Scottish & Southern Electricity Networks
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Technical Appendix 4.1: EIA Scoping Report

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Environmental Impact Assessment

Scoping Report

Stornoway - Harris 132 kV Overhead Line Connection (LT000245)

May 2022

Scottish & Southern Electricity Networks

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GLOSSARY AND ABBREVIATIONS

132 kV	132 kilovolt (132,000 volt) capacity of an electricity power line.
AC	Alternating Current
Alignment	The centre line of an overhead line route, along with the location of key angle structures.
Ancient Woodland	Ancient Woodland is defined as land that is currently wooded and has been continually wooded, at least since 1750.
AOD	Above Ordnance Datum
BGS	British Geological Survey
CnES	Comhairle nan Eilean Siar – the Planning Authority
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.
ECU	Energy Consents Unit, the department of the Scottish Government responsible for processing applications for consent under the Electricity Act 1989 on behalf of Scottish Ministers
EIA	Environmental Impact Assessment. A formal process codified by EU directive 2011/92/EU, and subsequently amended by Directive 2014/52/EU. The national regulations are set out in *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017* as amended. The EIA process is set out in regulation 4(1) of the regulations and includes the preparation of an EIA Report by the developer to systematically identify, predict, assess and report on the likely significant environmental impacts of a proposed project or development.
GDL	Garden and Designed Landscape, as listed on the Inventory of Gardens and Designed Landscapes held by Historic Environment Scotland
GSP	Grid Supply Point
GWDTE	Groundwater Dependent Terrestrial Ecosystem
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
IBA	Important Bird Areas are designated by Birdlife as places of international significance for the conservation of birds and other biodiversity. They are a non-statutory, international designation.
LCT	Landscape Character Type exhibiting distinctive pattern of elements and features.
LOD	Limits of Deviation, an area which defines the practical limits within which micrositing of the OHL infrastructure can occur within the terms of the s37 consent which is to be sought. The purpose of Limits of Deviation is to allow flexibility within a s37 consent for the final micrositing of individual poles to respond to localised ground conditions, topography, engineering, and environmental constraints.
Mitigation	Term used to indicate avoidance, remediation, or alleviation of adverse impacts.
NatureScot (NS)	Formerly known as Scottish Natural Heritage, is the public body responsible for Scotland's natural heritage, especially its natural, genetic and scenic diversity. It advises the Scottish Government and acts as a

	government agent in the delivery of conservation designations, i.e. national nature reserves, local nature reserves, national parks, Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation, Special Protection Areas and the national scenic areas.
NETS SQSS	National Electricity Transmission System Security and Quality of Supply
Overhead Line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or wooden poles.
Planning application	An application for planning permission under the Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006. It should be noted that consent under section 37 of the Electricity Act 1989 usually carries with it deemed planning permission from the Scottish Ministers under Section 57 of the Town and Country Planning (Scotland) Act 1997..
Proposed Alignment	The alignment identified within the Proposed Route, selected to be taken forward into the EIA and consenting process. It comprises a defined centre line for the overhead line and defined angle pole support structure locations.
Proposed Development	The Proposed Development is taken to be the description of: the location of the development; the physical characteristics of the OHL, based on the Proposed Alignment and limits of deviation (LOD), including an indicative support structure (tower or pole) schedule, also specifying access arrangements and any associated construction activities and land-use requirements. The Proposed Development also comprises a description of the main characteristics of the operational development and an estimate of residues and emissions associated with both the construction and operational phases (as set out in Schedule 4 of the EIA regulations).
Proposed OHL	The proposed new 132 kV overhead transmission line.
Proposed Route	A route taken forward following stakeholder consultation to the alignment selection stage of the overhead line routeing process.
SAC	Special Area of Conservation - designated under Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as - The Habitats Directive)
Scottish Hydro Electric (SHE) Transmission plc	SHE Transmission plc is the Applicant, who, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands
Section 37 (s37) application	An application for development consent under section 37 of the Electricity Act 1989
SEPA	Scottish Environment Protection Agency
SSEN Transmission	Scottish & Southern Electricity Networks (SSEN) Transmission plc – part of Scottish and Southern Electricity Networks, and the transmission license holder for the transmission of electricity in the north of Scotland
SLVIA	Seascape/landscape and visual assessment
SPA	Special Protection Area – designated under *Directive 2009/147/EC on the Conservation of Wild Birds* (the Birds Directive)
SSSI	Site of Special Scientific Interest – designated by SNH under the *Nature Conservation (Scotland) Act 2004*
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.

Study Area	A defined study area for the consideration of effects (including direct, indirect and cumulative) on each factor defined under Regulation 4(3) of the EIA regulations
Visual Receptors	Visual receptors are individuals or defined groups of people whose visual amenity or viewing experience may be affected by development.
VP	Vantage Point
Volts	The international unit of electric potential and electromotive force
WIC	Western Isles Council – the Planning Authority
Wild Land Areas (WLA)	Those areas comprising the greatest and most extensive areas of wild characteristics within Scotland, as classified by SNH (2014).
ZTV	Zone of Theoretical Visibility - the computer generated theoretical visibility of an object in the landscape

EXECUTIVE SUMMARY

Scottish Hydro Electric Transmission plc (the **Applicant**) who, operating and known as Scottish and Southern Electricity Networks Transmission (**SSEN Transmission**), own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands. The Applicant has a duty under Section 9 of the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission; and to facilitate competition in the generation and supply of electricity. In order to meet these license obligations the Applicant is required to provide a new single circuit 132 kilovolt (kV) OHL connection supported by trident wood poles, between the existing Stornoway substation and the existing Harris grid supply point (GSP), a route of 58 kilometre (km), (the 'Proposed Development'). The Proposed Development is necessary in order to replace and strengthen the existing 132 kV OHL connection between these two connection points in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS).

Ramboll (UK) Ltd has been appointed by the Applicant to undertake the Environmental Impact Assessment (EIA) for the Proposed Development. This Scoping Report is provided to support a formal request under Regulation 12 of the EIA Regulations by the Applicant for a Scoping Opinion to determine the information to be provided within the EIA Report.

The proposed scope of the EIA is summarised in Table 1 below, noting that the final scope will be agreed following the receipt of a Scoping Opinion from the Scottish Ministers.

Table 1: Issues Scoped In and Out

Topic	Scoped In	Scoped Out
Landscape Character and Visual Impact	✓	• Decommissioning impacts
Cultural Heritage	✓	• Battlefields; • World Heritage Sites; • Listed buildings within the Stornoway townscape; • Designated heritage assets that lie outside of the zone of theoretical visibility (ZTV) for the Proposed Development; • Assessment of settings impacts on designated heritage assets more than 2 km from the Proposed Development
Ecology and Nature Conservation	✓	• Statutory designated sites within 10 km of the Proposed Development where there is no potential impact pathway • Potential impacts on protected species (otter; reptiles and amphibians, terrestrial invertebrates, aquatic ecology, including fish) and from invasive species (rhododendron).
Ornithology	✓	• Barrier effects; • Habitat loss (during both construction and operational phases); and • Potential disturbance during the operational phase.

Table 1: Issues Scoped In and Out		
Hydrology, Hydrogeology, Geology, and Soils	✓	• Flood risk; • Contaminated land; and • Operational impacts.
Traffic and Transport	✓	• operational impacts • decommissioning impacts • Where the thresholds for significant effects during the construction phase are not met in a specific location (in accordance with IEMA Guidelines) it is proposed that further assessment is not required.
Land Use	×	✓
Socio-economics, Recreation and Tourism	×	✓
Population and Human Health	×	✓
Noise and Vibration	×	✓
Major Accidents and Disasters	×	✓
Climate Change	×	✓
Air Quality	×	✓

The Applicant invites consultees to comment on the following:

- What environmental information do you hold or are aware of that will assist in the EIA described here?
- Do you agree with the proposed approach for baseline collection, prediction and significance assessment?
- Are there any key issues or possible effects which have been omitted?
- Do you agree with the list of issues to be scoped out, and the rationale behind the decision?
- Of those issues identified for assessment, which do you consider the most important/material and which the least?

1. INTRODUCTION

1.1 The Proposal

1.1.1 The Applicant is proposing to submit a s37 application for consent to the Energy Consents Unit (ECU) to construct and operate a single circuit 132 kV overhead line (OHL), supported by trident wood poles between the Harris grid supply point, approximately 6 km south of Tarbert, Harris, and an existing substation on Lewis, approximately 3 km south of Stornoway, a route of approximately 58 km (described hereafter as the 'Proposed Development). The location of the Proposed Development is shown in Figure 1.1.

1.1.2 The scope of this application is limited to construction and operation of the OHL. The Proposed Development would not have a fixed operational life. It is assumed that the Proposed Development will be operational for 40 years or more. The effects associated with the construction phase can be considered to be representative of worst case decommissioning effects, and therefore no separate assessment is proposed as part of the Environmental Impact Assessment Report (EIA Report).

1.2 The Regulations

1.2.1 An application for consent for the Proposed Development will be made to Scottish Ministers under section 37 of the Electricity Act 1989[1], along with a request for a direction that planning permission be deemed to be granted under section 57 (2) of the Town and Country Planning (Scotland) Act 1997[2] as amended for construction and operation of the OHL and ancillary works.

1.2.2 Certain ancillary works would be associated with the Proposed Development such as the formation of bellmouths at public road access points, temporary construction access tracks and working areas, dismantling of the existing OHL, vegetation clearance and management, and other temporary measures required during construction. Whilst the section 37 consent is concerned only with the installation of the OHL, the Applicant will also seek deemed planning permission for the OHL and such ancillary works under section 57(2) of the Town and Country Planning (Scotland) Act 1997.

1.2.3 The *Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*[3] (hereafter referred to as the 'EIA Regulations') contain two schedules: Schedule 1 lists projects where EIA is mandatory, while Schedule 2 lists projects where EIA may be required 'where proposed development is considered likely to give rise to significant effects on the environment by virtue of factors such as its nature, size or location'.

1.2.4 The Proposed Development is categorised as a 'schedule 2' development under the EIA regulations; however rather than seeking a Screening Opinion, the Applicant is proposing to voluntarily submit an EIA Report to support the application for consent.

1.2.5 It should be noted that a section of the Proposed Development between Balallan and a point approximately 2 km south of Stornoway substation was subject to a consent application in 2019 (ref.: ECU00001771). This was subject to EIA and an EIA Report was submitted with the consent application. The application was withdrawn in 2019.

1.3 Sustainability Strategy

1.3.1 A key part of the Applicant's Sustainability Strategy[4] is to achieve Biodiversity Net Gain (BNG)[5] as part of project delivery. As such, the ambition is to ensure that activities not only maintain the balance that exists but enhance the biodiversity in the area.

1.3.2 For new infrastructure projects, the Applicant proposes to:

[1] The Electricity Act 1989, c29.
[2] Town and Country Planning (Scotland) Act 1997, c8.
[3] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, No.101.
[4] https://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf
[5] https://www.ssen-transmission.co.uk/media/3723/our-approach-to-implementing-biodiversity-net-gain.pdf

- ensure natural environment considerations are included in decision making at each stage of a project's development;
- utilise the mitigation hierarchy to avoid impacts by consideration of biodiversity in project design;
- positively contribute to the United Nations (UN) and Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards; and
- work with its supply chain to gain the maximum benefit during asset replacement and upgrades.

1.3.3 BNG is a key consideration throughout project development and is discussed further in Chapter 6: Ecology and Nature Conservation.

1.4 Purpose of the EIA Scoping Report

1.4.1 The purpose of this EIA Scoping Report is to ensure that the subsequent EIA is focused on the key impacts likely to give rise to significant effects, and to confirm that the assessment process described will meet legislative requirements. As well as identifying aspects to be considered in the EIA, this document also identifies those aspects that are not considered necessary to assess further, and all relevant environmental issues are identified.

1.4.2 This Scoping Report, prepared by Ramboll UK Limited on behalf of the Applicant, is provided in support of a request by the Applicant to the Scottish Ministers for a Scoping Opinion under Regulation 12[6] of the EIA Regulations.

1.4.3 In accordance with the EIA Regulations, this EIA Scoping Report contains:

- a plan sufficient to identify the Site which is the subject of the Proposed Development;
- a brief description of the nature and purpose of the Proposed Development and it its possible effects on the environment; and
- additional supporting information or representations.

1.4.4 This EIA Scoping Report has been issued to the Scottish Government –Energy Consents Unit (ECU) to inform the preparation of their Scoping Opinion.

1.4.5 The Applicant invites consultees to comment on the following:

- What environmental information do you hold or are aware of that will assist in the EIA described here?
- Do you agree with the proposed approach for baseline collection, prediction and significance assessment?
- Are there any key issues or possible effects which have been omitted?
- Do you agree with the list of issues to be scoped out, and the rationale behind the decision?

1.5 Consideration of relevant factors in the EIA Scoping Report

1.5.1 This report is structured to provide information on the individual factors which require consideration under the EIA regulations. The Scoping Report presents the findings of an initial appraisal of the likely environmental effects of the Proposed Development on the receiving environment, based on the current understanding of the baseline conditions. The report identifies the potential for likely significant effects with reference to: the current understanding of baseline sensitivity; the proposed approach to further baseline data collection (where required); issues that can be scoped out from further assessment; issues that require further assessment on the basis of potential for significant effect; and the methodology proposed for the assessment of significant environmental effects in each case.

[6] Regulation 12 – Request for Scoping Opinions. Available at https://www.legislation.gov.uk/ssi/2017/101/regulation/12/made

1.5.2 The EIA regulations require the EIA Report to identify, describe and assess the likely significant effect on the factors specified in Regulation 4(3)[7] and the interaction between those factors. Table 1.1 lists the factors and outlines how this EIA Scoping Report addresses each, including how the report describes the potential interactions between the factors.

