the first growing season following completion of reinstatement. The Contractor undertakes remedial works within the two-year defects period if the final inspection finds that the establishment of vegetation is not satisfactory. Examples of unsatisfactory vegetation establishment may include failed turfs due to poor reinstatement practices or drying out, slow or poor natural regeneration due to inadequate topsoil / subsoil resource, or injurious weeds are evident.

Part 2:Outline Construction Method Statements

16. Introduction

16.1. GENERAL

16.1.1 The following sections describe the general methods of construction which are stipulated in the Employer's Civil Technical Requirements and included in the Civils Work Contract forming the basis for the Contractor's detailed design.

16.1.2 Further information on environmental management requirements in relation to specific construction activities (e.g. borrow pit working, excavation, hard-standings, temporary drainage) is provided within Part 1 of this CEMP and the relevant appendices, including:

- Pollution prevention and mitigation, section 7;
- Temporary drainage requirements, section 8 and with reference to Appendix 4 Typical Drainage Schematics and Appendix 8 Water Quality and Fish Monitoring Plan;
- Water crossings, section 10;
- Waste management, section 11;
- Species and habitat protections in relation to construction activities, section 12 and with reference to Appendix 6 Species Protection Plan and Appendix 7 Breeding Bird Protection Plan;
- Excavation, soil and peat handling, section 14 and with reference to Appendix 5 Peat Depth Drawings and Peat Management Plan.
- Reinstatement requirements, section 15, and with reference to Peat Management Plan and Borrow Pit Scheme of Works.

16.2. WORKING HOURS AND NOISE

General Noise Management and Mitigation Measures

16.2.1 To reduce the potential effects of construction noise on environmental receptors, the Contractor will apply the mitigation measures detailed in section 7.4.

Normal Working Hours

16.2.2 Normal construction hours will be 07:00 to 19:00 Monday to Friday and 07:00 to 14:00 Saturdays. There shall be no construction traffic movements to or from the Site outwith these hours or on Sundays. In the event of work being required out with these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority will be notified prior to these works taking place wherever possible.

Crushing Equipment Working Hours

16.2.3 Operation of crushing equipment located within / next to borrow pits will generally be limited to 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 on Saturdays, with no operation on Sundays.

Blasting Working Hours

16.2.4 Any blasting on site shall only take place between the hours of 07:00 to 19:00 on Monday to Friday inclusive and 07:00 to 13:00 on Saturdays with no blasting taking place on a Sunday or on a Public Holiday unless otherwise approved in advance in writing by the Planning Authority.

Extraordinary Working Hours

16.2.5 Any extraordinary site work would be programmed and agreed in advance with the Local Authority.

16.3. PLANT AND EQUIPMENT

16.3.1 The works shall be undertaken in strict accordance with the Provision and Use of Work Equipment Regulations “PUWER” (as amended) covering all types of plant and equipment found on construction sites.

16.3.2 All site operatives will be appropriately trained and experienced and hold certification of training achievement issued by Construction Industry Training Board (CITB) or other construction industry approved schemes.

16.3.3 Best practicable means of reducing noise emissions from plant, machinery and construction activities, as defined in BS5228 will be employed.

16.3.4 A non-exhaustive list of plant that may be utilised during the construction activities detailed in this Construction Method Statement is as follows; 360° tracked excavators, tipper trucks, dumper trucks, tractor dozers, vibratory rollers, ground ripping plant, mobile crushers and screeners.

17. Site Access Construction

17.1. SITE ACCESS STANDARD

17.1.1 Planning Condition 15 sets out the standard required for the visibility splay at the site entrance. The current site entrance was constructed for the existing wind farm. The Contractor ensures that the current site visibility splay is compliant with the requirements of Condition 15 and undertakes the following:

- Remove all rough scrub and trees growing within the 4.5 x 215m visibility splay, such that, in a vertical plane, nothing shall obscure visibility measured from a driver's eye height of between 1.05 metres and 2.00 metres positioned at the setback dimension to an object height of between 0.26 metres and 1.05 metres anywhere along the y dimension;
- Provide photographic evidence of the cleared visibility splay to the Employer prior to commencement of construction; and
- Maintain the visibility splay through routine vegetation clearance and management throughout the construction period.

17.2. OUTDOOR ACCESS MANAGEMENT

17.2.1 The Land Reform (Scotland) Act 2003 establishes statutory rights of responsible access that include public access rights and also non-motorised recreational activities such as walking, cycling, angling and horse riding over most land. These access rights are based on shared responsibilities: the public are required to follow the Scottish Outdoor Access Code, while developers and contractors, operators and land owners/managers have a reciprocal responsibility to respect the interests of those who exercise their rights.

17.2.2 In accordance with Planning Condition 26, an Outdoor Access Plan has been prepared which identifies all public non-motorised public access footpaths, bridleways and cycleways potentially affected by the construction areas. The Contractor complies with the mitigation and management measures contained within the Outdoor Access Plan to ensure appropriate signage and other measures are implemented to allow safe public access provision.

17.3. SIGNAGE

17.3.1 Sufficient signage will be employed on site, for both site personnel and the public, to clearly define the boundary of the works where they coincide with areas accessible to the public.

17.3.2 Speed limits along the access road will be restricted to 20mph to reduce the risk of accidental collisions of works traffic with animals. During dry weather in order to prevent excess generation of dust (section 7.3) or as part of species protection measures (section 12.3), speed limits may be further reduced under advice from the Independent ECoW.

17.3.3 Ecological exclusion zones will also be signed by the Contractor where required and requested by the Independent ECoW and other ecological awareness signs (e.g. potential otter crossing) are also required at speed limit signs in certain areas of the site.

17.4. LAND USE

17.4.1 The Contractor liaises with relevant landowners prior to commencement of works. The Contractor undertakes a site walk-over of relevant areas with the landowner (and Employer as appropriate).

17.4.2 The Contractor will provide a risk assessment for all works on land, identifying potential hazards/sensitive areas and proposed mitigation measures, as identified in liaison with the landowner.

17.4.3 The risk assessment, method statements and mitigation measures will address the following potential issues (this is not an exhaustive list and the Contractor will amend as applicable):

- General access restrictions (gates, fences, unstable ground);
- Stock movement (type of stock, numbers, location of stock and requirements/timetable for movement, access restrictions, specific risks e.g. cattle/bulls etc);
- Season-depending risks/restrictions (lambing season, deer stalking etc);
- Cattle grids and gates (proper use, repair and installation of cattle grids, gates etc);
- Fencing (requirement for removal/replacement/repair of fencing, location of electrical fencing etc); and
- Surface water (drainage, surface water bodies, livestock drinking water supplies and routes).

