VOLUME 2 – CHAPTER 16: SCHEDULE OF ENVIRONMENTAL MITIGATION

Figures (Volume 2 of this EIA Report)

There are no figures associated with this Chapter.

Appendices (Volume 4 of this EIA Report)

There are no appendices associated with this Chapter.

16. SCHEDULE OF ENVIRONMENTAL MITIGATION

16.1 Introduction

16.1.1 This chapter collates the mitigation measures and environmental management commitments which are presented in each of the technical chapters (**Chapters 5 to 14**) of this Environmental Impact Assessment (EIA) Report into a single schedule, which is presented in **Table 16.2** below. Measures to mitigate construction and operational phase impacts are included. Measures to mitigate effects which are predicted to arise apply to all elements of the Proposed Development unless otherwise specified.

16.1.2 Environmental effects and associated mitigation measures are presented in the order in which they appear within this EIA Report.

16.1.3 Mitigation measures that have been incorporated into the project through the design development process, including those relating to avoidance of impacts through the development of route options and OHL alignment, are not included here as they form part of the iteration of the Proposed Development described in **Chapter 3: Design Development and Consideration of Alternatives.**

16.1.4 **Table 16.2** is structured to distinguish between embedded, applied and additional mitigation as defined below:

- **Embedded Mitigation**: design stage mitigation;
- **Applied Mitigation**: standard/best practice environmental discipline/construction industry mitigation; and
- **Additional Mitigation**: Site-specific bespoke mitigation.

16.1.5 **Embedded Mitigation (Tier 1)** is a process of mitigating impacts in the design stage of a project's development. The purpose of embedding mitigation through project design is to reduce or eliminate foreseeable potentially significant environmental effects. Avoiding or reducing environmental impacts through the design process is a key objective of EIA.

16.1.6 The design of the Proposed Development has been progressed through an iterative process integrating electrical and civil engineering and environmental considerations. The design process has sought to reduce or eliminate potentially significant environmental effects at the outset taking account of site topography, slope, drainage, existing land uses and vegetation. A landscape design has been developed to define the location and position of landscaping structures which provide visual screening of the Proposed Development, and other design features and planting which mitigate landscape and visual impacts, and which provide opportunities to enhance biodiversity within the Site.

16.1.7 **Applied Mitigation (Tier 2)** comprises the adoption of good practice measures and procedures relating to assessment discipline-specific, industry standard construction environmental management which are well understood and with a high degree of confidence they would be effective, and the Applicant's own proprietary environmental management plans, which are based on the industry standard.

16.1.8 In relation to Applied Mitigation, for its new infrastructure projects in recent years, the Applicant has developed and effectively implemented a suite of General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) which prescribe good environmental management practices. In addition, the Applicant has developed a Consents and Environment Specification which prescribes environmental management principles which Contractors are required to meet under the terms of the Principal Contract. The Specification includes management plans that the Contractor is required to prepare and implement, including a Construction Environmental Management Plan (CEMP), and subsidiary plans on aspects such as ecological and ornithological management, construction noise management, construction transport management. In preparing these Plans, the Contractor will be required to incorporate any additional management measures identified through the EIA as necessary to avoid or reduce significant residual effects (i.e., "additional mitigation").

16.1.9 **Additional Mitigation (Tier 3)** comprises Site-specific mitigation considered necessary to reduce the magnitude and/or significance of residual impacts which remain after the application of embedded and applied mitigation.

16.1.10 Given the scope and substance of embedded and applied mitigation, the requirement for additional mitigation is limited to a small number of individual situations, such as additional archaeological investigation (trenching) prior to

development (Cultural Heritage), and installation of silt fences/settlement ponds around water crossings and access tracks during construction (Hydrology).

16.1.11 Embedded Mitigation is secured through the design process, while both Applied Mitigation and Additional Mitigation would be secured through the terms of the Principal Contract. In addition, it is expected that Aberdeenshire Council, as planning authority, would seek the implementation of similar environmental management principles, and of specific Management Plans, through Conditions attached to the planning permission. The expectation would be that the plans and measures developed by the Contractor in accordance with the approach described above, would be reviewed and approved by Aberdeenshire Council as part of condition discharge.