Table 1.1: Consideration of factors in the EIA Scoping Report

Regulation 4 (3) Factor	**How this is addressed in the scoping report**
Landscape	**Chapter 4**: Landscape and Visual incorporates a consideration of potential for likely significant effects designated landscape areas, landscape character and visual receptors.
Cultural Heritage	**Chapter 5**: Cultural Heritage and Archaeology incorporates a consideration of potential for likely significant effects on cultural heritage and archaeology assets as well as the cultural setting.
Biodiversity	**Chapter 6**: Ecology incorporates a consideration of potential for likely significant effects on terrestrial habitats, protected mammals, reptiles and amphibians, aquatic ecology. **Chapter 7**: Ornithology incorporates a consideration of potential for likely significant effects on ornithology
Soil	**Chapter 8**: Hydrology, Hydrogeology, Geology and Soils incorporates a consideration of potential for likely significant effects on soils including peatland habitat.
Water	**Chapter 8:** Hydrology, Hydrogeology, Geology and Soils incorporates a consideration of potential for likely significant effects on the water environment including hydrology, hydrogeology and groundwater dependent terrestrial ecosystems (GWDTE).
Material assets	**Chapter 9**: Traffic and Transport incorporates a consideration of the potential for likely significant effects on transport. **Chapter 11**: Socioeconomic, Recreation and Tourism incorporates a consideration of potential for likely significant effects on socio-economic factors, recreation and tourism.
Land	**Chapter 10**: Land use, incorporates a consideration of potential for likely significant effects on land use including agriculture and forestry.
Population and Human Health	**Chapter 12**: Population and Human Health incorporates a consideration of potential for likely significant effects on community health and wellbeing in relation to • perceived health effects related to electromagnetic fields (EMF); • potential noise impacts during construction and operation; and • potential for impact resulting from major accidents or disasters (considered to be limited to impacts from poles being destabilised).
Air and Climate	**Chapter 13**: Air Quality and Climate Change incorporates a consideration of potential for likely significant effects on air quality and the carbon footprint of the Proposed Development.

1.5.3 A detailed overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Scoping Report (Chapters 4-15). All figures are located in **Appendix A**.

[7] https://www.legislation.gov.uk/ssi/2017/101/regulation/4/made

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Introduction

2.1.1 The Proposed Development consists of a 132 kV OHL as illustrated on the site layout plan (Figure 2.1).

2.2 Purpose of Proposed Development

2.2.1 The Applicant owns and operates the electricity transmission network infrastructure in the north of Scotland. As part of its Electricity Transmission Licence, it has a number of obligations, including:

- the development and maintenance of an efficient, coordinated and economical system of electricity transmission;
- facilitating competition in the supply and generation of electricity; and,
- ensuring that the security of the network is maintained as the demand and/or generation connections change over time.

2.2.2 These licence obligations mean that the Applicant must endeavour to ensure that this connection is maintained, and should do so in an efficient, coordinated and economic way. The existing 132 kV trident wood pole OHL between the two connection points is over 30 years of age and is in need of replacement. A simple pole-replacement solution has been considered; however, this option has been identified as unviable for numerous reasons associated with wider network resilience. The Proposed Development would have improved reliability over the existing OHL, meeting increased climatic design parameters, and would also include a fibre-optic cable, thus meeting the requirements for modern communication, protection and operation of the circuit.

2.3 Proposed Development

2.3.1 The following description is provided to inform the request for a Scoping Opinion from Scottish Ministers. The EIA Report will provide a comprehensive description of the Proposed Development, in accordance with Schedule 4 of the EIA Regulations, for the purposes of describing the likely significant effects and for the purpose of defining the Proposed Development for the application for consent.

2.3.2 The Proposed Development would comprise the construction of approximately 58 km of new 132 kV OHL from the existing Harris grid supply point to the existing Stornoway substation, as shown on Figure 1.1. The Proposed Development will replace the existing aged 132 kV OHL asset which will be dismantled and removed as part of the project works. Temporary works such as the establishment of temporary construction compound(s) and suitable laydown areas for materials will be required to facilitate the development.

2.3.3 Ancillary works would be required to facilitate construction and operation of the Proposed Development. The Applicant would seek deemed consent for these works under s57(2) of the *Town and Country Planning (Scotland) Act 1997*, which would include:

- vegetation clearance along the OHL for the lifetime of the Proposed Development to comply with the Electricity Safety, Quality and Continuity Regulations (ESQCR) 20021;
- upgrade existing or establishment of new junction bellmouths
- establishment of temporary and permanent access, including installation of bridges and culverts, for the construction and maintenance of the OHL;
- an LOD for proposed new access tracks, as defined in section 2.3;
- establishment and reinstatement of temporary site compounds;
- establishment of material drop off points, where materials can be dropped off by helicopters; and
- installation of temporary measures to protect road and water crossings during construction (scaffolding etc.)
- dismantling of the existing OHL.

2.3.4 The Proposed Development outlined above and subject to this Scoping Opinion request has recently been subject to public consultation as part of the Alignment stage of development and Scoping has been undertaken on the Proposed Alignment.

2.3.5 The existing 132 kV OHL from Harris grid supply point to Stornoway substation will require dismantling and removal as part of the wider works. It is considered that significant environmental effects associated with the removal of the existing 132 kV OHL are unlikely. However, the effects of the removal would be assessed in so far as they are relevant in contributing to change within the future baseline.

2.3.6 The Proposed Development would not have a fixed operational life. It is assumed that the Proposed Development will be operational for 40 years or more. The effects associated with the construction phase can be considered to be representative of worst-case decommissioning effects, and therefore no separate assessment is proposed as part of the EIA Report.

2.4 Limits of Deviation

2.4.1 The LOD is the area either side of the proposed OHL alignment within which micrositing of structures may take place. Consideration was given to the following principles in defining the LOD for the Proposed Development:

- presumption towards the optimum LOD whilst providing flexibility for micrositing during the detailed design phase;
- presumption towards avoiding sensitive environmental features; and
- presumption towards avoiding residential properties.

2.4.2 The following parameters have been applied to the Proposed Development:

- a horizontal LOD of 100 m width (50 m either side of the OHL) where no specific environmental constraints have been identified;
- a horizontal LOD of 60 m width (30 m either side of the OHL) where the OHL passes through woodland; and
- a vertical LOD set at a maximum of 18 m (height) above ground level (agl), based on the height of the tallest structure plus 10%.

2.4.3 The LOD is illustrated on Figure 2.1. An LOD will also be applied to any new access tracks and this will be defined within the section 37 application.

2.5 Indicative Overhead Line Design

2.5.1 The Proposed Development would comprise the construction of a new 132 kV OHL supported by trident wood poles. Low-profile steel trident poles may be used in certain locations to achieve long spans. The design of the low-profile poles is still to be finalised; however, it is envisaged that they will look very similar to the wood pole trident, the only marked difference would be the replacement of the wood poles with steel poles.

2.5.2 The spacing between the trident poles would vary depending on topography, altitude and land use, but most likely will be between 60 m and 120 m, with an average span of 80 m. To install the majority of the trident poles, existing tracks would be used where possible. However, the use of bog mats may be necessary in some areas depending on existing access conditions, terrain and altitude. The trident poles would be a maximum of 18 m above ground level, with a typical average pole height of 13 m above ground level.

Plate 1: Trident wood pole design

2.5.3 The Indicative Proposed Alignment, as illustrated in **Figure 2.1**, Appendix A, has been determined based on the environmental assessments, engineering and cost analysis and stakeholder consultation undertaken to date. The detailed pole schedule (for the purposes of the application for consent) is under development.

2.5.4 Following consent, the investigation of sub-surface and geotechnical conditions at proposed pole locations would be undertaken and may result in the requirement for additional adjustments (micro siting) in the pole locations or heights. It is proposed that the application for consent (and the EIA Report) will be based on the Indicative Proposed Alignment and detailed pole schedule, subject to agreed horizontal limits of deviation (LOD) to allow for flexibility in the final siting of individual poles and access tracks, up to 50 m. Similarly, the pole height may vary from the pole schedule proposed, and therefore would be subject to a vertical limit of deviation.

2.5.5 Ancillary works will be required for the construction and maintenance of the OHL. This will include tree and vegetation clearance; upgrades of existing or new junction bell-mouths and access tracks; and road and other infrastructure (bridges, culverts etc) alterations. In addition, there will be the need for temporary construction compounds and material drop off points along the route, where materials can be dropped off by helicopters. The locations of these compounds will be confirmed by the main contractor.

2.5.6 It is proposed that the EIA Report provides an assessment of the likely significant environmental effects based on a proposed pole schedule and access track locations. The application of the LOD would be limited to the variation of pole and access track details that do not result in adverse change to the level of significance of effects on the environment as detailed in the EIA Report. Any utilisation of the LOD would be evaluated against the level of significance of effects reported in the EIA Report. Should the evaluation identify an adverse change

to the level of significance identified in the EIA Report, consultation would be carried out with the Scottish Government ECU (and any relevant statutory consultees) for approval of the proposed change.

2.6 OHL Construction

2.6.1 High voltage OHL construction typically follows a standard sequence of events as follows:

- Phase 1 – enabling works;
- Phase 2 – OHL construction;
- Phase 3 - OHL commissioning; and
- Phase 4 – re-instatement.

2.6.2 Further detail on typical construction activities and work methods will be set out in the EIA Report. An outline of the likely programme, phasing and working methods is provided below for the purpose of informing the initial scoping stage environmental assessment.

Construction Programme

2.6.3 It is anticipated that construction would commence in February 2024 (subject to consents and approvals being granted). A provisional construction period of 30 months in total is anticipated, with full energisation of the project scheduled for March 2026. Dismantling works of the existing 132kV OHL will be completed by August 2026

2.6.4 The detailed construction phasing and programme could be subject to change as the design progresses and also due to necessary consents and wayleaves being agreed. Further information will be provided in the EIA Report on the indicative construction programme.

Construction Practices and Phasing

Construction Environmental Management Plan

2.6.5 A Construction Environmental Management Plan (CEMP) will be prepared by the Contractor to ensure that all construction activities are undertaken as per the Applicant's standard practices. It will include reference to and adhere to applicable General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs), as appropriate.

Phase 1-Enabling works

Distribution Assets

2.6.6 To enable the construction of the Proposed Development, some rationalisation of the existing distribution circuits will be necessary. This will take the form of either undergrounding sections of the distribution lines or moving them to a location where they will not interfere with the construction of the new line. At this stage, exact details for the rationalisation are still to be confirmed by SSE Distribution who will apply for any consents necessary.

Road Improvements and Access

2.6.7 To install the majority of the wood poles, existing tracks would be used where possible. Preference will be given to lower impact access solutions including the use of low pressure tracked personnel vehicles and Trackway in boggy / soft ground areas to reduce any damage to, and compaction of, the ground. The use of these accesses would be kept to a minimum to minimise disruption to habitats along the route. In certain situations, helicopters may be used for pole delivery to point of installation. Any temporary tracks would be restored as closely as possible to their pre-existing condition using natural regeneration techniques on completion of the works.

Vegetation Management and Forestry Clearance

2.6.8 The Proposed Development navigates areas of community woodland and in these areas an Operational Corridor would be required to enable the safe operation and maintenance of the OHL. The width of this corridor would be variable depending on the nature of the woodland, however, for the purpose of this EIA scoping, it is assumed an average corridor of 60 m would be required (30 m either side of the alignment). The width of the Operational Corridor is dependent on the mature growth heigh of the trees and topography adjacent to the OHL. In addition, vegetation clearance will be required for the construction of the OHL.

2.6.9 After felling, any noncommercially viable forest material would be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.

Site Compounds

2.6.10 It is anticipated that a single main construction compound will be required, with a safe area for parking away from the public highway, the location of which will be confirmed by the Principal Contractor. Temporary construction compound locations may be required along the Operational Corridor, the location of which will be determined through ongoing design works.

Phase 2-OHL Construction

2.6.11 The following process would be followed for wood pole erection:

- Turf and topsoil would be removed using an excavator; these would be removed together to retain the turf root system and placed to one side for later reinstatement. The approach will be set out in the CEMP in agreement with the statutory bodies;
- A hole would be excavated to allow the pole brace block and/ or steel foundation braces to be positioned in place. A typical pole excavation is 3 m^2 x 2.5 m deep;
- The poles would be erected using normal agricultural machinery such as a digger with a lifting arm;
- The excavator(s) would then hoist the assembled structure into position and, once the structure has been braced in position, the excavation would be backfilled;
- The hole would be backfilled with soil replaced in reverse order to the order of excavation.
- Backfilling would be progressed in layers of approximately 300 – 400 mm deep, with stone hardcore added as required around foundation blocks to ensure adequate compaction and suitable geotechnical conditions are maintained between each layer.
- When replacing the topsoil/turf around the pole it would be left slightly proud of ground level (approximately 150/ 300 mm) to allow for the excavation to naturally settle further through time.
- Once all the poles are erected the conductor will be strung between the poles in sections and brought up to full tension.

2.6.12 It is anticipated that all material excavated for the installation of the poles and stays would be used in backfilling the excavations.

Phase 3- OHL Commissioning

2.6.13 The OHL and support poles would then be subject to an inspection and snagging process. This allows the Contractor and the Applicant to check that the works have been built to specification and are fit to energise. The Proposed Development would also go through a commissioning procedure for the switchgear, communications, and protection controls through the substation at Stornoway. The circuits would then be energised.

Phase 4- Reinstatement

2.6.14 Following commissioning of the Proposed Development, the existing 132 kV OHL between the connection points would be dismantled (as described in section 2.3). Thereafter, all construction sites will be reinstated. Reinstatement will form part of the contract obligations for the Principal Contractor and will include the removal

of all temporary access tracks, all work sites around the pole locations and the re-vegetation of all construction compounds.