18. Onsite Preparatory Construction

18.1. INTRODUCTION

18.1.1 Onsite preparatory construction concerns the formation of the Temporary Construction Compounds (TCC) and associated works required to establish the site offices, welfare facilities and storage arrangements for materials, plant and equipment in connection with the wind farm construction phase.

18.1.2 The TCC is temporary work for the duration of the construction phase of the project. Following commissioning, the TCC shall be dismantled and all plant, welfare facilities and equipment removed from the site. Reinstatement shall be in line with the requirements stated within Part 1 of this CEMP or as otherwise agreed with the Employer and landowner.

18.1.3 The main TCC will comprise of site offices for the Principal Contractor, any other sub-contractors, project support staff (e.g. the Independent ECoW) and Employer, together with all the necessary welfare facilities for the workforce.

18.1.4 Where required, imported crushed rock will be used to construct the TCC (and the access track to the TCC), to allow a safe compound (with working welfare) to be established prior to any major borrow pit works.

18.1.5 The Contractor and any subcontractors will be familiar with, and take account of, the planning conditions relevant to the construction works and the requirements of the CEMP prior to construction work commencing.

18.1.6 Prior to the works commencing at site, a pre-condition survey of the existing tracks and associated boundary features (fences, walls and gates) will be undertaken by the Contractor in conjunction with the Employer and landowners, where appropriate, to visually record the existing conditions. This will entail the preparation of a pre-condition Survey Report, which will include text, diagrams and photographs clearly referenced to the locations at site.

18.2. TEMPORARY CONSTRUCTION COMPOUND PREPARATION

18.2.1 The Contractor designs and constructs an area of hardstanding, as specified in the Civil Works Information, of sufficient load bearing capacity, as the construction compound(s). Where appropriate a geo-textile layer is used to maximise the effectiveness of stone removal when the compound is removed.

18.2.2 The compound(s) include all Site accommodation and welfare facilities, bunded fuel tanks and other liquid storage areas with segregation, bunded refuelling areas, general and protected storage areas, vehicle parking, security, lighting and services, communications and laboratory/testing or holding facilities, signage, pedestrian and vehicular circulation routes, and safety barriers. The Contractor provides recycling facilities at the Site compound(s) and professional collection thereof.

18.2.3 The compound(s) are free draining with oil interceptors and contain a bunded area for maintaining vehicles and plant, or other pollution control measures, as appropriate / required to protect surface water.

18.2.4 The typical construction activities associated with the TCC are detailed below:

- Stripping of any topsoil / peat and careful stockpiling of this material as per CEMP requirements.
- Excavating the remaining superficial soil materials and stockpiling of this material on the surrounding undisturbed area in accordance with CEMP requirements.

- Installation / construction of temporary surface water drainage in accordance with CEMP requirements.
- Laying and compacting crushed rock in layers to form a hardstanding. Crushed rock material will have a low fines content to reduce the risk of sediment contamination.
- Delivery of offices, mess area, toilets and associated infrastructure on flat bed lorries.
- Erection of offices, mess area, toilets, and installation of all bunded areas to contain generator and fuel stores.
- Erection of fencing around the perimeter of the main TCC.
- Following the completion of all construction activities, the TCC shall be reinstated according to the methods set out in the CEMP.

18.2.5 Welfare facilities will be provided for site operatives under the Construction (Design and Management) Regulations 2015 including sanitary conveniences, washing facilities, drinking water, changing rooms and accommodation for clothing not worn during working hours and rest facilities.

18.2.6 Toilets during the construction phase will be placed in accordance with Paragraph 11.1.5.

18.2.7 Potable water will be supplied via a borehole or surface water extraction subject to licences/authorisations obtained from SEPA under CAR. The water will be used for messing purposes during the construction phases.

18.2.8 If additional water is required to be impounded and / or abstracted from site water bodies for site based activities (i.e. dust suppression, etc), the CAR Regulations apply and advice will be sought from SEPA prior to any abstraction. In addition, impoundment and abstractions will be in agreement with the Independent ECoW.

18.2.9 The duration of the works may extend into winter months. If required, external lighting will be required at the TCCs. Lighting columns will be erected in proximity to security gates and any site offices / welfare facilities and stores. Compound lighting shall face inwards to reduce light pollution and impact to wildlife (Section 12.3).

18.2.10 All areas of the site including accommodation areas shall be kept clean and tidy with a regime of good housekeeping established to facilitate mobility of personnel and plant/equipment around the site and eliminate potential hazards and environmental pollution.

18.2.11 Reduction of litter and anthropogenic foods which may attract brown rats (which compete with water voles for food and habitat) will be carried out at the start and end of works, along with removal of all construction related materials periodically through the contract period.

19. Borrow Pits

19.1. GENERAL METHOD OF WORK

19.1.1 All borrow pit workings must be undertaken in accordance with good practice and requirements set out within this CEMP. Key good practice guidance is provided by PAN 50: Controlling the Environmental Effects of Surface Mineral Workings (Part 3).

19.1.2 Requirements for environmental management (related to borrow pit working) within this CEMP include the introduction to Part 2 of this CEMP (paragraph 16.1.2), environmental management requirements, in relation to construction activities including borrow pit working, are set out in Part 1 of this CEMP. This includes the details of pollution prevention measures (section 7), handling of excavated materials (section 14), reinstatement (section 15), drainage measures (section 8.3) and protection of sensitive habitats (section 12) including GWDTE (section 12.2).

19.1.3 All further information and requirements for borrow pit working are set out within the Borrow Pit Scheme of Works.

20. Access Track and Crane Pad Construction

20.1. INTRODUCTION

20.1.1 The extent of construction disturbance will be limited to around the perimeter of, and adjacent to, access track alignments, crane pads, borrow pits and the substation platform, including associated earthworks, and shall be monitored by the Independent ECoW as required.

20.1.2 Proposed access track alignments, crane pads, borrow pits and the substation platform will be inspected by the Contractor, Contractor's Environmental Advisor and Independent ECoW prior to the on-set of construction in those areas. The regularity of inspections (hourly, daily, weekly, as appropriate) during the construction period shall be determined in advance for each particular stretch, based on anticipated ground conditions, known ecological or unknown archaeological sensitive receptors, prevailing weather conditions, and anticipated rate of progress.

20.1.3 In general, as part of the design mitigation wherever practicable all proposed site infrastructure has been sited at least 50m from any watercourse.