16.1.12 Any additional monitoring identified has also been included in **Table 16.2**. Topic specific embedded, applied and additional mitigation measures have been alpha numerically referenced as discrete measures using the codes presented in **Table 16.1** below:

Table 16.1: Mitigation Code Guide

Topic Chapter	Reference Used
General	G
Forestry	F
Landscape and Visual Amenity	LV
Cultural Heritage	CH
Ecology	EC
Ornithology	O
Hydrology, Hydrogeology, Geology and Soils	HG
Traffic and Transport	TT
Noise and Vibration	NV

16.1.13 It is the intention of the Applicant that all mitigation measures in this Schedule will be implemented either through appropriately worded planning conditions and/or through the requirements of the Principal Contract, as described above. The Principal Contract contains a provision to audit and report to the Applicant on the implementation of mitigation measures, through the appointment by the Principal Contractor of an Environmental Manager/Clerk of Works, whose role will be to ensure the implementation and effectiveness of all environmental management measures specified through the Principal Contract.

Table 16.2: Schedule of Mitigation Measures

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
General (Introductory Chapters)	Applied Mitigation	**G1**	**SSEN Transmission General Environmental Management Plans (GEMPs) and Species Protection Plans** All construction and (where relevant) decommissioning works will be carried out in accordance with all relevant General Environmental Management Plans (GEMPs) and relevant Species Protection Plans (SPPs) developed by the Applicant, as a condition of the Principal Contract. These documents set out good construction environmental management and mitigation principles and measures that SSEN Transmission requires for all OHL and substation projects, where appropriate. The following GEMPs and SPPs have been assumed as part of the applied mitigation for this project and EIA: • GEMP: Oil Storage and Refuelling • GEMP: Soil Management • GEMP: Working in or Near Water • GEMP: Working with Concrete • GEMP: Watercourse Crossings • GEMP: Waste Management • GEMP: Contaminated Land • GEMP: Private Water Supplies • GEMP: Dust Management • GEMP: Biosecurity • GEMP: Restoration • GEMP: Bad Weather • Badger Species Protection Plan • Bat Species Protection Plan • Bird Species Protection Plan • Otter Species Protection Plan Relevant SSEN Transmission GEMPs and SPPs are included in the impact assessments set out in chapters 7-13.	Pre-construction During construction Operation Decommissioning	Principal Construction Contractor Relevant Sub-Contractors

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
		G2	**Construction Environmental Management Plan (CEMP)** The Principal Contract requires the Principal Contractor to prepare and implement a CEMP. The CEMP will detail how the Principal Contractor shall manage construction and work in accordance with the GEMPs and SPPs referenced above and with all commitments and mitigation specified in this Table 16.2, together with the requirements of appropriate statutory consents and authorisations. The Principal Contract also requires the Principal Contractor to prepare and implement specific topic specific management plans, specifically: • Site Waste Management Plan • Site Water Management Plan and Pollution Prevention Plan • Soil Management and Restoration Plan • Cultural Heritage Management Plan / Written Scheme of Investigation • Ecological and Ornithological Management Plan • Construction Noise Management Plan • Air Quality Management Plan • Construction Traffic Management Plan • Outdoor Access Plan • Landscape Plan The minimum content of these Plans is specified in the Principal Contract. It is also a condition of the Principal Contract that these Plans also incorporate any Additional Mitigation Measures, arising from the EIA, and which are set out in this Table 16.2 where applicable. These Plans may be incorporated into the CEMP or may be stand-alone, depending on the approach adopted by the Principal Contractor to implementation.	Pre-construction During construction Decommissioning	Principal Construction Contractor Relevant Sub-Contractors
	Monitoring		N/A		
Forestry	Topic Specific Embedded Mitigation	**F1**	Measures put in place to mitigate for the permanent loss of woodland by the Proposed Development through planting to satisfy the requirements of the Control of Woodland Removal Policy within the Site including restocking with evergreen conifers in the management felling areas.		
	Applied Mitigation	**F2**	Adherence to all relevant policy documents including: • Right Tree in the Right Place; Control of Woodland Removal Policy; • UK Forestry Standard; and • UK Woodland Assurance Standard.	Planning stage; during construction of the Proposed Development; and during the implementation of	Principal Contractor