Construction Employment and Hours of Work

2.6.15 The Applicant takes community responsibilities seriously. The delivery of a major programme of capital investment provides the opportunity to maximise support of local communities.

2.6.16 Employment of construction staff will be the responsibility of the Principal Contractor but the Applicantn encourages the Principal Contractor to make use of suitable labour and resources from areas local to the location of the works.

2.6.17 It is envisaged that there will be a number of separate teams working at the same time at different locations within the Proposed Development corridor. The resource levels will be dependent on the final construction sequence and will be determined by the Principal Contractor.

2.6.18 Construction working is likely to be during daytime periods only. Working hours are currently anticipated between approximately 07.00 to 19.00 Monday to Friday and 07.00 to 13.00 on Saturdays during the months of April to September and 07:00 to 17:00 Monday to Friday and 07:00 to 13:00 on Saturdays during the months of October to March (inclusive). Any changes to these hours, as well as any out of hours working, would be agreed in advance with CnES.

Construction Traffic

2.6.19 The construction will give rise to regular numbers of staff transport movements, with small work crews travelling to work site areas. It is anticipated that the Principal Contractor will identify a single main compound area, with a safe area for parking away from the public highway.

2.6.20 Vehicle movements will be required to construct upgraded access tracks; deliver the foundation and pole components and conductor materials to site; deliver and collect materials and construction plant from the main site compound and to individual pole locations.

2.6.21 The EIA Report would provide a summary of the total anticipated traffic movements associated with construction of the Proposed Development, broken down by phases. A Traffic Management Plan will also be developed.

2.7 Operation and Management of the Transmission Connection

2.7.1 In general, given the nature of the Proposed Development, there would be a negligible demand for energy, materials or natural resources during the operational life of the OHL.

2.7.2 Regular inspections are undertaken to identify any unacceptable deterioration of components, so that they can be replaced. From time to time, inclement weather, storms or lightning can cause damage to either the insulators or the conductors. If conductors are damaged, short sections may have to be replaced. The design life of wood poles is 40 years.

Managed Operational Corridor

2.7.3 In addition to the removal of vegetation to facilitate construction it is necessary to create safe corridors for operation. The operational corridor required where there is forestry is calculated as: Max. height of tree + safety distance (1.4 m taken from the ENA 43-8) + ½ width of OHL (2.5 m). This is to maintain the resilience of the connection by considering the falling distance of adjacent trees plus the industry applied safety distance and the width of the relevant pole type. As a result, the final corridor width would be based on the safety distance required to allow for a mature tree falling towards the OHL at the mid-point on a span between two trident poles, taking account of topography and tree height at maturity.

2.7.4 On the basis that there is no removal of commercial forestry required to create the operational corridor, there would be no likely significant effect on the productive conifer plantation forest resource.

2.8 Use of Natural Resources

2.8.1 The EIA Regulations require the consideration of the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources. The Proposed Development will use land and the permanent footprint of the Proposed Development will be described in the EIA Report. Other than the change of land use, given the nature of the Proposed Development, there would be a negligible or no demand for natural resources during the operational life of the OHL and therefore no likely significant effect on the sustainable availability of such resources.

2.9 Residues and Emissions

2.9.1 The EIA Regulations require that the EIA Report provides an estimate, by type and quantity, of expected residues and emissions (such as water, air and soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced) resulting from the construction and operation of the Proposed Development.

2.9.2 Table 2.1 provides a summary of the anticipated residues and emissions for the purpose of informing the scope of the EIA.

Table 2.1: Residues and Emissions

Topic	Potential residue/emission
Water	Construction: Surface water runoff and discharge is likely during construction. In addition, occasional discharges may arise from pumping, or over-pumping in order to dewater foundation excavations. Pollution sources may arise as a result of soil erosion or from oil/ fuel or chemical storage and use. Operation: No water emissions or pollution sources have been identified for the operational phase.
Air	Construction: The construction phase would require the transport of people and materials by road and air, with associated emissions to the atmosphere. There are no air quality management areas within the vicinity of the Proposed Development. No significant air emissions are anticipated. Operation: Due to the nature of the Proposed Development no significant point source or diffuse air emissions would be produced during its operation.
Soil and subsoil	Construction: Soil and subsoil excavation, handling and storage would be required during construction. All soil and subsoil would be stored temporarily for use in reinstatement Operation: No requirement for soil or subsoil excavation or handling during the operation phase has been identified. No pollution sources have been identified for the operational phase.
Noise and Vibration	Construction: Noise sources during the construction phase would include increased traffic flows and noise from construction plant. Further detail is provided in Chapter 9: Traffic and Transport. There would be no significant vibration emissions associated with the Proposed Development. Operation: Noise emission levels from a 132 kV OHL are unlikely to be perceptible during dry weather; however, perceptible noise can arise in wet weather. Further detail is provided in Chapter 12: Population and Human Health.

Table 2.1: Residues and Emissions	
Light	Construction: The temporary construction compounds are likely to be equipped with lighting installations for use during low light conditions and passive infra-red sensor-controlled security lighting. Any effect would be temporary and not expected to be significant. Operation: No light sources have been identified during normal operation of the Proposed Development.
Heat and radiation	Construction: No heat or radiation sources have been identified during the construction phase. Operation: Electromagnetic fields (EMFs) are emitted from OHLs, with potential effects on human health. Further detail is provided in Chapter 12: Population and Human Health.
Waste	Construction: The construction stage will require felling of woodland. As such, it is anticipated that forestry related residues (brash) would result from the felling operations. Evidence would be provided to demonstrate the volumes proposed would not be excessive and would be proportionate the identified need. Further detail on forestry is provided in Chapter 10: Land Use. Construction will generate general waste in the form of domestic wastes and other materials, for example, wood, metals, plastics and stone. Waste will be managed in accordance with good practice guidance on the use of a Site Waste and Materials Management Plans[8], to implement the waste management hierarchy[9] Operation: Electricity transmission does not produce any waste. However, the general maintenance of the OHL has the potential to produce a small amount of waste. This is likely to be restricted to waste associated with employees and visiting contractors.

2.10 Disaster Resilience

2.10.1 The EIA regulations require the consideration of the potential risks to human health, cultural heritage or the environment associated with the vulnerability of the Proposed Development to major accidents and disasters. This requirement is interpreted as requiring the consideration of low likelihood but high consequence events which would result in serious harm or damage to environmental receptors.

2.10.2 Given the nature of the Proposed Development, the potential for risks related to the vulnerability to major accidents and disasters are likely to be limited to those associated with unplanned power outages, due to extreme weather or structural damage.

2.10.3 Relevant types of accident/disaster, given the predominantly rural context of the Proposed Development, include:

- severe weather events, including high winds, high rainfall leading to flooding, or extreme cold leading to heavy snow and ice loading;
- wild fire;
- traffic related accidents; and
- mass movement associated with ground instability.

[8] URL:: https://www.netregs.org.uk/environmental-topics/waste/storage-handling-and-transport-of-waste/site-waste-management-plans-swmp/ (accessed 10/09/2020)

[9] Scottish Government (2017) Applying the waste hierarchy: guidance: URL https://www.gov.scot/publications/guidance-applying-waste-hierarchy/pages/3/#:~:text=The%20waste%20hierarchy%20ranks%20waste,the%20lifecycle%20of%20the%20material.&text=When%20waste%20is%20created%2C%20it,all%20disposal%20(i.e.%20landfill). (accessed 10/09/2020)

2.10.4 Severe weather resilience is a core component to the network design, and includes consideration of flooding resilience, overhead line design and vegetation management to reduce the risk of unplanned power cuts. Crisis management and continuity plans are in place across the Applicant's network. These are tested regularly and are designed for the management of, and recovery from, significant energy infrastructure failure events. Where there are material changes in infrastructure (or the management of it) additional plans are developed.

3. EIA METHODOLOGY

3.1 Introduction

3.1.1 This Chapter sets out the approach that will be taken to complete the EIA of the Proposed Development, including reference to legal requirements, best practice and the assessment of parameters.

3.1.2 The EIA Report would be prepared to meet the requirements of Schedule 4 of the EIA regulations and the Institute of Environmental Management and Assessment (IEMA) Quality Mark criteria.

3.1.3 A detailed overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this Scoping Report (Chapters 4-13). All figures are located in Appendix A.

3.2 Identification of Baseline

3.2.1 To identify the scale of likely significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions.

3.2.2 The baseline scenario would be established through the following methods, where relevant:

- Desk-based studies, including review of existing information;
- Site visits and surveys;
- Modelling;
- Review of relevant national and local planning policies;
- Consultation with the relevant statutory consultees; and
- Identification of Sensitive Receptors.

3.2.3 Consistent with Part 1 of Schedule 4 of the EIA Regulations, an identification of the aspects of the environment likely to be significantly affected by the Proposed Development has been undertaken to inform this EIA Scoping Report. In particular; this has focused on potential impacts upon population, fauna, flora, soil, material assets including the architectural and archaeological heritage, landscape and inter-relationship between those factors

3.3 Assessment of Likely Significant Environmental Effects

3.3.1 Each assessment chapter will include:

- a detailed methodology covering the approach to establishing the current state of the baseline environment, the relevant baseline scenario used in the assessment (which may be the current baseline or a future baseline scenario) and the criteria used to identify and assess the likely significant effects;
- a description of how the assessment deals with Limits of Deviations (LOD)[10];
- a description of the relevant aspects of the current state of the environment (baseline conditions) and an outline of likely evolution of the baseline conditions in the absence of the Proposed Development (the 'do nothing' scenario) for the purpose of defining any relevant 'future baseline' scenarios that may be used as a basis for the impact assessment;
- a description of the likely significant effects;
- a description of the measures proposed to avoid, prevent, reduce, or, if possible, offset any likely significant effects (mitigation measures) and where appropriate, any proposed monitoring arrangements; and
- a description of residual effects remaining following the implementation of proposed mitigation measures.

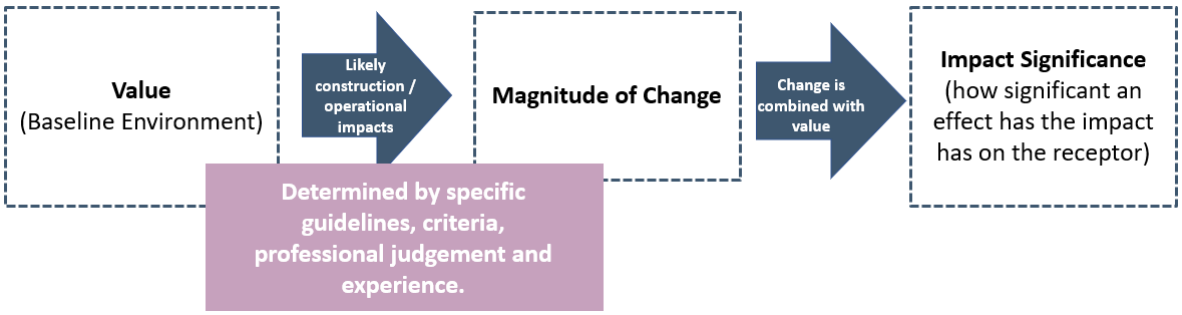
3.3.2 The description of the likely significant effects will cover direct effects and indirect (including secondary) effects as a result of construction or operational activities. The description of effects will identify the effect duration

[10] An area which defines the practical limits within which micrositing of the OHL infrastructure can occur within the terms of the s37 consent which is to be sought. The purpose of Limits of Deviation is to allow flexibility within a s37 consent for the final micrositing of individual poles to respond to localised ground conditions, topography, engineering, and environmental constraints

(short-term, medium- term and long-term), whether effects are permanent or temporary, and if effects can be categorised as adverse or beneficial.

3.3.3 Consideration would be given to the potential for cumulative effects, where the assessment would describe the effects associated with the Proposed Development when considered in combination with other reasonably foreseeable plans or projects (defined as those which are the subject of a valid consent or application for consent). The only exception being that the Applicant may include reference to other SSEN Transmission plans or projects, which are not yet the subject of an application or consent (but are foreseeable to the Applicant and relevant to this EIA). The final list of development to be considered in the cumulative effects assessment would be finalised approximately four months prior to publication to allow sufficient time to compile the EIA Report.

3.3.4 It is considered that there would be no potential for transboundary[11] effects associated with the Proposed Development, and therefore no further assessment of transboundary effects is proposed.



3.4 Scoping Methodology

3.4.1 The following Chapters (4-13) aim to provide sufficient detail to characterise the potential interactions between the Proposed Development and the environmental receptors identified. In presenting a rationale for the proposed scope of environmental assessment, this Scoping Report has taken the sensitivity of the current state of the environment into account, based on an understanding of the baseline conditions. The Scoping Report has also been prepared with reference to the potential magnitude of impacts, considering the typical construction and operational activities, physical characteristics and potential emissions/residues associated with the Proposed Development.

3.4.2 Where there is sufficient evidence to support scoping a topic out of the EIA process, this is presented. Otherwise, where it is considered that there is the potential for likely significant effects, the Scoping Report provides details of the proposed scope or detailed impact assessment, including the approach to further baseline data collection and brief details of the proposed methodology for impact assessment which would be employed for each topic.

3.5 Assumptions and Limitations

3.5.1 The key assumptions and limitations applied to the preparation of this EIA Scoping Report are set out below. Assumptions and limitations specific to certain topics are identified in the appropriate technical chapter.

- Baseline conditions have been established from a variety of sources, including historical data but, due to the dynamic nature of certain aspects of the environment, conditions would change during the construction and operation of the scheme;
- Information received by third parties is complete and up to date; and
- The design, construction and completed stages of the Proposed Development would satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge.

[11] Transboundary effects under the EIA Directive are effects of certain projects implemented in one Member State, likely to have significant effects on the environment of another Member State.