20.2. GENERAL CONSTRUCTION CRITERIA

20.2.1 It is anticipated that all access tracks, hardstanding and crane pads will be formed from a sub-base of general fill won from local excavations and finished off with a cap-stone / wearing course of graded crushed rock. Wearing course stone shall be of a suitable material that is not susceptible to breaking down / weathering to a high fines content material.

20.2.2 Tracks will be formed on suitable underlying material (soil or rock with sufficient bearing capacity) in the following manner:

- Stripping of surface vegetation (turves) and careful stockpiling of this material as per CEMP requirements.
- Excavating the remaining superficial soil materials (overburden) and stockpiling this material as per CEMP requirements.
- Where different overburden materials are present these will be stored according to type. This material will be monitored and watered (as appropriate) to be retained for reinstatement purposes.
- The exposed suitable formation shall have rock fill material tipped from dumper trucks directly onto the proposed track or crane pad; and
- This material will then be either spread by a dozer or placed by a hydraulic excavator and compacted in layers, typically using vibratory rollers.

20.2.3 Turning areas will be formed to facilitate the turning of dumper trucks. These turning areas can serve as passing places during the construction period before being reinstated at the end of the works using subsoil/topsoil.

Access Track

20.2.4 In general, the internal site track layouts have been designed to reflect the contours and design criteria required to enable safe delivery of wind turbine components. The internal track length at site will be kept to a minimum to follow the existing topography and tie-in with infrastructure.

20.2.5 Access tracks shall be constructed to a minimum running width of 4.5m, plus shoulders of approximately 0.5m on either side, to accommodate the maximum transport requirements and specifications of the WTS. Track shoulders are typically up to a width of 2m to accommodate

cabling along the access track alignment. This may increase slightly to accommodate cabling along the access track alignment and/or tie in with existing topography on cross slope tracks.

20.2.6 The access tracks would be designed to incorporate passing places that would be suitable for construction plant and 4x4 traffic (approximately 25m x 3m).

20.2.7 Maintenance of the running surface will be carried out on a regular basis, as required, to prevent undue deterioration. Loose track material generated during the use of access tracks will be prevented from reaching watercourses by maintaining an adequate cross fall on the tracks. Periodic maintenance of tracks by way of brushing or scraping will be carried out to minimise the generation of wheel ruts. In dry weather, dust suppression methods may be required for track and hardstanding areas. The site access tracks, hard standings and trackside drains will be inspected on a daily basis by the Contractor. Records of such inspections will be held onsite.

20.2.8 Where floating roads are installed, the Contractor will denote this on the site's 'as built' drawings.

20.3. UNSTABLE GROUND

20.3.1 Unstable ground is considered to be any ground conditions encountered within (or within the immediate vicinity and influence of) planned infrastructure and therefore has insufficient strength (in its existing state) to support the proposed load conditions or to remain in-situ for the duration of the construction works. This may be the result of natural failure (i.e. not as a consequence of the wind farm construction works) that may require micro-siting or major civil engineering solution to address the issue.

20.3.2 If any unstable ground is encountered during access track construction, the following procedure shall be adopted:

- Access track construction in the immediate area of the unstable ground shall cease with immediate effect;
- The Contractor immediately consults a suitably qualified and experienced Geotechnical Engineer; and
- If relocation within approved micro-siting allowances of the proposed infrastructure is possible and acceptable to the Independent ECoW, without potential for further ground instability to occur, then construction may recommence, and any stabilisation / mitigation measures that may be required of the unstable ground shall occur in parallel.

20.4. FOUNDED TRACK CONSTRUCTION

20.4.1 Access tracks will be formed on suitable underlying material (soil or rock with sufficient bearing capacity) in the following manner:

- Stripping of surface vegetation (turves) and careful stockpiling of this material as per CEMP requirements.
- Excavating the remaining superficial soil materials (overburden) and stockpiling this material as per CEMP requirements.
- Where different overburden materials are present these will be stored according to type. This material will be monitored and watered (as appropriate) to be retained for reinstatement purposes.
- The exposed suitable track formation shall have rock fill material tipped from dumper trucks directly onto the proposed access track alignment; and

- This material will then be either spread by a dozer or placed by a hydraulic excavator and compacted in layers, typically using vibratory rollers.

20.4.2 Turning areas will be formed to facilitate the turning of dumper trucks. These turning areas can serve as passing places during the construction period before being reinstated at the end of the works using subsoil/topsoil.

20.5. FLOATING TRACK

20.5.1 Where peat depth is greater than 1m, track construction will be of a floating design rather than a cut design, in order to minimise the disturbance to peat.

20.5.2 Key guidance on floating track construction is provided in the document 'Floating Roads on Peat' with further requirements for track drainage (including for floating track specifically) in section 8.6 in Part 1 of this CEMP.

21. Wind Turbine Generators and Anemometer Mast Foundation Construction

21.1. CONSTRUCTION OF TURBINE FOUNDATIONS

21.1.1 The Wind Turbine Generators (WTG's) will be erected on reinforced concrete gravity foundations.

21.1.2 Proposed turbine foundation locations are inspected by the Contractor to ensure that all potential ecological and archaeological constraints have been identified, demarcated and/or mitigated for prior to the on-set of construction in that area. The final location of the turbines will be within approved micrositing allowances of the consented positions in accordance with Planning Conditions (section 5.2). The turbine coordinates are supplied by the Employer and any proposed micrositing by the Contractor must be first agreed with the Employer (and Independent ECoW). The regularity of inspections (hourly, daily, weekly, as appropriate) during construction shall be determined in advance for each particular section, based on anticipated ground conditions, known ecological or archaeological sensitive receptors, prevailing weather conditions, and anticipated rate of progress.

21.1.3 Construction of the turbine foundations shall be the responsibility of the Contractor.

21.1.4 The limits of each of the foundation excavations will be surveyed and pegged out at least two weeks in advance of any proposed works, and the Independent ECoW shall be consulted to ensure all necessary pre-works checks have been completed.

21.1.5 Concrete will be batched on site. All concrete works shall implement pollution prevention controls in line with the CEMP. The contractor will develop a method statement to address the transport, transfer, handling and pouring of liquid concrete at foundations.

21.1.6 All vehicles used for delivery of concrete will only be washed out at locations as detailed within the CEMP. 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. 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. The turbine foundation design will minimise the excavation requirement where appropriate.

21.1.7 The position of each turbine will be clearly marked on co-ordinates provided by the Employer and agreed with the Planning Authority.