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
				any additional mitigation measures.	
		F3	The Applicant will implement on-site and off-site BNG measures, as defined in the BNG Report. BNG measures will deliver no less than a 10% net gain in biodiversity units and will be underpinned by sound ecological principles to deliver broad benefits for a range of ecological features.	Pre-energisation	Applicant
		F4	Restocking of management felling areas (29 ha); and off-site restocking planting for permanent infrastructure areas (87.4 ha).	After construction of the Proposed Development.	Applicant
	Additional Mitigation		In order to comply with the criteria of the Scottish Government's Control of Woodland Removal Policy, compensation planting would be procured. The extent, location and composition of such planting will be agreed with SF, taking into account any revision to the felling and restocking plans prior to the commencement of construction of the Proposed Development. This compensation planting will be distinct to that which is presented within the BNG Report **(Appendix 10.4: BNG Report).** These documents detail the ecological value of the baseline, and the measures that will be implemented within the Site through the landscape design to "conserve, restore and enhance biodiversity" in accordance with NPF4 policy 3(b). The outline BEP has been designed using sound ecological principles and with reference to existing and emerging BNG best practice.	Pre-energisation	Applicant
	Monitoring		None		
Landscape and Visual	Topic Specific Embedded Mitigation		The design approach which has sought to mitigate landscape and visual impacts is set out in **Chapter 3: Description of Proposed Development.**		
	Applied Mitigation	**LV1**	Adherence to all relevant SSEN GEMPs, including soil management, working in sensitive habitats, forestry and restoration.	Construction	Principal Contractor
		LV2	Preparation and implementation of CEMP which shall include soil management, ecological management and general construction practices, including the specification and control of lighting.	Prior to and during Construction	Principal Contractor
		LV3	Minimal use of operational lighting within the Site, only used during periods of maintenance when absolutely necessary. The specified lighting shall be low level, face into the Site and directed onot the ground and not onto elevated structures, with limited glare and light spill.	Operation	Applicant
	Additional Mitigation		None		

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
	Monitoring		Survey and monitoring of the proposed landscape design, and replacement planting where required, to ensure the implemented planting successfully establishes and the predicted mitigation of landscape and visual effects is delivered.	Post-construction on an annual basis for five years.	Principal Contractor
Cultural Heritage and Archaeology	Topic Specific Embedded Mitigation	**CH1**	**Proposed mitigation planting** Landscaping and planting mitigation measures have been adopted to both provide close-proximity screening in all directions, and to integrate the Proposed Development into the wider forested landscape, including when beheld from longer distances. Native broadleaved woodland planting will be concentrated at the north, east, and south of the substation platform, with lighter woodland planting proposed to the west. Shrub and scrub planting are proposed along the route of the access track as it approaches the substation platform from the west.	After construction of the Proposed Development. Decommissioning	
		CH2	**Avoidance of Scheduled Monument** The Proposed Development has been designed to avoid any direct impacts on the Scheduled Monument Cowie Line Pillbox and Earthworks 945 m SW of Stonehouse (SM 6437), which is crossed by the proposed access route. No upgrading works will be carried out on the existing track that crosses the Scheduled Monument. Any upgrading works required along the section of existing track that runs immediately north of the Scheduled Monument, will be kept to the opposite side of the Cowie Water and will not encroach upon the Scheduled Area. A temporary overbridge will be placed on top of the existing bridge to facilitate vehicle crossing of the Cowie Water, no groundbreaking works will be required for construction of the temporary overbridge, which will sit on gravel pads laid down on top of the existing ground surface. Where vehicles cross the Scheduled Monument, they will remain within the footprint of the existing access track. No vegetation pruning or tree felling will be carried out within the Scheduled Area.	Construction	Principal Contractor
	Applied Mitigation	**CH3**	Construction works will proceed in accordance with the measures outlined in the CEMP.	Construction	Principal Contractor
		CH4	Construction machinery will operate only within defined working areas and access corridors, limiting ground disturbance.	Construction	Principal Contractor
		CH5	Should they be encountered, previously unidentified archaeological remains will be subject to a programme of archaeological works to be developed in consultation with ACAS and detailed in a Written Scheme of Investigation (WSI) and will be a requirement of the contract between the Applicant and the Principal Contractor. It is envisaged that the requirement for a WSI will be secured through a suitably worded planning condition.	Construction	Archaeological Contractor
	Additional Mitigation		Heritage assets (NO78NE0035 and NO78NW0011) recorded in close proximity to the proposed access route that requires upgrading will be marked out and avoided by construction work. Assets will be entirely fenced off or visibly marked out to prevent accidental damage. Any road widening works required along existing access tracks would be limited to opposite side of the track to heritage assets, where possible.	Construction Phase	Archaeological Contractor