4. LANDSCAPE AND VISUAL AMENITY

4.1 Introduction

4.1.1 The purpose of the Landscape and Visual Impact Assessment (LVIA) is to identify, predict and evaluate potential landscape and visual effects arising from the Proposed Development. The scale and location of the OHL is such that it is likely to be visible from locations across the surrounding landscape. Consequently, there is a potential for effects on visual amenity and landscape character. The LVIA would therefore address the potential impacts both on landscape and visual receptors in close proximity and on landscape and visual receptors within the wider study area.

4.2 Baseline Conditions

Study Area

4.2.1 A study area of 6 km from the Proposed Alignment will be adopted for the LVIA, in order to ensure that all potential impacts are assessed, in line with current guidance.

4.2.2 A preliminary zone of theoretical visibility (ZTV) has been prepared for the study area to assist in scoping out the landscape and visual receptors that would not have visibility of the Proposed Development, and therefore would not be impacted (Appendix A: Figure 4.1a-f: LVIA Study Area and Zone of Theoretical Visibility).

4.2.3 In this section, receptor distances from the Proposed Development are calculated on the basis of the nearest pole location. Where measurements are given between landscape character types, designated areas, routes or settlements, such measurements relate to the nearest part of such areas and routes to the Proposed Development.

Desk Study

Landscape Character

4.2.4 Figure 4.3: Landscape Character Types, shows the location and extent of landscape character types (LCTs) and Seascape Character Types (SCTs) within the study area.

4.2.5 The LCTs and SCTs which lie within the ZTV and which will also be assessed with the LVIA are:

- (LCT323) Rocky Moorland – Outer Hebrides;
- (LCT319) Dispersed Crofting;
- (LCT324) Cnoc and Lochan;
- (LCT327) Rounded Rocky Hills
- (LCT326) Prominent Hills and Mountains;
- (LCT318) Linear Crofting;
- (LCT321) Machair;
- (LCT322) Boggy Moorland – Outer Hebrides;
- (LCT317) Gently Sloping Crofting;
- (LCT319) Dispersed Crofting;
- (SCT13) Low Rocky Island Coasts;
- (SCT12) Deposition Coasts of Islands; and
- (SCT09) Sounds, Narrows and Islands

4.2.6 The landscape character assessment will consider the effect of the Proposed Development on these LCTs and SCTs. The extent and characteristics of the LCTs and SCTs will be verified as part of the assessment fieldwork

and the boundaries may be refined as part of this process. Due to the extensive theoretical intervisibility throughout the landscape within the 6 km study area, it has not been possible to scope out any LCTs or SCTs.

Landscape Designations

4.2.7 Landscape Designations are presented on Figure 4.4: Landscape Designations in Appendix A.

4.2.8 The South Lewis, Harris and North Uist National Scenic Area (NSA) covers a large area from North Uist in the southwest to Stornoway and Carloway on the Isle of Lewis. One third of the Proposed Development to the southwestern most extent falls with the NSA, between Tarbet and Beinn Mhuil.

4.2.9 The special qualities of the NSA relate to the diversity of landscape within the designated area. There is a close interplay between the natural world, settlement and culture, and the link between landscape and history is clear. The landscape is dramatic across the NSA and comprises wild mountains and deep sealochs, narrow gorges, enclosed glens and dune systems with expansive white sandy beaches. North Uist is comprised of a "watery maze of lochs, lochans, bays and fjards".

4.2.10 There are two Wild Land Areas (WLA) within the study area: These are:

- (30) Eisgein Wild Land Area; and
- (31) Harris – Uig Hills.

4.2.11 In addition to these designated landscapes there is one Gardens and Designated landscape (GDLs) within the study area (as identified by the Historic Environment Scotland Inventory). Lews Castle and Lady Lever Park GDL is located approximately 300 m northeast of the nearest section of the Proposed Development.

4.2.12 Table 4.1, below, provides a list of Landscape Designations and Classifications considered for the LVIA, and describes the extent of visibility of the Proposed Development and whether it is intended to include each of the designations in the LVIA.

Table 4.1: Landscape Designations and Classifications (within the 6 km LVIA Study Area) to be included in the LVIA

Designation / Landscape Classification	Within ZTV	Approximate distance & direction from the Nearest Proposed Pole	Included in the LVIA
National Scenic Area (NSA)			
South Lewis, Harris and North Uist National Scenic Area (NSA)	Yes	Proposed Development lies within designated area	Yes
Gardens and Designed Landscapes (GDLs)			
Lews Castle and Lady Lever Park GDL	Yes	300 m Northeast	Yes
Wild Land Areas (WLAs)			
(30) Eisgein Wild Land Area	Yes	1.4 km East	Yes
(31) Harris – Uig Hills	Yes	450 m North/ Northwest	Yes

Visual Amenity

4.2.13 The Visual Assessment will address effects on visual amenity, as experienced by people, from key locations within the study area. The baseline will identify visual receptors within areas of potential visibility as indicated by the ZTV. There will be some areas where fewer people are likely to experience the effects of the Proposed Development and other locations with higher concentrations of people with potential views towards the Proposed Development. The baseline seeks to identify the areas of potential visibility where views may be changed by the Proposed Development, in accordance with the GLVIA3 guidance.

4.2.14 The study area is generally open with long views across the sea and lochs, with pronounced topographical features including narrow gorges and encloses glens. Along the central section of the Proposed Development near the Aline Community Woodland, some coniferous forestry creates local enclosure, restricting and filtering views.

Settlements

4.2.15 Within the study area settlement is largely limited to the loch shores and the coastline. Tarbert, Balallan, Arivruaich, Ardhasaig, Scaladale, Maraig, Diraclett, Luirbost, Laxay and Kinloch comprise the main concentrations of residential development. There are a number of small clusters of development/ properties along short sections of the A859, between Tarbert and Stornoway

4.2.16 A Residential Visual Amenity Assessment (RVAA) will be produced to assess the effects of the visual amenity for the properties which are closest to the Proposed Development. A detailed survey of residential properties will be undertaken for dwellings within 150 m of the Proposed Development. The RVAA would generally be undertaken from publicly accessible locations nearest to properties. A finalised list of dwellings to be included in the RVAA will be drawn up following consultations with Comhairie nan Ellean Siar (CnES) and NatureScot (NS).

Transportation Routes

4.2.17 Due to the nature of the topography within the study area, there are few transport routes which pass through the study area (Appendix A: Figure 4.5: Visual Receptors). Those that would be assessed in the LVIA are:

- the A859;
- the B897;
- the A858;
- the B8060;
- the A868;
- the B887; and
- the Uig to Tarbert Ferry.

Recreational Routes and Summits

4.2.18 The Hebridean Way routes adjacent to the alignment on the A859, for the entire length of the study area, between Tarbert and Luirbost. The route then traverses northwest at Luirbost, towards the northern tip of the Isle of Lewis, taking it outside the study area and viewshed of the Proposed Development.

4.2.19 Within the western part of the study area there is a network of CnES Adopted Core Paths (shown in Figure 4.5). Those which are located within the ZTV and which will be assessed with the LVIA include:

- Core Path 6 - Lewis Castle Grounds Path;
- Core Path 10 - Miabhaig - Bhiogiadail Route;
- Core Path 11 - Urgha - Maraig;
- Core Path 13 – Direcleit Circular Route; and
- Core Path 14 – Seilebost – Aird Mhighe

4.2.20 Valued views in the study area include view across the sea and lochs from many vantage points along the coastline of Tarbert, Balallan, Arivruaich, Ardhasaig, Scaladale, Maraig, Diraclett, Luirbost and Laxay; from elevated summit/ positions such as the summit of An Cliseam to the south of the study area and from designated viewpoints such as Loch Seaforth, Ardhasaig and across Loch Strath Streachran.

4.2.21 The LVIA will consider the impacts on hill walkers, taking into account the experience of the journey along the key walking routes and the approach to (and view from) key summits. This will be undertaken as part of the recreational route assessment and also as part of the viewpoint assessment (see Table 4.2 below).

Proposed LVIA Viewpoints

4.2.22 In order to inform and verify the findings of the LVIA, a series of representative viewpoints have been selected. These are intended to represent a range of landscape and visual receptors in the study area. These are listed in the Table 4.2 below, and their locations are illustrated in Figure 4.6 (Appendix A).

4.2.23 Viewpoints will be finalised and established through field reconnaissance and in consultation with CnES and NatureScot.

Table 4.2: Proposed Viewpoints and associated Visual and Landscape Receptors

Viewpoint Number	Viewpoint Name	Location	Approximate Distance from Proposed Development	Visual Receptors at Viewpoint	Landscape Receptors at Viewpoint
VP1	A859 Layby (northeast of Loch Strath Steachran	113406, 894398	120 m N/ NW	Tourist, Road User and Recreational Users	Rocky Moorland – Outer Hebrides, Prominent Hill and Mountains LCTs and the South Lewis, Harris and North Uist National Scenic Area (NSA)
VP2	Layby A859 (northwest Tarbet)	114983, 900305	240 m NW	Tourist, Road User, Recreational Users and Residential	Linear Crofting LCT and the South Lewis, Harris and North Uist NSA
VP3	Junction between A859 and A868 (Tarbet)	5359, 899989	250 m SE	Tourist, Road User, Ferry Passengers and Residential	Rocky Moorland – Outer Hebrides, Linear Crofting LCT and the South Lewis, Harris and North Uist NSA
VP4	Viewpoint/ Tourist Information area	113133, 903070	60 m E	Tourist, Road User and Residential	Rocky Moorland – Outer Hebrides LCT and the South Lewis, Harris and North Uist NSA
VP5	Clisham Car Park	117379, 905716	350 m W	Tourist, Road User and Recreational Users (Hill Walkers)	Prominent Hills and Mountains LCT and the South Lewis, Harris and North Uist NSA
VP6	Summit of An Cliseam	115447, 907322	2.75 km NW	Tourist and Recreational Users (Hill Walkers)	Prominent Hills and Mountains LCT, Harris – Uig Hill WLA and the South Lewis, Harris and North Uist NSA
VP7	Viewpoint (Loch Seaforth)	120521, 912489	185 m E/ NE	Tourist and Road Users	Boggy Moorland – Outer Hebrides LCT, Prominent Hills and Mountains LCT and

Table 4.2: Proposed Viewpoints and associated Visual and Landscape Receptors					
Viewpoint Number	**Viewpoint Name**	**Location**	**Approximate Distance from Proposed Development**	**Visual Receptors at Viewpoint**	**Landscape Receptors at Viewpoint**
					the South Lewis, Harris and North Uist NSA
VP8	Bogha Glas Car Park	118593, 911532	245 m E	Tourist, Road User, Recreational Users and Residential	Linear Crofting LCT, Prominent Hill and Mountains and the South Lewis, Harris and North Uist NSA
VP9	Aline Community Woodland (car park)	121726, 915266	180 m E	Tourist, Road User and Recreational Users	Boggy Moorland – Outer Hebrides LCT and Rocky Moorland – Outer Hebrides LCT
VP10	Bonnie Prince Charlie Monument (Arivruaich)	125073, 917650	750 SE	Tourist, Road User and Residential	Gently Sloping Crofting LCT
VP11	Balallan Post Office	127672, 920494	160 m S/ SE	Tourist, Road User and Residential	Gently Sloping Crofting LCT
VP12	Laxay	133010, 922142	260 m SE	Road User and Residential	Gently Sloping Crofting LCT
VP13	Luirbost (Village Green)	135453, 927321	670 m E	Tourist, Road User and Residential	Linear Crofting LCT and Boggy Moorland – Outer Hebrides LCT
VP14	Luirbost (West)	134617, 927451	200 m SE	Tourist, Road User and Residential	Boggy Moorland – Outer Hebrides LCT
VP15	Cnoc na Croich	141694, 932349	400 m S/ SE	Tourist and Recreational	Boddy Moorland – Outer Hebrides LCT and Lews Castle and Lady Lever Park GDL
VP16	Junction of B897 and A859	138569, 930592	1.5 km E	Tourist and Road Users	Boggy Moorland – Outer Hebrides LCT

**Viewpoint coordinates are approximate only. Field work will determine the exact location of the proposed viewpoints to ensure that the view is as clear and as unobstructed as possible.*

4.3 Sensitive Receptors

4.3.1 Receptors set out in Section 4.2 above are considered to be sensitive to the Proposed Development and will be taken forward for assessment in the LVIA. These include:

- The landscape of the Proposed Development, and LCTs within the Proposed Development and across the 6 km Study Area;
- Landscape designations and classifications within the Study Area; and

- Visual receptors with views to the Proposed Development, including settlement and scattered properties, recreational receptors (i.e., core path users, hill walkers etc), people travelling through the area on roads.

4.4 Issues Scoped Out

4.4.1 It is not intended to consider decommissioning of the Proposed Development as residual effects associated with this phase of the development are likely to be less than those occurring during construction, are likely to be of shorter duration and are not considered likely to be significant.

4.4.2 Due to the extensive theoretical intervisibility throughout the landscape within the 6 km study area, it has not been possible to scope out any LCTs or SCTs or landscape designations.

4.5 Potential Significant Effects

4.5.1 Potentially significant landscape effects include on the following:

- direct effects on the landscape of the site;
- direct & indirect effects on LCTs within the study area;
- the South Lewis, Harris and North Uist National Scenic Area;
- Lews Castle and Lady Lever Park GDL; and
- Harris – Uig Hills and Eisgein WLAs.

4.5.2 Potentially significant visual effects include those on:

- residential receptors in the settlements of Tarbert, Balallan, Arvruaich, Ardhasaig, and scattered residential properties at Luirbost, Laxay and Kinloch.
- recreational receptors accessing the Munro Summit of An Cliseam northeast of Ardhasaig, local walkers including those using the paths to the Lewis Castle Grounds Path and Miabhaig - Bhiogiadail, and kayakers/ boaters on the sea to the west and east of Tarbert; and
- transport receptors on the A859, B887, B8060 roads and on the Hebridean Way

4.5.3 Direct, indirect and cumulative effects of the Proposed Development will be assessed and, where appropriate and feasible, mitigation measures may be proposed to reduce any significant adverse effects.