21.1.8 The typical construction activities associated with the turbine foundation are detailed below:

- Stripping of surface vegetation (turves) and careful stockpiling of this material as per CEMP requirements.
- Excavating the remaining superficial soil and rock materials and stockpiling of this material as per CEMP requirements.
- The stockpiled materials are to be retained for reinstatement purposes.
- Soil will be excavated, usually to a depth of up to 5m. Where rock is encountered this will most likely be removed by mechanical excavation to the required depth and material stockpiled as described above. The potential impacts associated with the use of hydraulic breakers or other such vibratory equipment in the vicinity of sensitive ecological receptors or watercourses shall be assessed and appropriate mitigation measures implemented where required in consultation with the Independent ECoW.

- The foundation design is based on the most efficient use of materials and local ground conditions. From geotechnical investigations it has been shown that bedrock is at or near surface over the majority of the site.
- Temporary fencing shall be erected at locations where there are safety implications for any persons likely to be present on the site e.g. around open excavations. Signage will be displayed clearly to indicate deep excavations and any other relevant hazards associated with the foundation excavation works.
- Following excavation, levels will be set to allow the blinding concrete to be placed and finished to the required line and level as per the WTS requirements.
- The formwork will be pre-fabricated of sufficient quality and robustness to allow repeated use. Formwork will be cleaned after each use and re-sprayed or painted with mould oil within the blinded foundation excavation prior to being fixed in place. The placement of containers with mould oil will be strictly monitored to ensure that storage is only in bunded areas (i.e. in the TCC) on sealed hardstanding as required by the CEMP. Spraying of mould oil and storage of such sprayed materials will be undertaken in such a way as to avoid pollution.
- Sulphate resistant concrete or other suitable concrete, as appropriate for the prevailing ground conditions, will be used in the turbine base. Prior to pouring the base concrete, the overall quality of the steel fixing will be checked to ensure there is sufficient rigidity to cope with the weight of personnel and small plant during the pour. The quantity, size and spacing of the reinforcement bars will be checked against the construction drawings to ensure compliance with the design detail. The position of the foundation insert, or other appropriately designed foundation mechanism supplied by the turbine manufacturer will be checked to ensure that the level is within the prescribed tolerances. A check will also be carried out to make sure the correct cover from edge of reinforcement to edge of concrete is maintained throughout the structure. A splay will be formed on all external corners.
- The line of ducts will be checked so as not to leave sharp corners that will cause cable snagging and that all bend radius comply with the design illustrated on the construction drawing. All earthing cable or strip connections will also be examined to prove their adequacy to withstand the rigors of the concrete placing process.
- The concrete pour will commence after the blinding concrete has been cleaned of debris and other loose material. Vibrating pokers will have been checked to ensure they are fuelled by compressed air and in good working order. The pour will proceed under the control of the Contractor. Personal Protective Equipment (PPE) will be worn by the site operatives and as detailed in the Construction Phase Health & Safety Plan . Pouring will follow best working practice procedures and fresh concrete will be protected from hot and cold weather as required. All concrete works shall implement pollution prevention controls in line with CEMP requirements
- Shutters will be carefully loosened, removed and cleaned no earlier than 24 hours from the finish of the pour.
- Backfilling to the turbine base will proceed in layers of approximately 0.3 metres with compaction as necessary.

21.1.9 A checklist for each foundation will be prepared to show compliance with the documents of each step of the installation process. These lists, once completed, will be stored in the contractor's QA file along with relevant cube test results, and be available for inspection at all times.

21.1.10 Following the completion of all construction activities, the area surrounding the base shall be reinstated according to CEMP requirements.

Part 3: Reference Documentation

Project Consent and Environmental Impact Assessment Report

- Consent

  ECU00001900 Application under the Electricity Act 1989 to Construct and Operate Bhlaraidh Wind Farm Extension.
  Website: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00001900

- Environmental Impact Assessment Report and Additional Information Report
  Website: https://www.sserenewables.com/onshore-wind/in-development/bhlaraidh-extension/

SEPA

- SEPA Guidance for Pollution Prevention (GPPs):
  - GPP 1 Understanding your environmental responsibilities – good environmental practice
  - GPP 2 Above ground oil storage tanks
  - GPP 3 Use and design of oil separators in surface water drainage systems
  - GPP 4 Treatment and disposal of wastewater where there is no connection to the public foul sewer
  - GPP 5 Works and maintenance in or near water
  - GPP 6 Working on construction and demolition sites
  - GPP 8 Safe storage and disposal of used oils
  - GPP13 Vehicle washing and cleaning
  - GPP21 Pollution incident response planning
  - GPP22 Dealing with spills
  - GPP26 Safe storage - drums and intermediate bulk containers

  Website: https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/
- SEPA Engineering Guidance, including (not limited to):
  - Construction Methods
  - River Crossings
  - Special Requirements for Civil Engineering Contracts for the Prevention of Pollution
  - Culverting of Watercourses, Position Statement (WAT-PS-06-02)

  Website: https://www.sepa.org.uk/regulations/water/engineering/engineering-guidance/
- Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste, a joint publication by Scottish Renewables and the Scottish Environment Protection Agency, Version 1 January 2012.
- Good Practice During Wind Farm Construction, A joint publication by Scottish Renewables, Scottish Natural Heritage, Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Scotland, 4th Edition 2019;
- SEPA Regulatory Position Statement, Developments on Peat, National Waste Policy Unit, 9 February 2010.
- Engineering in the Water Environment, Good Practice Guide, Construction of River Crossings, First edition, SEPA, April 2008.
- Prevention of Pollution from Civil Engineering Contracts: Guidelines for the Special Requirements (SEPA 2006)

- Prevention of Pollution from Civil Engineering Contracts: Special Requirements publication (SEPA, 2006)
- Duty of Care for waste, SEPA

NatureScot:

- Floating Roads on Peat, Forestry Civil Engineering and NatureScot, August 2010.
- Constructed tracks in the Scottish Uplands, March 2005.

British Standards Institute (BSI):

- Code of Practice for Earth Works, BS6031:2009
- Code of practice for noise and vibration control on construction and open sites. Noise, BS5228-1: 2009.
- Code of practice for the safe use of explosives in the construction industry, BS5607:2017

CIRIA Publications:

- Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156)
- Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C532)
- Control of Water Pollution from Linear Construction Projects – Technical Guidance (C648)
- Control of Water Pollution from Linear Construction Projects – Site Guide (C649)
- Culvert Design Guide, C689, CIRIA, 2010;
- Environmental Good Practice – Site Guide (C650)
- The SUDS Manual (C753)
- Site Handbook for the Construction of SUDS (C698)

Additional Relevant Guidance:

- Marine Scotland, 2021, Monitoring watercourses in relation to onshore wind farm developments: generic monitoring programme.
  Website: https://www.gov.scot/publications/monitoring-watercourses-in-relation-to-onshore-wind-farm-developments-generic-monitoring-programme/
- Simple Guide to Site Waste Management, NetRegs
  Website: https://www.netregs.org.uk/media/1718/a-simple-guide-to-site-waste-management-plans
- What is the duty of care for waste, NetRegs
  Website: http://www.netregs.org.uk/environmental-topics/waste/duty-of-care-your-waste-responsibilities/what-is-the-duty-of-care-for-waste/
- WRAP (Waste & Resources Action Programme):
  http://www.wrap.org.uk/construction/tools_and_guidance/site_waste_2.html
- www.defra.gov.uk/Environment/waste/
- Planning Advice Note 50 Annex D The Control of Blasting at Surface Mineral Workings, Scottish Government, February 2000

Regulations:

- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (“CAR”).
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011, A Practical Guide, SEPA, (as amended).