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
			Any disturbance to surviving remains, where they would be directly affected by proposed upgrading works to the existing track, would be kept to a minimum. Where upstanding features cannot be avoided or protected during construction, these areas would be investigated and recorded prior to construction works being carried out, to a specification and standard to be agreed in consultation with ACAS.		
			Archaeological watching brief of any groundbreaking works along the route of the former drove road (Cryne Corse Road, NO79SE0010) to record any surviving buried remains. The purposes of the watching brief would be to provide information on the construction of the drove road. If significant discoveries are made during any required archaeological monitoring, and preservation in situ of any sites or features is not possible, provision would be made for an appropriate amount of investigation and recording to be agreed in writing with ACAS. This provision would include the consequent production of written reports on the findings, with post-excavation analyses and publication of the results of the work where appropriate.	Construction Phase	Archaeological Contractor
			Written guidelines will be set out outlining the potential Military Aircraft Crash Sites to survive within the Site and for the need to avoid causing unnecessary damage to these sites should any remains be uncovered. The guideline will make clear that Military Aircraft Crash Sites are protected by legislation. The guidelines will set out arrangements for calling upon an appointed Archaeological Clerk of Works (ACoW) if military aircraft crash site remains should be discovered during any construction activities.	Construction Phase	Archaeological Contractor
	Monitoring		Post-felling archaeological walkover survey.	Post-felling works for the Proposed Development	Archaeological Contractor
Ecology and Biodiversity	Topic Specific Embedded Mitigation	**E1**	Landform of the screening bunds around the substation platform has been varied to provide opportunities for different ecological niches as part of the habitat creation proposals that will help to deliver enhancement through Biodiversity Net Gain (BNG). Habitats will include areas of native deciduous tree planting, areas of scrub, grassland, and wet grassland habitats.		
		E2	Retention of riparian habitats along the Burn of Day that provide commuting and foraging opportunities for a range of protected species		
	Applied Mitigation	**E3**	Adherence to all SSEN GEMPs (Working In or Near Water, Dust Management and Biosecurity) and SPPs (Bats, Otter, Wildcat, Badger, Water vole, Red squirrel and Pine marten). Implementation would be overseen by a suitably experienced ECoW with further detail on the definition of this role and implementation as part of an outline Construction Environment Management Plan (see E6 below)	Prior to and during construction	Principal Contractor/ECoW