4.5.4 Note that residential visual amenity effects on private views from individual dwellings and groups of dwellings will be addressed in an Appendix to the EIA Report.

4.6 Assessment Methodology

Guidance

4.6.1 The LVIA would be undertaken in accordance with the following guidance and established standards:

- Landscape Institute and Institute of Environmental Management and Assessment's 'Guidance for Landscape and Visual Impact Assessment – Third Edition' (GLVIA3) (2013)[12];
- The Countryside Agency and SNH's 'Landscape Character Assessment' (2002)[13];
- NatureScot and the Countryside Agency's 'Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity' (2002)[14]; and
- Landscape Institute's 'Technical Guidance Note 06/2019: Visual Representation of Development Proposals' (2019)[15].

[12] Landscape Institute. and IEMA, 2013. Guidelines for Landscape and Environmental Impact Assessment. Hoboken: Taylor and Francis.
13 Scottish Natural Heritage – The Countryside Agency, 2002, Landscape Character Assessment 'Guidance for England and Scotland.
14 Scottish Natural Heritage – The Countryside Agency, 2002, Topic paper 6: Techniques and Criteria for Judging Capacity and Sensitivity
15 Institute, L., 2019. Visual Representation of Development Proposals. 1st ed. Landscape Institute.

4.6.2 Wherever possible, effects will be quantified; however, the nature of landscape and visual assessment requires interpretation by professional judgement.

4.6.3 In order to provide a level of consistency to the assessment, receptor sensitivity, the prediction of magnitude of impact, and assessment of significant residual effects will be based upon pre-defined criteria based on guidance provided by the Landscape Institute.

Field Survey

4.6.4 Extended field reconnaissance will be undertaken to verify the findings of the desktop study, and the baseline description will be adjusted as necessary to accurately reflect the conditions on the ground. Field reconnaissance would be undertaken during preparation of the LVIA and would be undertaken using VentusAR virtual reality system and photomontages of the finalised scheme.

Landscape Impacts

4.6.5 The assessment of landscape impacts will address:

- effects on landscape fabric;
- effects on landscape character types; and
- effects on landscape designations and classifications.

Visual Assessment

4.6.6 The LVIA will address effects on the visual amenity of people at key visual receptors, including:

- residents of settlements, scattered/ individual properties;
- users of key transportation routes;
- users of recreational routes, including strategic trails, cycleways and core pathways; and
- key summits and routes used by hill walkers.

4.6.7 Care will be taken to describe the extent of visibility of the Proposed Development, and effects on important connecting/ linking views, sequential views, vantage points and prominent focal points. The assessment will also discuss what factors form the basis of the local visual amenity.

Supporting Assessments and Graphics

4.6.8 The LVIA will be accompanied by a series of Technical Appendices (TAs) that will provide detailed assessment of residual effects on different aspects of the landscape and visual resource, including:

- an assessment of residual effects on landscape character types (LCTs);
- an assessment of residual effects on designated and classified landscapes;
- a detailed viewpoint assessment; and
- a detailed Residential Visual Amenity Assessment (RVAA).

4.6.9 Additionally, the LVIA will also be accompanied by a series of illustrative figures and visualisations showing the operational development.

Significance of Landscape and Visual Effects

4.6.10 Table 4.3 below, illustrates how residual effects will be determined by comparison of the sensitivity of receptors with the magnitude of impacts. For the purposes of the LVIA, significant landscape or visual effects will be defined as major or major/moderate. It should be noted, however, that the matrix is not intended to be applied in an arithmetical manner, but to act as a guide.

Table 4.3: Residual Effects					
	Magnitude of Change				
Landscape and Visual Sensitivity	**Substantial**	**Moderate**	**Slight**	**Negligible**	**None**
High	Major	Major/moderate	Moderate	Moderate/ minor	None
Medium	Major/moderate	Moderate	Moderate/minor	Minor	None
Low	Moderate	Moderate/minor	Minor	Minor/none	None

4.7 Summary

4.7.1 The LVIA will identify and evaluate the likely residual effects of the Proposed Development on landscape and visual receptors within 6 km of the Proposed Development. This will be undertaken via desk study and through field reconnaissance.

4.7.2 The effects of the Proposed Development on landscape character and on views and visual amenity would be assessed and mitigation measures, where appropriate, would be proposed to prevent, reduce, or offset any likely significant adverse effects identified. Cumulative effects from the Proposed Development in combination with other proposed developments would also be considered.

5. CULTURAL HERITAGE

5.1 Introduction

5.1.1 This chapter of the Scoping Report provides an overview of the cultural heritage baseline along and in the vicinity of the Proposed Development, describes the potential effects associated with construction and operation of the Proposed Development, and presents the assessment methodology to be used in the Cultural Heritage Impact Assessment.

5.2 Baseline

5.2.1 The cultural heritage baseline summarised below was identified through a desktop study carried out during the route and alignment selection stages of the project, drawing on data from the Comhairle nan Eilean Siar (CnES) Historic Environment Record (HER) and designation lists held by Historic Environment Scotland (HES). The data from the HER was obtained in May 2021 and that from HES obtained in March 2022.

5.2.2 A targeted field survey was also carried out to areas of potential constraint along the Preferred Route, where the alignment options passed through areas of historic crofting townships.

Statutory Protected Sites

5.2.3 There are three scheduled monuments within 2 km of the Proposed Development. These are:

- Cnoc na Croich, chambered cairn (SM 6550), within Lews Castle GDL.
- Druim Dubh, stone circle (SM 5504), beside the A859 near Loch Airigh Riabhach.
- Bunavoneadar, whaling station, Harris (SM 5362), on the coast at Bun Abhainn Eadarra.

5.2.4 There are 35 listed buildings within 2 km of the Proposed Development. Eight are Category A listed, 14 are Category B listed, and 13 are Category C listed. Most of the listed buildings are in Stornoway, within the Conservation Area, and/or are within the Lews Castle GDL. Three Category B and five Category C listed buildings are located in and around Tarbert. Three Category B listed buildings and three of Category C within 2 km of the Proposed Development lie in more rural locations.

5.2.5 There is one Conservation Area (Stornoway) and one Inventory Garden and Designed Landscape (Lews Castle) within 2 km of the Proposed Development.

Non-Statutory Protected Sites

5.2.6 The CnES HER records 16 non-designated heritage assets (including one find-spot and one landscape feature) within 100 m of the Preferred Alignment. The records include evidence for an extensive area of prehistoric pine and birch woodland of prehistoric date, at Ardvourlie, and the find-spot, at Tarbert, of a quern (undated but most likely to be of prehistoric date). One other record, likely to be of prehistoric date, is the record of a possible standing stone at Balallan, identified in 1992. The remaining non-designated heritage assets relate to medieval or post-medieval settlement and farming and include crofting townships, farmsteads, and shieling sites.

5.2.7 In addition to the individual sites recorded in the HER, there are 30 areas of historic environment interest recorded in The National Record of the Historic Environment (NHRE): ten are crofting townships and ten are defined areas of shielings. Others are noted as head dykes (enclosing areas of settlement and field systems), farmsteads and field systems, and enclosures; all associated with settlement and farming of medieval or post medieval date. One other is a large quarry of post-medieval date near Bun Abhainn Eadarra. These areas are likely to include various individual elements that collectively make up the townships or shieling grounds.

5.3 Sensitive Receptors

5.3.1 Based on the characteristics of the Proposed Development and taking account of the Preferred Alignment, determined through design iteration, the designated heritage asset most likely to be sensitive to change within

its setting is Druim Dubh, stone circle (SM 5504). This scheduled monument lies beside the A859 near Loch Airigh Riabhach and is within 200 m of the Proposed Development.

5.3.2 Other designated heritage assets within the Outer Study Area have localised settings that are unlikely to be adversely affected by the nature of the Proposed Development.

5.3.3 All designated heritage assets within the Outer Study Area will be included in a tabulated assessment for potential adverse impacts on their settings..

5.4 Issues Scoped Out

5.4.1 Assessment of the effect of the Proposed Development on the settings of World Heritage Sites and Inventory Historic Battlefields will be scoped out. There are no assets with those designations within 2 km of the Proposed Development.

5.4.2 Assessment of the effect of the Proposed Development on the settings of listed buildings within the Stornoway townscape will be scoped out. The settings of these buildings are characterised by their urban setting and their association with the built environment of the townscape and would not be adversely affected by the Proposed Development.

5.4.3 Assessment of the settings of designated heritage assets that fall outside of the zone of theoretical visibility (ZTV) for the Proposed Development will be scoped out. Because of the characteristics of the Proposed Development (wood pole mounted overhead line), where this is no predicted visibility of the Proposed Development from these assets, their settings would not be adversely affected.

5.4.4 Assessment of the effect of the Proposed Development on the settings of designated heritage assets more than 2 km from the Proposed Development will be scoped out. None have been identified through initial analysis as having settings sensitive to adverse effects from the Proposed Development. Also, because of the characteristics of the Proposed Development (wood pole mounted overhead line), the settings of assets more than 2 km from the Proposed Development would not be adversely affected.

5.5 Potentially Significant Effects

5.5.1 The potential cultural heritage effects associated with the construction and operation of an overhead line include:

- Direct physical damage to, or destruction of, cultural heritage assets arising from construction activities, including from the installation of poles and pull through working areas, the establishment of construction compounds and laydown areas, and from any track construction.
- Effects on the settings of cultural heritage assets resulting from the introduction of the Proposed Development into their settings, detracting from their cultural significance. Historic Environment Scotland (HES), in their consultation response (24/03/2022) noted potential for a significant effect on the setting of Druim Dubh, stone circle (SM 5504).

5.6 Assessment of Effects, Mitigation and Residual Effects

5.6.1 Direct effects on archaeological remains would be assessed, informed by the results of the desk-based study already undertaken and by further desk-based assessment of historic maps and aerial photography, and verified by field survey along the OHL route and proposed access requirements.

Further Baseline Assessment

Study Areas

5.6.2 The following study areas will be adopted for the cultural heritage assessment:

- The Inner Study Area, representing the preferred alignment Limit of Deviation (LoD) working corridor. A corridor nominally 200 m wide centred on the preferred alignment will form the study area for the

identification of cultural heritage assets that could be directly affected by construction of the Proposed Development. The Inner Study Area would be sufficient to include potential micrositing of pole positions, include on-line construction access between pole positions, and allow for working areas around pole positions.

- Off-line construction access routes: a corridor nominally 100 m wide (to allow for potential micro-alignment) centred on the routes of proposed new access tracks (temporary or permanent) or existing tracks or paths that would be built or used to facilitate access to the Proposed Development will form the study area for the identification of cultural heritage assets that could be directly affected by access requirements.
- An Outer Study Area for indirect effects (effects on setting): a study area extending 2 km either side of the preferred alignment LoD will be used, in combination with the Proposed Development ZTV model, to identify those designated heritage assets with statutory or non-statutory designations (Scheduled Monuments, Listed Buildings, Conservation Areas, Gardens and Designed Landscapes, etc) that could have their settings adversely affected by the Proposed Development.

Desk-Based Assessment

5.6.3 Further desk-based assessment will be carried out covering the Inner Study Area and construction access routes. The following information sources will be consulted:

- HES Spatial Data Warehouse: for up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory status Garden and Designed Landscapes and Inventory status Historic Battlefields;
- CnES Council's Historic Environment Record (HER): for up to date data for the Proposed Development Study Area;
- The National Record of the Historic Environment (NHRE) database (Canmore): for any information additional to that contained in the HER;
- Map Library of the National Library of Scotland: for Ordnance Survey maps and other historical map resources that may provide information of historic settlement and land-use;
- Aerial photography and satellite imagery (Google Earth, Bing maps, ESRI World Imagery): for the identification of sites and features potentially of historic environment value not recorded elsewhere or shown on historic maps; and,
- Historic Land-Use Assessment Data for Scotland (HLAMap): for information on the historic land use character of the Proposed Development Study Area.

Field Surveys

5.6.4 A walk-over field survey will be carried out along the Inner Study Area and along off-line construction access routes in order to:

- locate and record the baseline character and condition of heritage assets identified through the desk-based assessment;
- identify any other heritage assets not revealed through the desk-based study;
- identify any area of archaeological potential; and
- assess and record the heritage value of the heritage assets identified through the desk-based assessment and field survey.

Assessment of effects

Assessment Method

5.6.5 The effects of the Proposed Development on heritage assets will be assessed on the basis of their type (direct effects (physical impacts) and indirect effects (impacts affecting setting)) and nature (adverse or beneficial). The

assessment will take into account the value/sensitivity of the heritage asset, and its setting, and the magnitude of the predicted impact.

- Adverse effects are those that detract from or reduce cultural significance or special interest of heritage assets.
- Beneficial effects are those that preserve, enhance, or better reveal the cultural significance or special interest of heritage assets.

Assigning Sensitivity to Heritage Assets

5.6.6 Cultural heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and its laws and policies (HES, 2019).

5.6.7 Table 5.1 summarises the relative sensitivity of heritage assets (including their settings) relevant to the Proposed Development.