Appendix 1 Construction Schedule of Mitigation

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Proposed Development			
Watercourse Crossings	Pre-construction	The final solution and detailed design of watercourse crossings will be confirmed and agreed with Scottish Environment Protection Agency (SEPA) prior to construction	Paragraph 10.1.2
Construction Environmental Management Plan	Pre-construction	The Applicant will produce and adhere to a CEMP, which shall be developed in accordance with the joint Scottish Renewables, SNH, SEPA, Forestry Commission Scotland and Historic Environment Scotland guidance on Good Practice During Windfarm Construction (2019). The CEMP shall describe how the Applicant will ensure suitable management of, but not limited to, the following environmental issues during construction of the Proposed Development: • Noise and vibration; • Dust and air pollution; • Surface and ground water, including drainage controls and mitigation; • Ecology and ornithology (including protection of habitats and species); • Agriculture (including protection of livestock and land); • Cultural heritage; • Waste (construction and domestic); • Pollution incidence response (for both land and water); and • Site operations (including maintenance of the construction compound, working hours and safety of the public). The Applicant shall consult with NatureScot, SEPA, and THC on the relevant aspects of the CEMP where required. The Applicant shall amend and update the CEMP as required throughout the construction and decommissioning period.	This document
Micrositing	Construction	A micrositing allowance of up to 50m in all directions is being sought in respect of each turbine and its associated infrastructure in order to address any potential difficulties which may arise if preconstruction surveys identify unsuitable ground conditions or environmental constraints that need to be avoided. A larger micrositing allowance may be required to ensure optimum routing of any cross-country cable routes; it is proposed that the wording of any future condition provides the opportunity to agree any alterations to the proposed cross country cable locations beyond the 50m micrositing in order to optimise their routes following detailed design with respect to this specific piece of infrastructure.	5.2 Micrositing

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Construction working hours	Construction	Normal construction hours will be 07:00 to 19:00 Monday to Friday and 07:00 to 14:00 Saturdays. There shall be no construction traffic movements to or from the Site outwith these hours or on Sundays. In the event of work being required out with these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority will be notified prior to these works taking place wherever possible. Operation of crushing equipment located within / next to borrow pits will generally be limited to 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 on Saturdays, with no operation on Sundays. Any blasting on site shall only take place between the hours of 10:00 to 16:00 on Monday to Friday inclusive and 10:00 to 12:00 on Saturdays with no blasting taking place on a Sunday unless otherwise approved in advance in writing by the Planning Authority.	7.4 Noise Mitigation Plan
Temporary Hardstanding Areas	Construction	Following turbine erection, temporary hardstanding areas will be reinstated.	15 Reinstatement
Storage of excavated material	Construction	Excavated soil will typically be stored separately either in a mound adjacent to the excavation area for backfill, if required, or stored at a designated area on-site for further use or reinstatement of temporary works areas. The handling of soils will be undertaken in accordance with best practice techniques.	Paragraph 14.3.6
Construction Compounds	Pre- and post-construction	The detailed size, layout and engineering properties of the construction compounds will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed. The eastern section of the primary construction compound will remain as a permanent area to be utilised by Glenmoriston Estate, the western section will be reinstated following completion of construction. The satellite compound will be reinstated following completion of construction.	18 Onsite Preparatory Construction
Decommissioning	Decommissioning	Decommissioning proposals will be agreed with THC prior to decommissioning works commencing. The CEMP will be updated prior to decommissioning by the Applicant to reflect current legislation and policy and will be agreed with THC, NatureScot and SEPA.	Decommissioning Strategy

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Ecology			
Pre-construction Surveys	Pre-construction	A pre-construction protected species survey following best practice guidance, will be undertaken no later than eight months prior to the start of construction, particularly for otter and water vole, which are known to be present, and pine marten and wildcat, which may be present in the future.This will also involve a survey of suitable habitat where amphibians or reptiles may be found. A suitably qualified ecologist will be appointed to undertake this survey. If the work is undertaken outwith the active months for amphibians and reptiles then the ecologist will search construction areas for suitable hibernation sites for relocation. Any amphibians or reptiles discovered during construction will be moved by the ECoW to suitable areas outwith the construction area.	12.3 Species Protection Plan Appendix 6 Species Protection Plan
Ecological Clerk of Works	Construction	An Ecological Clerk of Works will oversee all construction works.	6 The Ecological / Environmental Clerk of Works (ECoW)
Species Protection Plans	Construction	Species protection plans will form part of the CEMP and will address the protected species known to be present in the field study area and will provide details on the actions required if other species not recorded during surveys conducted to date (such as wildcat or pine marten) are encountered during pre-construction surveys or the construction phase of the Proposed Development.	12.3 Species Protection Plan Appendix 6 Species Protection Plan
Water Pollution Prevention	Construction	Appropriate pollution response spill kits and silt mitigation measures installed at watercourse crossing locations. As a minimum, these will follow SEPA Guidelines for Water Pollution Prevention from Civil Engineering Contracts (SEPA, 2006a) and Special Requirements (SEPA, 2006b). The risk of pollution from surface run-off to watercourses and aquatic habitats will be avoided by ensuring that run-off control measures, such as interceptor drains and silt traps to assist in maintaining water quality, are in place. Additionally, interceptor drains will be used to control the flow of any run-off from construction or operational activities. Pollution control measures will be included in the CEMP.	7 Pollution Prevention and Mitigation 8 Drainage