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
		E4	Preparation and implementation of CEMP which will incorporate and Ecological and Ornithological Management Plan pursuant to the contractual requirements of the Principal Contractor.	Prior to and during construction	Principal Contractor/ECoW
		E5	The Applicant will implement on-site and off-site BNG measures, as defined in **Appendix 10.4: Biodiversity Net Gain Assessment Report**. BNG measures will deliver no less than a 10% net gain in biodiversity units and will be underpinned by sound ecological principles to deliver broad benefits for a range of ecological features.	Pre-energisation	Applicant
	Additional Mitigation		None		
	Monitoring	**E6**	Survey and monitoring to ensure the ongoing efficacy of mitigation measures and identify any requirement for further intervention.	Prior to, during and following construction	Principal contractor / ECoW
Ornithology	Topic Specific Embedded Mitigation	**O1**	Ornithological mitigation will take advantage of screening bunds around the substation platform which are developed as part of habitat creation proposals. In conjunction with ecology, the areas will be used to include areas of native deciduous tree planting, areas of scrub, and grassland planting, together with the creation of wet grassland habitats.		
	Applied Mitigation	**O2**	Implementation of SSEN Transmission “Bird Species Protection Plan” Adherence to the BSPP will be employed to ensure careful timing of construction activities near to sensitive locations to avoid effects on all breeding birds as well as foraging SPA species. Appropriate species-specific working buffers would be employed to assure that minimal disturbance is achieved. Implementation of the BSPP would be overseen by a suitably experienced Environmental Clerk of Works (ECoW) with further detail on the definition of this role and implementation as part of an outline Construction Environmental Management Plan. (see 03)	Prior to and during construction	Principal Contractor/ECoW
		O3	Preparation and implementation of CEMP which will incorporate an Ecological and Ornithological Management Plan pursuant to the contractual requirements of the Principal Contractor.	Prior to and during construction	Principal Contractor /ECoW
		O4	The Applicant will implement on-site BNG and off-site BNG measures, as defined in the BNG Report included with the planning application. BNG measures will deliver no less than a 10% net gain in biodiversity units which will include measures designed to provide habitat for ornithological species.	Pre-energisation	Applicant
	Additional Mitigation		None		
	Monitoring		Nest monitoring will be required for nests discovered during pre-commencement surveys and at other subsequent times throughout the duration of construction works, within the species	During construction	Principal Contractor/ECoW

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
Hydrology, Hydrogeology, Geology and Soils.	Topic Specific Embedded Mitigation	**HG1**	The layout of the Proposed Development has been carefully considered to avoid any development in the 200-year + climate change floodplain of the Burn of Day. There is no proposed development, including SuDS within the 200-year + climate change floodplain. **(Figure 12.1: Hydrology and Hydrogeology Study Area and Figure 12.1.3: 200-year + Climate Change Flood Map of the Burn of Day in Appendix 12.1**).		
		HG2	Watercourses and waterbodies have been buffered by 15 m (where possible) as per Aberdeenshire Council/SEPA consultation response to minimise any potential adverse effect on surface water quality and flood risk. Locations where the recommended buffers could not be met are assessed in **Appendix 12.2: Watercourse Crossing Assessment** and summarised in the Effects Assessment.		
		HG3	The substation drainage design follows sustainable drainage systems (SuDS) and the drainage channels, and ponds have been designed such that local hydrological patterns and surface water runoff run-off flow rates will be attenuated to existing 'greenfield' rates. The permanent drainage of the substation has been designed in accordance with Aberdeenshire Council and SEPA requirements, with the SuDS designed to provide the appropriate attenuation and treatment of surface water runoff. An outline drainage strategy is provided in Appendix 12.1: Flood Risk and Outline Drainage Strategy. An outline Water Management Plan is also included in the Outline CEMP. The SuDS will drain to the Burn of Baulks and Burn of Day via outfall pipes restricted to the 2-year greenfield runoff rate.		
		HG4	Surface water runoff from the catchment which drains towards the Proposed Development from the west will be captured and routed round the Proposed Development to the Burn of Day, southeast to Burn of Baulks or other suitable discharge or storage locations. This interception drainage will be part of the construction and permanent drainage design.	Construction	Principal Contractor
		HG5	The small area of peat in the eastern part of the site has been buffered and avoided. There is no infrastructure (temporary or permanent) proposed within 65m of the peat area. A peat management plan (PMP) will be included as part of the Construction Environmental Management Plan (CEMP).		
		HG6	All excavations less than 1 m deep will be located 100 m away from groundwater abstractions or PWS sources as per SEPA guidance. Excavations greater than 1 m depth will, where possible, be located at least 250 m away from groundwater abstractions or PWS sources.	Construction	Principal Contractor
	Applied Mitigation	**HG7**	Construction of SuDS to treat and attenuate surface runoff from new hardstanding and tracks; reduce sedimentation and erosion and reduce the risk of pollution and accidental damage.	Construction	Principal Contractor
		HG8	Appropriately sized culverts passing under the new access tracks within the Proposed Development that do not restrict flow and allow intercepted field drains and ephemeral streams/surface water flow pathways to pass under the tracks.	Construction	Principal Contractor