Table 5.1: Sensitivity of Heritage Assets

Sensitivity of Heritage Asset	Definition/Criteria
High	Assets valued at an international or national level, including: World Heritage Sites Scheduled Monuments Category A Listed Buildings (Buildings of special architectural or historic interest which are outstanding examples of a particular period, style or building type) Inventory Gardens and Designed Landscapes Inventory Historic Battlefields Non-designated assets that meet the relevant criteria for designation (including sites listed in the HER as being non-statutory register (NSR) sites deemed to be of potential national importance)
Medium	Assets valued at a regional level, including: Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks) Non-Inventory Designed Landscapes (NIDL) (where these are identified in Local Authority records) Category B Listed Buildings (Buildings of special architectural or historic interest which are major examples of a particular period, style or building type) Conservation Areas
Low	Assets valued at a local level, including: Archaeological sites that have local heritage value Category C listed buildings (Buildings of special architectural or historic interest which are representative examples of a period, style or building type) Unlisted historic buildings and townscapes with local (vernacular) characteristics
Negligible	Assets of little or no intrinsic heritage value, including: Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain) Poorly preserved examples of particular types of features (e.g. quarries and gravel pits, dilapidated sheepfolds, etc)

Assessment of Effects on Setting

5.6.8 Historic Environment Scotland's guidance document, 'Managing Change in the Historic Environment: Setting' (HES, 2016) recommends three stages in assessing the impact of a development on the setting of a historic asset or place:

- Stage 1: identify the historic assets that might be affected by the Proposed Development;
- Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated, and experienced; and,
- Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated.

5.6.9 Adopting this approach, the ZTV for the Proposed Development will be used to identify those heritage assets from which there would be theoretical visibility of the Proposed Development, and the degree of theoretical visibility.

Criteria for Assessing the Significance of Effects

5.6.10 The magnitude of impact (adverse or beneficial) will be assessed in the categories, high, medium, low and negligible and described in Table 5.2.

Table 5.2: Magnitude of Impact

Magnitude of Impact	**Criteria**	
	Adverse	**Beneficial**
High	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of the asset's cultural significance. Changes that substantially detract from how a heritage asset is understood, appreciated, and experienced	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost. Changes that appreciably enhance the cultural significance of a heritage asset and how it is understood, appreciated, and experienced.
Medium	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is appreciably altered. Changes that appreciably detract from how a heritage asset is understood, appreciated, and experienced.	Changes to important elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored. Changes that improve the way in which the heritage asset is understood, appreciated, and experienced.
Low	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is slightly altered. Changes that slightly detract from how a heritage asset is understood, appreciated, and experienced.	Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed. Changes that result in a slight improvement in the way a heritage asset is understood, appreciated, and experienced.
Negligible	Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated, and experienced.	

5.6.11 The sensitivity of the asset (Table 5.1) and the magnitude of the predicted impact (Table 5.2) will be used to inform an assessment of the level of the effect (direct effect or effect on setting), summarised using the formula set out in the matrix in Table 5.3. The matrix employs a graduated scale (from Negligible to Major effects) and

where two outcomes are possible through application of the matrix, professional judgement supported by reasoned justification, will be used to determine the significance of the predicted effect.

Table 5.3: Significance of Effects				
Magnitude of Impact	**Sensitivity of Asset**			
	High	**Medium**	**Low**	**Negligible**
High	Major	Major / Moderate	Moderate / Minor	Minor / Negligible
Medium	Major / Moderate	Moderate	Moderate / Minor	Minor / Negligible
Low	Moderate / Minor	Moderate / Minor	Minor	Negligible
Negligible	Minor / Negligible	Minor / Negligible	Negligible	Negligible

5.6.12 Major and Moderate effects are considered to be 'significant' in the context of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations). Minor and Negligible effects are considered to be 'not significant'.

Mitigation

5.6.13 The routeing and alignment selection process has enabled consideration of likely significant effects on cultural heritage receptors throughout the evolution of the project to date. Further assessment will continue through the EIA process, and mitigation measures developed to avoid or minimise adverse effects on cultural heritage where practicable.

5.6.14 Standard mitigation measures that will be applied to the Proposed Development, and incorporated into the CEMP, include the following:

- A professionally qualified Archaeological Contractor will be appointed to act as an Archaeological Clerk of Works (ACoW) during the construction phase. The role of the ACoW will be to provide advice to the appointed Construction Contractor regarding archaeological matters as they might arise, and to undertake archaeological monitoring of topsoil stripping operation in areas designated and approved by the CnES Archaeologist. The activities of the ACoW would be carried out according to the scope of work and terms specified in a Written Scheme of Investigation (WSI) submitted to and approved by the Council's Archaeologist prior to any construction works (including enabling works) commencing on-site.
- Implementation of the scope of works outlined in the WSI during the construction phase.
- Any heritage asset identified as potentially being affected by construction works that can be avoided would be marked out for avoidance, where possible, or other mitigation to be agreed with by the Council's Archaeologist, would be implemented to reduce and offset unavoidable impacts.
- Written guidelines would be issued for use by all construction contractors, outlining the need to avoid causing unnecessary damage to known heritage assets. The guidelines would set out arrangements for calling upon retained professional support if buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered in areas not subject to archaeological monitoring. The guidelines would make clear the legal responsibilities placed upon those who disturb artefacts or human remains.

5.6.15 Additional mitigation, in the form of archaeological investigations, excavations or watching briefs, may be required under the terms of any consent conditions applied. Details of the agreed scope of work would be set out in a WSI for the approval of the CnES Archaeologist and would be implemented in accordance with the terms of the agreed WSI.

5.6.16 If new, archaeologically significant discoveries are made during any archaeological investigations or watching briefs, and it is not possible to preserve the discovered remains in situ, provision would be made for the excavation, where necessary, of any archaeological deposits encountered. The provision would include the

consequent production of written reports on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.

Residual Effects

5.6.17 Residual effects will be assessed taking into account the effectiveness of proposed mitigation measures.

5.7 Summary

5.7.1 An initial phase of desk-based assessment and targeted field survey has been used to inform the route alignment stage of the design of the Proposed Development. The baseline identified to date within the Inner Study Area includes 16 non-designated heritage assets, recorded in the CnES HER. There are also 30 areas of historic environment interest recorded in Canmore: ten are crofting townships and ten are defined areas of shielings. Others are various features associated with settlement and farming.

5.7.2 There are three scheduled monuments, 35 listed buildings, one Conservation Area, and one Inventory Garden and Designed Landscape within 2 km of the Inner Study Area.

5.7.3 Historic Environment Scotland (HES), in their consultation response (24/03/2022) noted potential for a significant effect on the setting of Druim Dubh, stone circle (SM 5504). A visualisation from the monument will be included to accompany the assessment.

5.7.4 Study areas for the EIA have been set out and the assessment methodology presented for approval. A further scope of desk-based assessment and walk-over survey of the Inner Study Area and off-line access tracks will be carried out to fully inform the baseline reported in the EIA and to inform mitigation proposals.

5.7.5 Mitigation options to avoid, reduce and offset any likely adverse effects have been identified and described.

6. ECOLOGY AND NATURE CONSERVATION

6.1 Introduction

6.1.1 The EIA will consider the potential effects of the Proposed Development on ecological features (non-avian) along the proposed OHL and within the ecological zones of influence for species identified as important ecological features. Evaluation of the existing baseline environment will be made through a combination of desk-based study, field surveys and consultation.

6.1.2 The EIA chapter will assess the potential effects on ecological features resulting from the construction and operation phase of the Proposed Development. This section does not discuss ornithology, which is discussed in section 7 of this report.

6.1.3 This section:

- describes the baseline conditions within the study area;
- describes the key ecological issues associated with construction and operation of the Proposed Development;
- presents the proposed survey methods that will be used to generate additional ecological baseline information;
- outlines the proposed approach to the Ecological Impact Assessment (EcIA; as part of the wider EIA); and
- Includes details of any consultation undertaken to date to inform the scoping.

6.2 Baseline Conditions

6.2.1 The following information has been gathered to inform the baseline ecological conditions of the Proposed Development.

Desk Study

6.2.2 A desk study has been undertaken using the NatureScot (NS) SiteLink[16] website to identify designated nature conservation sites (10 km for sites of international[17] importance and 2 km for those of national[18] importance). In addition, a search for publicly available biological records was undertaken within 2 km of the Proposed Development using the following sources:

- NS Sitelink[19]; and
- The Multi-Agency Geographic Information for the Countryside (MAGIC)[20].

6.2.3 In addition, consultation has been undertaken with NatureScot as part of the route selection exercise; however, no further data has been obtained.

6.2.4 Special Protection Areas (SPAs), and Ramsar sites, which are statutory designated sites of international importance for birds, are considered in Section 7: Ornithology.

6.2.5 Eight statutory designated sites of international and national importance were identified within 10 km of the Proposed Alignment. Details of these sites, including the qualifying species associated with them, are provided in Table 6.1.

[16] https://sitelink.nature.scot/home
[17] i.e. Special Areas of Conservation (SAC).
[18] i.e. Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)
[19] https://sitelink.nature.scot/home
[20] MAGIC (2020). MAGIC Map. Available at: http://magic.defra.gov.uk/.

Table 6.1: Statutory Designated Sites of International and National Importance			
Site Name	**Designation**	**Qualifying Feature**	**Distance and Direction from Site[21]**
Lewis Peatlands	Special Area of Conservation (SAC)	• Otter *Lutra lutra*; • Acid peat-stained lakes and ponds; • Blanket bog; • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; • Depressions on peat substrates; and • Wet heathland with cross-leaved heath.	0.9 km to the west
Langavat	SAC	• Atlantic salmon *Salmo salar.*	3 km to the west
North Harris	SAC SSSI	• Acid peat-stained lakes and ponds; • Acidic scree; • Alpine and subalpine heaths; • Blanket bog; • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; • Depressions on peat substrates; • Dry heaths; • Montane acid grasslands; • Plants in crevices on acid rocks; • Wet heathland with cross-leaved heath; • Otter; • Atlantic salmon; and • Fresh water pearl mussel.	1.3 km to the west
Tong Saltings	SSSI	• Saltmarsh and tidal flats.	3.1 km to the north-east
Achmore Bog	SSSI	• Otter; • Acid peat-stained lakes and ponds; • Blanket bog; • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; • Depressions on peat substrates; and • Wet heathland with cross-leaved heath.	8.2 km to the north-east
Lochnan Eilean Valley Bog	SSSI	• Valley bog; and • Otter.	3.5 km to the west
Luskentyre Banks and Saltings	SSSI	• Flood-plain fen; and • Dystrophic and oligotrophic lochs.	1.3 km to the west

[21] Measured from the closest point

Non-statutory Designations

6.2.6 There are no non-statutory designations identified with potential connectivity to the Proposed Development.

Biological records

6.2.7 No biological records were returned for the Site. It should be noted that the absence of records of protected and notable species does not necessarily preclude the presence of a species from a Site.

Field Survey

6.2.8 Field surveys were undertaken by Ramboll in October 2021 and February 2022. The surveys included an extended Phase 1 habitat survey, National Vegetation Classification (NVC) surveys and protected species surveys. The Phase 1 habitat survey consisted of classifying and mapping habitats in accordance with the Joint Nature Conservation Committee (JNCC)[22] method and was 'extended' to include consideration of the likely presence of protected or otherwise notable species in line with the Chartered Institute of Ecology and Environmental Management (CIEEM)[23].

6.2.9 For each area of habitat mapped during the Phase 1 habitat survey, a Habitat Condition Assessment (HCA) was undertaken. The HCA followed SHE Transmission Guidance[24] and involved scoring each habitat area using established criteria. If a habitat passes all criteria it is considered to be in good condition, if it fails one criteria it is considered to be of moderate condition and if it fails two or more criteria it is considered to be of poor condition. The condition of each habitat is used in the Biodiversity Net Gain analysis.

6.2.10 The NVC surveys were completed in line with NVC survey guidelines[25], classifying communities in accordance with the NVC system[26]. The purpose of these surveys was to identify sensitive habitats, consisting of potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs), Annex 1 habitats under the EU Habitats Directive[27] and those with protection under the Scottish Biodiversity List (SBL)[28].

6.2.11 The protected species surveys consisted of a detailed search for field signs in suitable habitat and in accordance with standard survey guidance for otter[29]. The survey area comprised the Site Boundary as well as a buffer extending up to a 250 m beyond the Site Boundary.

6.2.12 No further ecological surveys are proposed,

Habitats

6.2.13 The dominant habitats within the area surveyed are blanket bog, wet heath and semi-improved acid grassland. The open hillsides are subject to grazing by livestock, primarily sheep. Areas of coniferous woodland plantation were recorded rarely.

6.2.14 The NVC survey identified three moderate potential GWDTEs and one high potential GWDTE throughout the survey area as follows:

- M15 *Scirpus cespitosus-Erica tetralix* wet heath (moderate);
- M25 *Molinia caerulea-Potentilla erecta* mire (moderate);
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture (moderate); and

[22] JNCC, 2010. Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. Joint Nature Conservation Committee, Peterborough.
[23] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester
[24] SHE Transmission, Biodiversity Net Gain Toolkit User Guide - TG-NET-ENG-526, October 2020
[25] Rodwell, J. S. (2006). NVC Users' Handbook. ISBN 978 1 86107 574 1.
[26] Rodwell, J. S. (Ed), et al. (1991 – 2000). British Plant Communities (5 volumes). Cambridge University Press.
[27] https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
[28] https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list?msclkid=1ad92c2aaf6411ecb1b489e38efae9db
[29] Chanin, P. (2003), Monitoring the otter Lutra lutra, Conserving Natura 2000 Rivers Monitoring Series No 10, Peterborough: English Nature.

- M21 *Narthecium ossifragum-Sphagnum papillosum* valley mire (high).

Protected species

6.2.15 Suitable habitat was identified for otter but no field signs were recorded during the surveys. An incidental record of common frog *Rana temporaria* was made, though this is an introduced species on the island.

6.2.16 Five records of rhododendron *Rhododendron ponticum* were recorded during the field survey.

6.3 Sensitive Receptors

6.3.1 The ecological baseline has been used to identify important ecological features that could be affected by the construction and operation of the Proposed Development. These are considered to include habitats identified as potential GWDTEs, Annex I or SBL habitats, including blanket bog and wet heath, and otter.