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Mammal Protection Measures	Construction	Provision of a slope at one end of, or mammal ramps at, excavations that remain uncovered overnight, where there would be the potential for mammals to become trapped. This will prevent otter, water vole and other species from becoming trapped. Additionally, all pipes will be capped, and fuel/oils and chemicals stored securely.	Paragraph 12.3.3
Watercourse Crossings	Construction	Where possible, watercourse crossings will be suitably designed to allow continued mammal movement along the watercourses and minimise riparian habitat loss.	Paragraph 10.2.1
Deer Management Plan	Construction	A Deer Management Plan will detail the measures that will be undertaken during construction to ensure deer numbers are kept at a low level to avoid damage to Levishie Wood SSSI from deer displacement during construction. Measures include the continuation and monitoring of the current annual deer cull plan, removal of deer fencing around established native woodland areas (where possible) to provide access to additional areas for deer in conjunction with the proposed restriction of speed limits within the construction site boundary, and vegetation monitoring within Levishie Wood SSSI to guide the requirement for additional measures, such as an increase in cull numbers.	Deer Management Plan
Habitat Reinstatement	Construction	Areas of temporary infrastructure, such as hardstanding, the construction compounds and the borrow pits, will be reinstated as soon as possible after construction has been completed to allow the recolonisation of natural habitats. Further details on the proposed approach to habitat reinstatement will be set out in the CEMP.	15 Reinstatement
Fish Monitoring and Remediation	Pre-construction, and Construction	A pre-construction hydrochemical assessment of target watercourses that are likely to be impacted, such as the Allt Saigh, will be undertaken following Marine Scotland Science (MSS) guidelines (MSS, 2018). Control sites will also be included. Regular monitoring of water quality, such as turbidity and suspended solids, will also be undertaken by the ECoW in areas where active works are taking place and areas where run-off may be present during periods of high rainfall. The monitoring programme and identification of control sites will be developed post-consent and will follow MSS guidelines (MSS, 2018). Fish population monitoring will also be undertaken during construction at the target watercourses and control sites and will follow MSS guidelines (MSS, 2018). Should the results of these surveys exceed the threshold levels recorded during site characterisation/baseline and pre-construction surveys, an immediate investigation will be undertaken by the ECoW into the likely cause of the issue. Remedial action will then be undertaken to address the cause and will depend on the nature of the identified issue. For	9.3 Fish Population Monitoring Appendix 8 Water Quality and Fish Monitoring Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
		example, remedial actions may include further sedimentation controls if an increase in sedimentation is found to be the cause of the issue.	
Micrositing	Construction	Micrositing of infrastructure and/or the configuration of the construction working areas within the Proposed Development will seek to avoid localised ecological sensitivities wherever possible. This will include, but will not be limited to: • Maximising the distance of infrastructure and the associated construction working areas from watercourses, and water vole burrows. • Maximising the distance of infrastructure and the associated construction working areas from the small area of M11 where possible, and from the two areas of M15b habitat. • Minimising the extent of construction work within blanket bog.	5.2 Micrositing Paragraph 12.2.13
Maintaining Hydrological Connectivity	Construction	Suitable drainage and surface water measures will be used to maintain hydrological connectivity in peatland habitats, particularly blanket bog and wet heath, and in working areas near the M11 and M15b habitats. This will include measures such as diverting drainage around working areas and maintaining hydrological connectivity in track design by using small diameter pipes in the sub-base. Greenfield run-off (i.e. non-silty surface water flow that has not yet passed over any disturbed construction areas) will be kept separate from potentially contaminated water from construction areas, where possible. Where appropriate, interceptor ditches and other drainage diversion measures will be installed immediately in advance of any excavation works in order to collect and divert greenfield run-off around areas disturbed by construction activities. All surface water within disturbed areas will be managed in accordance with sustainable drainage system techniques, using a multi-tiered approach to provide both flow attenuation and treatment through infiltration, where possible, and physical filtration prior to discharge. In accordance with industry guidance (SNH et al., 2019b), ditches will follow the natural flow of the ground with a generally constant depth to ditch invert. They will have shallow longitudinal gradients, where possible. Regular check-dams will be used where necessary to control the rate of run-off. The ditches will be designed to intercept any stormwater run-off and to allow clean water flows to be transferred independently through the works without mixing with construction drainage. The regular interception and diversion of clean run-off around infrastructure will prevent significant disruption to shallow groundwater flow and peatland. This will also reduce the flow of water onto any exposed areas of rock and soil, thereby reducing the potential volume of silt-laden run-off requiring treatment.	8 Drainage