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
		HG9	Interceptor drainage ditches on the upgradient side of all proposed infrastructure to intercept and divert 'clean' surface water runoff draining towards the construction areas. These will be treated and attenuated prior to discharge to the water environment.	Construction	Principal Contractor
		HG10	Installation and maintenance of swales and track drains to intercept, collect and treat runoff from access tracks and hardstanding areas of the Site during construction and channel runoff to stilling ponds for sediment settling prior to discharge.	Construction	The Applicant and Principal Contractor
		HG11	The above measures will be included in the CEMP. The CEMP will also include a plan to monitor and plan the timing of works to avoid construction during periods of heavy rainfall and a plan to detail emergency procedures in the event of spillages or any other breach.	Construction	The Applicant and Principal Contractor
	Additional Mitigation		None		
	Monitoring		None		
Traffic and Transport	Topic Specific Embedded Mitigation	**TA1**	Construction traffic routing will be primarily from the north via the A93 and B9007 to site to avoid unnecessary impacts on the west of Stonehaven and Auchenblae Road. These routes avoid, where possible large populations and focus traffic on roads that are suitable for HGV traffic;	Construction	Principal Contractor
		TA2	Basic traffic management measures, including the provision of direction signage at the proposed site access junction	Construction	Principal Contractor
		TA3	The use of local material suppliers to reduce traffic impacts and overall project mileage.	Construction	Principal Contractor
	Applied Mitigation	**TA4**	Provision of a basic Construction Traffic Management Plan (CTMP), incorporating simple measures such as road cleaning facilities at the Site access and basic warning signage. The plan will also include access routing to be observed by traffic. The CTMP will be a contractual requirement of the Principal Contractor and it is anticipated that it will be secured via a suitably worded planning condition.	Prior to start of construction	Principal Contractor
	Additional Mitigation	**TA5**	Abnormal Load Transport Management Plan (TMP), to improve safety for all road users during AIL deliveries	Prior to AIL delivery	Principal/Haulage Contractor
		TA6	Construction staff Travel Plan, to reduce the use of single occupancy travel to and from the Site.	Prior to construction	Principal Contractor
	Monitoring		The construction staff Travel Plan will be monitored to ensure that staff use van sharing or construction site minibuses to access the site. The Principal Contractor will undertake checks to ensure that approved access route is adhered to.	Throughout the construction phase	Principal Contractor

Topic	Type of Mitigation	Ref	Mitigation / Monitoring Measure	Project Stage/Timing	Responsibility
Noise and Vibration	Topic Specific Embedded Mitigation	**NV1**	Specification of Low Noise Equipment	Detailed Design / Procurement	Applicant
		NV2	Natural topography screening	Detailed Design	Applicant
	Applied Mitigation	**NV3**	Construction traffic would access the Site via the A90/Aberdeen West Peripheral Route, the A90 and the B9077, joining the A957 Slug Road northwest of the Site. Smaller vehicles may access the Site via the Slug Road southeast (via west Stonehaven) and from, the Auchenblae road south of the Site, but would be small (LGVs, construction personnel) and low in number	Prior to construction	Principal Contractor
		NV4	Construction Noise Management Plan	Prior to construction	Principal Contractor
	Additional Mitigation		None		
	Monitoring		None		