6.3.2 The importance or sensitivity of an ecological feature will be ascertained via consultation with NS, local groups, review of literature and guidance, field survey data, legal protection/conservation status and professional judgement.

6.4 Issues Scoped Out

General

6.4.1 It is considered that all ecological features identified within this report could be affected by inappropriate lighting, noise, dust and visual disturbance caused by construction activities, however it is considered reasonable to expect that these potential effects are managed through best practice construction methods and guidance. In addition, a Construction Environmental Management Plan (CEMP) will be produced, which will capture all mitigation measures required in respect of ecological features, both as a result of the outcome of the EcIA and in order to comply with relevant legislation mentioned above, to be implemented on Site. The implementation and audit of these measures will be overseen by an Environmental Clerk of Works (ECoW). With the adherence to a CEMP, as overseen by an ECoW, it is not considered that there is potential for significant impacts. Therefore no further assessment is proposed.

Designated sites

6.4.2 The closest designated sites to the Proposed Development are designated for terrestrial features, predominantly associated with the flora. No pathway has been identified for impacts to these features due to the distance they are separated from the Proposed Development. Therefore, it is not considered that there is potential for likely significant impacts, and therefore no Habitats Regulations Appraisal (HRA) is required.

Species

6.4.3 Otters are likely to be present and using the watercourses in and around the Proposed Development, though no field signs were recorded. However, in-water working is not anticipated and key infrastructure of the Proposed Development will be installed outside of riparian zones, where possible. Construction will follow best practice methods including the adherence to Guidelines for Pollution Prevention (GPP); thus pollution of watercourses is not anticipated. Surveys will be undertaken for otter to identify resting sites prior to construction. This will allow micro-siting of the design and will also inform licensing requirements if resting sites cannot be avoided. It is therefore not anticipated that there could be significant impacts to otter.

6.4.4 Reptiles and amphibians are likely to be present in open moorland and rough grassland. Reptiles and amphibians may be negatively affected by vegetation clearance works associated with the Proposed Development. However, the impacts are considered to be small in scale relative to the extensive habitat that will still remain available for these species. Pre-construction surveys will confirm the presence of sensitive features used for shelter and hibernation and will inform micro-siting of the design. Where this is not possible, surveys will inform non-licensed precautionary methods of working under the supervision of the ECoW.

6.4.5 Surveys for terrestrial invertebrates are considered unnecessary as the EcIA will adopt a precautionary approach and include appropriate mitigation, where required, to avoid significant effects.

6.4.6 Although the Proposed Development crosses many watercourses, other than in exceptional circumstances, poles will be positioned at least 30 m from watercourses. On the basis that the construction work will be carried out following good practice mitigation for pollution prevention and taking a precautionary approach by assuming the presence of sensitive aquatic ecology (including spawning salmonids and freshwater pearl mussel), significant effects associated with the Proposed Development on watercourses and aquatic ecology including fish are unlikely and, therefore, this topic is scoped out of further assessment.

6.4.7 It is recommended that the mitigation measures required to avoid the spread of invasive species are included within the CEMP. It is therefore considered that no significant effects will occur from the spread of rhododendron as a result of the Proposed Development.

6.5 Potential Significant Effects

6.5.1 The assessment will consider the potential for significant effects associated with:

- Direct and indirect effects on habitats, including GWDTEs, and Annex I and SBL habitats; and
- Cumulative effects from other developments, either built or proposed, within the zone of influence[30] for ornithological features identified as sensitive receptors of the Proposed Development. Potential impacts of the Proposed Development would be assessed both in addition and in-combination with the impacts identified from other developments to identify the potential for significant cumulative effects.

6.6 Assessment Methodology

6.6.1 The EcIA will be completed in accordance with CIEEM Guidelines for Ecological Impact Assessment[31]. The assessment will use the ecological baseline to identify the important ecological features that could be affected by construction of the Proposed Development. Important ecological features will be assigned a geographic level of importance based on their conservation status and population/assemblage trends and other relevant criteria (including size, naturalness, rarity and diversity). Details of the Proposed Development will then be used to assess what level of effect each feature is likely to receive and whether or not that impact will be beneficial or adverse, significant or negligible, and temporary or permanent.

6.6.2 Where appropriate, mitigation measures will be recommended within the EcIA to remedy any significant adverse effects and good practice measures to enhance the local ecology will also be incorporated. An assessment of residual effects will then be undertaken and reported within the EIA Report.

BNG

6.6.3 A BNG assessment shall be undertaken for the Proposed Development. BNG is a process whereby development leaves biodiversity in a measurably better state than before. The HCA data is combined with habitat distinctiveness, connectivity and strategic significance to determine biodiversity units per habitat polygon. The relative biodiversity value per polygon is indicated by calculating the biodiversity units per hectare (BU/ha). Any irreplaceable habitats identified, including good/moderate condition blanket bog, will not be entered into the optioneering toolkit. This is a requirement of the BNG process as it is not possible to compensate for losses to irreplaceable habitat and they are therefore not quantified. This follows UK best practice and the SHE Transmission BNG guidance.

[30] Defined as an area in which there may be ecological receptors subject to changes and subsequent effects as a result of the Proposed Development.
[31] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Cumulative Assessment

6.6.4 The cumulative assessment will consider the Proposed Development in combination with the anticipated effects of other developments proposed within the study area.

6.7 Summary

6.7.1 The scoping exercise has reviewed the ecological features within the zone of influence of the Proposed Development and has identified those that have the potential to be impacted. These include blanket bog and wet heath habitats and potential GWDTEs. The likelihood of any direct and indirect potential impacts of the Proposed Development on these features would be assessed and mitigation measures, where appropriate, would be proposed to prevent, reduce or offset any likely significant adverse effects identified. Cumulative effects from other developments would also be considered in relation to the Proposed Development.

7. ORNITHOLOGY

7.1 Introduction

7.1.1 The EIA chapter will assess the potential effects on ornithological interests resulting from the construction and operation phase of the Proposed Development. The specific objectives of the assessment would be to:

- Identify where there is potential for significant effects on designated sites (for birds);
- Detail the presence/possible presence of protected bird species and other species of particular conservation value;
- Describe the mitigation measures that have been committed to in order to avoid or reduce impacts; and
- Assess the significance of residual effects that are likely to remain following implementation of mitigation and restoration measures and describe if any result in a significant impact on ornithological features.

7.2 Baseline Conditions

7.2.1 The following information has been gathered to inform the baseline ecological conditions of the Proposed Development.

Desk Study

7.2.2 A desk study has been undertaken using the NS SiteLink[32] website to identify designated nature conservation sites (10 km for sites of international[33] importance and 2 km for those of national[34] importance). In addition, a search for publicly available biological records was undertaken within 2 km of the Proposed Development using the following sources:

- NS Sitelink[35]; and
- The Multi-Agency Geographic Information for the Countryside (MAGIC)[36].

7.2.3 Data from Lewis and Harris Raptor Study Group (LHRSG)[37], such as hen harrier *Circus cyaneus* nesting data, has been purchased and will be used as part of the analysis for the Proposed Development.

Consultation

7.2.4 Consultation is currently being undertaken with statutory and non-statutory consultees comprising the following:

- NS;
- British Trust for Ornithology Scotland (BTO);
- LHRSG; and
- RSPB Scotland.

Statutory Designated Sites

7.2.5 Eight statutory designated sites of international and national importance were identified within 10 km of the Proposed Alignment. Details of these sites, including the qualifying species associated with them, are provided in Table 7.1.

[32] https://sitelink.nature.scot/home
[33] i.e. Special Areas of Conservation (SAC).
[34] i.e. Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)
[35] https://sitelink.nature.scot/home
[36] MAGIC (2020). MAGIC Map. Available at: http://magic.defra.gov.uk/.
[37] https://www.scottishraptorstudygroup.org/lewis-and-harris/

Table 7.1: Statutory Designated Sites of International and National Importance			
Site Name	**Designation**	**Qualifying Feature**	**Distance and Direction from Site[38]**
Lewis Peatlands	SPA Ramsar IBA	• Blanket bog and bog-pool complexes; • Freshwater lochs; • Red-throated diver *Gavia stellata*; • Black-throated diver *Gavia arctica* • Golden plover *Pluvialis apricaria*; • Greenshank *Tringa nebularia*; • Dunlin *Calidris alpina schinzii*; • Arctic skua *Stercorarius parasiticus*; • Golden eagle *Aquila chrysaetos*; and • Merlin *Falco columbarius*.	Crossed by the Proposed Development.
North Harris Mountains	SPA IBA	• Golden eagle; • Red-throated diver; • Black-throated diver; • Merlin; • Golden plover; • Common tern *Sterna hirundo*; and • Arctic tern Sterna paradisaea.	1.1 km to the west.
West Coast of the Outer Hebrides	SPA	• Great northern diver *Gavia immer*; • Black-throated diver; • Slavonian grebe *Podiceps auratus*; • Red-throated diver; • Common eider *Somateria mollissima*; • Long-tailed duck *Clangula hyemalis*; and • Red-breasted merganser *Mergus serrator*.	180 m to the west.
Tong Saltings	SSSI	• Wintering, breeding and feeding birds including terns, waders and waterfowl.	3.5 km to the north-east
Luskentyre Banks and Saltings	SSSI	• Notable breeding bird assemblage including waders and wildfowl typical of coastal habitats; and • Passage and migrant bird species.	1.3 km to the west.

Non-statutory Designations

7.2.6 There are no non-statutory designations identified with potential connectivity to the Proposed Development.

Biological records

7.2.7 Black throated diver, red-throated diver, Slavonian grebe, great northern diver, greenshank, merlin, golden eagle, white tailed eagle *Haliaeetus albicilla* and hen harrier are known to occur on Lewis and Harris. These species are listed as Schedule 1, protected under the Wildlife and Countryside Act, 1981 (as amended)[39].

[38] Measured from the closest point

[39] https://www.legislation.gov.uk/ukpga/1981/69/schedule/1?msclkid=b6ba80ceaf7011ec9fca893135b77cc7

7.2.8 Historical records show nesting hen harrier, golden eagle, white-tailed eagle, black-throated diver and red-throated diver occurring within 3 km of the Proposed Development.

7.2.9 The following Schedule 1 territories are known to exist in proximity to the Proposed Development:

- Hen harrier;
- Black-throated diver;
- Golden eagle; and
- White-tailed eagle.

Field Survey

7.2.10 Field surveys were undertaken by Ramboll and Stagfire ecologists between March 2021 and March 2022. Breeding raptor surveys are continuing to May 2022. The surveys included a flight activity survey, breeding bird surveys (moorland birds, nesting divers and raptors) and a wintering bird survey (hereafter collectively referred to as the ornithological surveys).

7.2.11 The flight activity survey consisted of undertaking watches during the breeding and non-breeding seasons between March 2021 and February 2022 at 15 vantage points (VP) for LT15: Ballalan to Arnish and 14 VPs for LT245: Harris to Balallan, as shown on Figure 7.1. The VP locations were designed to provide the optimal coverage possible, especially of open areas that have the potential to be used by raptor species, such as golden eagles, when hunting or displaying, or commuting routes between the coast and upland lochs used by diver species, following methods outlined in NS guidance documents[40]. Flight activity surveys recorded flights of most target species, including golden eagle, white-tailed eagle, hen harrier, black-throated diver and red-throated diver. The collision risk of each target species will be assessed as part of the EcIA.

7.2.12 Breeding bird surveys consisted of areas of moorland being surveyed using the Brown and Shepherd (1993)[41] methodology for censusing upland breeding waders. The study area was surveyed three times between April and July 2021. The collected data has still to be analysed to determine the number of breeding territories present. Lochs suitable to support nesting diver species, and where interaction with the Proposed Development is considered to be possible, were also surveyed during the moorland bird survey. The breeding raptor survey is currently being undertaken for golden eagle, white-tailed eagle, merlin, peregrine *Falco peregrinus* and hen harrier early in the breeding season of each species. Surveys are being undertaken within a 1 km buffer of the Proposed Development and search for active nests and territorial display/behaviour.

7.2.13 Wintering bird surveys for non-breeding waterfowl, including divers, geese, swans, ducks, grebes, cormorants, herons, rails, waders, gulls and terns, were undertaken following guidance in Gilbert et al. (1998)[42]. Surveys were undertaken between October 2021 and March 2022. The collected data has still to be analysed.

7.3 Sensitive Receptors

7.3.1 As a result of the information provided by the desk-based study and field surveys, the following ornithological features are considered to be of sufficient sensitivity to warrant inclusion in the EIA:

- Designated sites where qualifying species have potential connectivity with the Proposed Development and where surveys recorded flights of qualifying species within the Proposed Development, i.e. Lewis Peatlands SPA;

[40] NS (then Scottish Natural Heritage) (2017) Guidance: Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms. NatureScot, Battleby.
[41] A. F. Brown & K. B. Shepherd (1993) A method for censusing upland breeding waders, Bird Study, 40:3, 189-195, DOI: 10.1080/00063659309477182.
[42] Gilbert, G., Gibbons, D.W. & Evans, J. (1998). Bird Monitoring Methods, RSPB/BTO. pp. 394-396.