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
		Greenfield run-off will be discharged into an area of vegetation for dispersion or infiltration, mimicking natural flows, so as not to alter downstream hydrology or soil moisture characteristics.	
Juniper	Construction	The single, small juniper plant that would be damaged or destroyed as part of the access track upgrade will be transplanted into a nearby area of habitat outwith the area where works are proposed.	Paragraph 12.2.14
Habitat Restoration and Enhancement	Operation	Active restoration of the peatland habitats in the field study area, both the habitats impacted by the Proposed Development and habitats that are already modified, will be carried out in line with the Habitat Management Plan (HMP) (Appendix 5.7) and will be secured by planning condition. Active restoration is defined here as the process of actively encouraging the regeneration of degraded peatland habitats. A minimum of 6.93ha of peatland will be restored in areas of modified blanket bog that no longer contain a significant proportion of peat-forming vegetation. The overall aim will be to restore a larger area of peatland than the area lost. This will mitigate the permanent loss and modification of peatland as a result of the Proposed Development. There is also the opportunity for habitat enhancement on-site, as detailed in Appendix 5.7. The creation of new woodland and montane scrub habitat that could benefit species by providing shelter and feeding opportunities.	Habitat Management Plan
Ornithology			
Breeding Bird Protection Plan	Pre-construction & Construction	A Breeding Bird Protection Plan (BBPP) will be produced and implemented to ensure that disruption to all nesting birds during the construction period is avoided. Pre-construction surveys carried out by an ECoW or suitably qualified ornithologist will determine whether any breeding activity is taking place within potential species-specific disturbance zones of any proposed infrastructure. If breeding is found to occur within a potential disturbance zone, all construction works will be halted immediately, and a disturbance risk assessment would be prepared. The risk assessment will consider the likelihood and possible implications of the associated construction activities on the breeding attempt and set out necessary measures to ensure that no disturbance occurs. The proposed mitigation measures and, if required in particular cases, the exact distance of any disturbance-free zone would be agreed with NatureScot, within which any construction activity that is considered to be potentially disturbing will be prohibited in that area until chicks are fledged.	12.4 Breeding Bird Protection Plan Appendix 7 Breeding Bird Protection Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Black Grouse	Construction	If pre-construction surveys do record lekking black grouse within a potential disturbance zone (up to 750m of any proposed works), all potentially disturbing construction activities would be prohibited until a risk assessment is undertaken. The risk assessment would consider the likelihood and possible implications of the associated construction activities on the lek and set out necessary measures to ensure that no disturbance occurs. Restrictions to construction activity would likely be within two hours of dawn during core lekking period of March to May, but, the exact timing and/or distance of any disturbance-free zone would be agreed with NatureScot, within which any construction activity that is considered to be potentially disturbing would be prohibited in that area until the core lekking period has passed. The seasonal No Stopping / No Parking restrictions along the part of the access track closest to Lek 1, as implemented for the Operational Development, would continue to be followed during the operational period of the Proposed Development.	12.4 Breeding Bird Protection Plan Paragraph 12.4.4 Appendix 7 Breeding Bird Protection Plan
Divers	Operation	A small number of lochs within the estate would be selected for the construction of an artificial nesting raft for divers. The artificial rafts would help combat any potential impacts and provide a more secure nesting site for one or both diver species depending on the loch selected. To ensure the best chance of breeding success, the rafts would be monitored and maintained on an annual basis, and kept free from any competition, e.g. by nesting gulls, geese, etc.	Habitat Management Plan
Golden Eagle	Operation	The Habitat Management Plan will contain details relating to the planting of low-density native woodland and/or montane scrub within the south-eastern part of the estate between Carn Mor and Meall Doire Bhrath. This would benefit eagles by improving habitats for their prey, including grouse and hares, as well as providing a more natural landscape and enhanced biodiversity. The planting would be in an area predicted to have relatively high usage/suitability within the territory, according to the golden eagle GET model, but importantly not too close to potential nest sites to restrict access. Hill slopes would be selected for planting, but around crags would be left unplanted for perching/roosting purposes. Management may also be required to encourage dwarf shrub coverage on the open ground for grouse and other species.	Habitat Management Plan
Golden Eagle	Operation	Investigations would take place to determine whether monitoring work could be done in support of the SSE funded research as part of the Regional Eagle Conservation Management Plan within the neighbouring Central Highlands NHZ 10.	Habitat Management Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Monitoring	Construction and Operation	A monitoring programme for raptors and black grouse would take place within the estate, to record any nesting attempts and breeding success, and black grouse leks. This would form part of the Habitat Management Plan and results would feed into any changes in management that may be required. Investigations would take place to determine whether monitoring work could be done in collaboration with the Regional Eagle Conservation Management Plan within the neighbouring Central Highlands NHZ 10.	Appendix 7 Breeding Bird Protection Plan Habitat Management Plan
Hydrology			
Water Quality Monitoring Programme	Pre-construction & Construction	Baseline water quality sampling and analysis will be undertaken to develop a database and understanding of the existing water quality within the Site and local area. A programme of regular monitoring and analysis of the water quality of the watercourses will be implemented throughout the construction phase to record the existing water condition and ensure no deterioration to water quality during construction. The scope, location and frequency of monitoring to be undertaken will be agreed with SEPA prior to commencement.	9 Water Quality and Fish Monitoring Appendix 8 Water Quality and Fish Monitoring Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Pollution Impact from Silt-laden Run-off	Construction	With specific reference to the SEPA guidance 'Prevention of Pollution from Civil Engineering Contracts: Special Requirements' (SEPA, 2006), and following detailed design and any updated environmental surveys, the Applicant will further develop the Outline Construction Environmental Management Plan (CEMP), in consultation with SEPA, NatureScot and THC prior to the commencement of construction activities. The CEMP will also be included within the main civil works contract and the Principal Contractor will be required to prepare a site specific 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 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 earthworks and construction; • Storage of all fuel and other chemicals in accordance with best practice procedures; • Borrow pit management measures; • Ensuring that concrete batching is undertaken only at the designated concrete batching plant area; • 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. All earthmoving works or similar operations will be carried out in accordance with BSI Code of Practice for Earth Works BS6031:2009. The use of stockpiles will be minimised and/or stockpiles will be covered and contained. Sediment interception measures at their bases will be provided. Temporary drainage measures will be installed providing filtration and settlement to collect sediments prior to off-site discharge. Temporary drainage measures and silt fencing will also be installed around large areas of exposed soils. Drainage ditches and watercourses will be inspected on a regular basis (e.g. weekly) and after storm events, to check for blockages during construction.	This document. Construction Traffic Management Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
		Mass overburden stripping will be avoided on the Site, exposing parts of the Site only when essential. If excavated material is to be stored, constructing stockpiles more than 2m high will be avoided. This will ensure anaerobic conditions do not occur and that the soil will remain fertile and capable of being re-seeded. It will also be less susceptible to erosion. The CEMP will contain site traffic management measures to reduce sediment run-off risks. This will include good practise measures such as minimising turning of tracked vehicles where possible and managing dedicated turning areas appropriately (hard surfacing, silt fencing etc.), avoiding unnecessary turning of large site plant and minimising overall routes on-site to better manage sediment run-off. Measures will be in place to prevent/ reduce sediment impacts to public roads. This includes good practise measures such as wheel wash facilities where required and vehicles only permitted on-site not to use public roads, unless required at the beginning and end of construction period. All watercourse crossings, site discharges, and any temporary water abstraction 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. 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 if required.	

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Pollution Impact from Chemical Contaminated Run-off	Construction	All fuel and other chemicals will be stored in accordance with best practice procedures, including in 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 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 bund.Spill kits will be maintained in all work areas and 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. 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 in order to minimise risks of leaks to soil and surface waters. A concrete batching plant will be present on-site. The contractor will develop a method statement to address the transport, transfer, handling and pouring of liquid concrete at foundations. 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 30m of watercourses and waterbodies. All vehicles used for delivery of concrete will only be washed out at locations as detailed within the CEMP. 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. 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.	7 Pollution Prevention and Mitigation
Impact on Integrity of Banking	Construction	Field drains and fencing will be constructed and maintained where necessary during construction to uphold the integrity of watercourse banks. Detailed intrusive site investigation work will be undertaken prior to construction to ensure design and installation of new watercourse crossings would be suitable to local ground conditions. When constructing watercourse crossings, good construction practice measures as set out in the CEMP will be fully implemented.	8 Drainage 10 Watercourse Crossings
Direct Discharge of Untreated Foul Drainage	Construction	Welfare facilities will either connect directly to the foul sewer, self-contained storage tanks or to a septic tank, subject to approval from Scottish Water and 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.	Paragraph 11.1.5

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Operation Environmental Management Plan	Pre-operation	Prior to commissioning, an OEMP will be developed and agreed with THC and SEPA where required. The OEMP would detail the site drainage design, including the type of surface to be used for the access track, 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 and borrow pit excavations would be controlled. The OEMP will also detail the dimensions and final design of the proposed watercourse crossings, which will be designed to maintain continuous flows. The OEMP will detail the location of any storage and use of any potential pollutants such fuels and oils and the location of emergency response stations containing spill kits. The storage of fuels and oils will follow SEPA best practise guidance.	Operation Environmental Management Plan
Geology & Soils			
Detailed Geotechnical Design	Pre-construction	A detailed geotechnical design will be undertaken for each turbine location, access track and borrow pit. This would be undertaken post-consent based on site-specific ground investigation and material properties. The detailed design would aim to avoid areas of potential deep peat and potential areas of instability through the use of micrositing and the use of appropriate foundations and founding stratum (including piles if required).	Paragraph 1.1.5
Detailed ground investigations	Pre-construction	Detailed ground investigation will be completed within critical areas at the Site (i.e. turbine foundations, crane hardstandings, laydown and borrow pit areas) to inform civil design, quantify borrow pit resource and finalise the Peat Management Plan.	Paragraph 1.1.4
Blasting activities	Construction	Blasting activities would be controlled through reference to key guidance including Planning Advice Note (PAN) 50 Annex D 'The Control of Blasting at Surface Mineral Workings' (Scottish Executive, 2000) and BS5607 'Code of practice for the safe use of explosives in the construction industry' (BSI, 2017).	Borrow Pit Scheme of Works
Excavated Material	Construction	During construction, excavated material would not be placed / stockpiled on peat areas such that extra loading would increase the likelihood of failure and the excavations within peat would be minimised wherever possible. The Contractor will consider the location of any temporary excavated material storage areas such that erosion and run-off is limited, leachate from the stored material is controlled and stability of the existing ground is not affected.	Paragraph 14.3.12 Paragraph 8.7.1

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
Potential Erosion	Construction	Potential erosion and drying of peat will be mitigated through a robust drainage design, use of silt traps where required and localised protection such as cut-off trenches, settlement ponds or barriers at watercourses and crossings.	Paragraph 14.3.10
Drainage Systems	Construction	Appropriate and robust drainage systems and associated measures (i.e. silt traps, etc.) will be designed to minimise sedimentation into natural watercourses. Method statements will be prepared in advance to mitigate against a slide occurring and would include, but not be limited to, the use of check dams and erosion protection to limit flows and prevent contamination of watercourses. Measures will be put in place to ensure drainage systems are well maintained.	8 Drainage
Geotechnical Risk Register	Construction & Operation	A Geotechnical Risk Register will be developed as the project progresses to highlight and communicate risk and proposed mitigation.	1.2 Roles, Responsibilities and Structure of the CEMP
Geotechnical Engineer	Construction	An appropriately experienced and qualified Geotechnical Engineer will be appointed to provide advice during the setting out, micrositing and construction phase of the works. The Geotechnical Engineer shall undertake inspections of peat excavations at regular intervals during the construction phase.	1.2 Roles, Responsibilities and Structure of the CEMP
Peat Management Plan	Construction	A Peat Management Plan will be developed and implemented to assess the quantities of peat likely to be excavated during construction and identify suitable reuse and management options. This will include methods and timing involved in excavating, handling and storing peat for use in reinstatement.	Peat Management Plan
Noise			
Good Site Practices	Construction	Good site practices would be implemented to ensure no significant adverse effects. Section 8 of BS5228-1:2009+A1:2014 (BSI, 2008) recommends a number of simple control measures as summarised below that would be employed onsite: • 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.	Paragraph 7.4.6

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
		• Ensure that any extraordinary site work (for example, crane operations lifting components onto the tower) would be programmed and agreed in advance with the Local Authority as detailed in the CEMP. • 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 to minimise noise during this operation. • Ensure all ancillary plant such as generators and pumps would be positioned to cause minimum noise disturbance and, if necessary, temporary acoustic screens or enclosures should be provided.	
Traffic & Transport			
Construction Traffic Management Plan	Construction	Mitigation throughout the construction period will be managed through the implementation of a Construction Traffic Management Plan (CTMP). The following measures will be implemented during the construction phase through the CTMP: • All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads. • Specific training and disciplinary measures will be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway. • Wheel wash facilities will be established at the site entrance if required.	Construction Traffic Management Plan

Matter/Effect Requiring Mitigation	Timing / Phase	Mitigation	Cross Reference
		• Working hours will be limited to 0700 - 1900 Monday to Friday and 0700 – 1400 on Saturdays. There shall be no construction traffic movements to or from the site outwith these hours or on Sundays. In the event of work being required out with these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority will be notified prior to these works taking place. • Appropriate traffic management measures will be put in place on the A887 through Invermoriston to avoid conflict with general traffic, subject to the agreement of the Roads Authority. Measures specific to the site include a commitment for construction traffic to travel through the village at 20mph and managing deliveries to take place outside school bus drop off and pick up times. • Appropriate traffic management measures will be put in place at the site entrance to avoid conflict with general traffic, subject to the agreement of the Roads Authority. • Typical traffic management measures will include speed limit, HGV turning and crossing signs and/or banksmen at the site access, and warning signs. • Provision of construction updates on the project website and information to be distributed to residents within an agreed distance of the site. • All drivers will be required to attend an induction to include: 1. a safety briefing; 2. the need for appropriate care and speed control; 3. a briefing on driver speed reduction agreements (to slow site traffic at sensitive locations); 4. identification of specific sensitive areas; 5. identification of the specified route; 6. the requirement not to deviate from the specified route; and 7. strict instructions that roadside littering will not be tolerated.	
Socio-economics, Tourism & Recreation			
Outdoor Access	Construction / Operation	The Applicant will maintain existing access to the site and the local path networks as far as possible, minimising negative impacts on public access during construction and maximise benefits post construction. This will include suitbale signs, gates and other access furtniture,	Outdoor Access Plan

Appendix 2 Environmental Constraints Map

Appendix 3 Site Layout Plan

Figure 2.2 Site Layout Plan Additional Information Report

Appendix 4 Typical Drainage Schematics

Schematic 1 Settlement Ponds, Check Dams and Silt Fences

Schematic 2 Tracks and Watercourse Crossings

Schematic 3 Cut and Fill Track

Schematic 4 Borrow Pit

Schematic 5 Turbine Bases and Crane Pad Hard-standings

Schematic 6 Construction Compound

Appendix 5 Peat Depth Drawings

Figure 10.2 (a to g), Bhlaraidh Wind Farm Extension EIA Report

Appendix 6 Species Protection Plan

Appendix 7 Breeding Bird Protection Plan

Appendix 8 Water Quality and Fish Monitoring Plan

Appendix 9 Private Water Supply Risk Assessment