- Golden eagle, white-tailed eagle, merlin, hen harrier and peregrine (all included on Schedule 1 of the Wildlife and Countryside Act 1981)[43];
- Wintering wildfowl and waders, susceptible to collision with powerlines, such as greylag goose *Anser anser* (Schedule 1), pink-footed goose *A. brachyrhynchus*, whooper swan *Cygnus cygnus* (Schedule 1), curlew *Numenius arquata*, oystercatcher *Haematopus ostralegus*, dunlin, lapwing *Vanellus vanellus*, snipe *Gallinago gallinago*, goosander *Mergus merganser*, golden plover, greenshank (Schedule 1), redshank *Tringa totanus*, wood sandpiper *T. glareola* (Schedule 1), scaup *Aythya marila* (Schedule 1) and red-breasted merganser. Several species are red-listed as birds of conservation concern[44] (curlew, dunlin, lapwing and scaup) and several are amber-listed (pink-footed goose, whooper swan, oystercatcher, snipe, greenshank, redshank, wood sandpiper and red-breasted merganser);
- Black-throated diver, great northern diver and red-throated diver (all Schedule 1 species); and
- Arctic skua and great skua *Stercorarius skua*, which are a red and amber-listed species of conservation concern, respectively.

7.4 Issues Scoped Out

Barrier Effects

7.4.1 A barrier effect would be where the vertical configuration of wires and poles creates an actual or perceived barrier that bird species may not cross, or at the very least would need to habituate to crossing.

7.4.2 There are two existing 132kV wood pole lines in close proximity to the Proposed Development throughout the entire route. This suggests that birds would habituate/have already habituated to the presence of an additional wood pole line and would not treat it as a barrier. In addition birds are considered likely to avoid the operational structure, which will be highly visible within the surrounding, predominantly open landscape. Therefore, the effect of this impact is considered to be of negligible significance.

Habitat Loss (Construction and Operational Phase)

7.4.3 Both permanent and temporary habitat loss and habitat modification due to vegetation management or hydrological change would be assessed in the chapter dealing with non-avian ecology. The levels of habitat loss and/or modification associated with wood pole and track construction and operation are low and are not considered to represent a likely significant loss and/or modification of bird habitat.

Disturbance (Operational Phase)

7.4.4 When operational, the Proposed Development would require very occasional visits by site personnel both on foot and in vehicles for maintenance activities. While the Proposed Development may also result in disturbance arising from noise and visual effects associated with the wires, the magnitude of both of these potential impacts is considered too low to cause a significant effect.

7.5 Potential Significant Effects

7.5.1 The assessment will consider the potential for significant effects associated with:

- Direct and indirect effects on designated sites;
- The killing, injury or temporary disturbance (or displacement) of nationally and internationally protected species of bird during construction or through collision with conductors or the earth wire during the operational phase of development; and

[43] https://www.rspb.org.uk/birds-and-wildlife/advice/wildlife-and-the-law/wildlife-and-countryside-act/schedules/?msclkid=39ea3716b02711ecba2f22aaf45a120f
[44] https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf

- Cumulative effects from other developments, either built or proposed, within the zone of influence for ornithological features identified as sensitive receptors of the Proposed Development. Potential impacts of the Proposed Development will be assessed both in addition and in-combination with the impacts identified from other developments to identify the potential for significant cumulative effects.

7.6 Assessment Methodology

7.6.1 The ornithological impact assessment will be completed in accordance with CIEEM EcIA Guidance . The assessment will use the ornithological baseline to identify the ornithological features that could be affected by the construction of the Proposed Development. Features will be assigned a geographic level of importance based on their conservation status and population/assemblage trends and other relevant criteria (including population size and rarity). Details of the Proposed Development will then be used to assess what level of effect each feature is likely to receive and whether or not that impact will be beneficial or adverse, significant or negligible, and temporary or permanent. Where appropriate, mitigation measures will be recommended to remedy any adverse impacts. An assessment of residual effects and cumulative effects will then be undertaken and reported within the EIA Report.

Collision Risk Methodology

7.6.2 As per the SHE Transmission Ornithology Methods for Transmission Developments Guidance, the requirement for and the method of Collision Risk Modelling will be agreed with NatureScot.

Methodology for Provision of Information for Appropriate Assessment

7.6.3 Where the Proposed Development is considered likely to have a significant effect on an SPA, there is a requirement for the Scottish Ministers (in consultation with NS) to complete an Appropriate Assessment as part of the HRA process.

7.6.4 Based on the data collected from the consultation and desk-based study, together with a review of relevant data already obtained on the Site, an HRA screening assessment of the Proposed Development in relation to the potential for likely significant effects on Lewis Peatlands SPA, North Harris Mountains SPA and West Coast of the Outer Hebrides SPA will be required. The HRA will utilise data pertaining to the qualifying species presented in this report as well as external data sources, such as confidential territory reports provided by NS. A study to inform any Appropriate Assessment will be provided as part of the EIA, taking account of the potential for connectivity with the SPAs as detailed in section 7.2.

7.7 Summary

7.7.1 The scoping exercise has reviewed the ornithological features within the zone of influence of the Proposed Development and has identified those that have the potential to be impacted. These include Lewis Peatlands SPA, Schedule 1 species, such as golden and white-tailed eagles, and birds of conservation concern, such as dunlin and oystercatcher. The likely direct and indirect potential impacts of the Proposed Development on these features will be assessed and mitigation measures, where appropriate, will be proposed to prevent, reduce or offset any likely significant adverse effects identified. Cumulative effects from other developments will also be considered in relation to the Proposed Development.

8. HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND SOILS

8.1 Introduction

8.1.1 This EIA chapter would assess the potential effects relating to Hydrology, Hydrogeology, Geology, and Soils in relation to the construction and operation of the Proposed Development. This chapter is supported by Figures 8.1 - 8.5.

8.2 Baseline Conditions

Surface Water Features

8.2.1 The Proposed Development falls within the 30 m buffer of a number of small watercourses, lochs, lochans, and at a number of locations crosses such features (Figure 8.5). The majority of these are not classified within the Scottish Environment Protection Agency (SEPA) River Basin Management Plan (RBMP) under the Water Framework Directive (WFD) assessment scheme. The majority of the watercourses along the Proposed Development do, however, discharge into coastal waterbodies which are classified in the RBMP. The following watercourses and waterbodies classified within the RBMP[45] interact with the Proposed Development:

- Stornoway Harbour: overall “Good” condition;
- Abhainn Ruadh: overall "Moderate" condition;
- Loch Seaforth coastal waterbody: overall "High" condition;
- Loch Stranndabhat: overall "High" condition;
- Abhainn Scaladail: overall "Moderate" condition;
- Loch Seaforth coastal waterbody: overall "High" condition;
- Loch a Siar: overall "Good" condition;
- Loch a Siar: overall "Good" condition; and
- Loch Tarbert: overall "High" condition.

Surface Water Resources

8.2.2 The Proposed Development passes through two Drinking Water Protection Areas (DWPA[46]). These are the Bowglass DWPA within the Abhainn Bhìoigadail catchment, and the Maaruig DWPA comprising the catchments of the Allt Tomnabhal, Abhainn Mhàraig, Allt Bac a’ Ghaill, and Loch an Ruisg at Loch Màraig. The Proposed Development crosses the downstream extent of the Bowglass DWPA in proximity to Loch Seaforth and crosses the centre of the Maaruig DWPA.

8.2.3 Private Water Supply (PWS) information was supplied by CnES. The Proposed Development is within 250 m of private water supplies as detailed below:

- Ardvourlie Burn (GR 118681, 911474), surface water abstraction – watercourse;
- Leachkin Burn (GR 113881, 901270), surface water abstraction – watercourse;
- Kendbig Burn (GR 114500, 898200) surface water abstraction – watercourse; and
- Loch Greosabhagh (GR 113687, 894167), surface water abstraction – loch.

[45] SEPA Water Environment Hub https://www.sepa.org.uk/data-visualisation/water-environment-hub/ [Accessed 06/04/22]
[46] Scottish Government. Drinking water protected areas – Scotland river basin district: maps. https://www.gov.scot/publications/drinking-water-protected-areas-scotland-river-basin-district-maps/ [Accessed 06/04/22]

Flood Risk

8.2.4 According to SEPA's online Flood Maps[47], areas assessed to be at risk of flooding from rivers are present at a number of locations along the Proposed Development. These areas are confined to areas in close proximity to rivers, lochs or lochans. At such locations, flood risk would be assessed according to requirements for watercourse crossings[48] and would not require further detailed flood risk assessment.

8.2.5 According to SEPA's online Flood Maps, the Proposed Development is not within areas assessed to be at risk of flooding from the sea. Areas assessed to be at risk of surface water flooding are present along the Proposed Development, however areas of surface water flood risk identified on SEPA online mapping are indicative of very localised accumulation of surface water and do not present a significant flood risk, such that detailed flood risk assessment would not be required.

Hydrogeology

8.2.6 According to the British Geological Survey (BGS) 1:625,000 scale hydrogeological mapping, the Proposed Development is underlain by a low productivity aquifer. Flow is virtually all through fractures and other discontinuities in these areas and it is anticipated by the BGS that groundwater resources are likely to be limited to small amounts in near surface weathered zone and fractures.

Groundwater Dependent Terrestrial Ecosystems

8.2.7 Ecological surveying has identified the potential presence of GWDTEs (Appendix A, Figure 8.5). Hydrological assessment shall be carried out to determine the extent to which such habitats are dependent on groundwater supplies, and shall assess the sensitivity of habitats to alterations in groundwater flows due to construction activities.

Geology and Soils

8.2.8 The BGS 1:625,000 scale geological superficial mapping (Figure 8.1) shows that Section 1 is underlain by peat. Section 2 is underlain by Till or areas of no superficial deposits suggesting that these areas are directly underlain by bedrock, or the presence of very shallow drift deposits. No superficial deposits are recorded along the majority of Sections 3 and 4 other than small areas of Till at Maaruig and south of Tarbert.

8.2.9 The BGS 1:625,000 scale bedrock mapping (Figure 8.2) indicates that Section 1, is underlain by Mylonitic rock and fault breccia. Sections 2 and 3 are underlain by Mylonitic rock, fault breccia and Lewisian Gneiss. Section 4 is also underlain by Lewisian Gneiss and unnamed igneous intrusions.

8.2.10 According to Scotland's Carbon and Peatland Map[49] (Figure 8.3), the Proposed Route is predominantly underlain by Class 1 and Class 2 peatland. These are nationally important carbon-rich soils, deep peat and priority peatland habitats. Class 1 Peatlands are defined as "areas of potentially high conservation value and restoration potential", whereas Class 2 peatlands are defined as "areas likely to be of high conservation value".

8.2.11 There is the potential for former/infilled gravel pits to be present within the Proposed Route, which may contain some form of ground contamination.

[47] SEPA Flood Hazard and Flood Risk Information. Flood Map. https://scottishepa.maps.arcgis.com/apps/webappviewer/index.html?id=b3cfd390efa44e3b8a72a07cf5767663&showLayers=FloodMapsBasic_5265;FloodMapsBasic_5265_0;FloodMapsBasic_5265_1;FloodMapsBasic_5265_2;FloodMapsBasic_5265_3;FloodMapsBasic_5265_4;FloodMapsBasic_5265_5;FloodMapsBasic_5265_6;FloodMapsBasic_5265_7;FloodMapsBasic_5265_8;FloodMapsBasic_5265_9;FloodMapsBasic_5265_10;FloodMapsBasic_5265_11 [Accessed 06/04/22]

[48] SEPA, 2010. Engineering in the Water Environment: Good Practice Guide – River Crossings. Available online: https://www.sepa.org.uk/media/151036/wat-sg-25.pdf [Accessed 06/04/22

[49] Scotland's Soils. Carbon and peatland map 2016. https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/ [Accessed 06/04/22].

8.3 Sensitive Receptors

8.3.1 The sensitive receptors considered in the EIA include:

- Surface water bodies (quality and quantity);
- Ground water bodies (quality and quantity);
- PWSs and abstractions;
- GWDTEs; and
- Peat.

8.4 Potentially Significant Effects

Hydrology and Hydrogeology

8.4.1 The following discussion of potentially significant effects assumes that all embedded mitigation by design and appropriate construction methodologies are in place.

8.4.2 The Proposed Development may affect local hydrology and hydrogeology in a number of ways including:

- Temporary (construction phase) pollution of surface watercourses and groundwater, and subsequent impacts on quality of private water supplies and other abstractions. There is a potential risk of sediment generation associated with pole and access tracks. There is also the potential for chemical pollution from construction vehicle/equipment fuels and lubricants.
- Interruption of supply or impacts on the quality of PWS/abstractions and GWDTEs associated with temporary access and pole foundations affecting subsurface flows and hydraulic connectivity. Where these sensitive receptors are identified within 250 m of the pole locations, or 100 m of temporary access an assessment will be prepared to demonstrate how abstractions would be protected and the hydrological regime upstream of GWDTEs would be maintained.

Geology and Soils

8.4.3 The Proposed Development is likely to result in the disturbance, loss or erosion of peat.. The design of the Proposed Development will seek to minimise potential effects on peat through avoiding areas of deeper peat, implementing suitable mitigation measures for reducing peat generation, and also appropriate measures for storage and re-using carbon rich soils. This will be summarised as part of an Outline Peat Management Plan (OPMP).

8.4.4 There is also potential for mobilisation of contaminated soils/bedrock as part of the construction phase operations.

8.4.5 Based on the baseline conditions described above, it is anticipated that the following potentially significant effects could occur as a result of the Proposed Development:

- potential for loss/disturbance to peat and carbon-rich soils; and
- the peat erosion potential of any peat disturbed may also be exacerbated as a consequence of localised drying of the peat and resultant oxidation.

8.5 Issues Scoped Out

8.5.1 The Proposed Development is not considered to be at risk of flooding. Temporary watercourse crossings for access tracks would be designed in line with SEPA and CIRIA guidance taking into account potential for flood risk. Therefore, flood risk associated with the Proposed Development will be scoped out of the assessment.

8.5.2 All operational impacts will be scoped out of the assessment as there are not likely to be any new effects on sensitive receptors following the construction phase.

8.6 Assessment Methodology

Hydrology and Hydrogeology

8.6.1 It is proposed that a focussed hydrological and hydrogeological impact assessment is provided. The assessment will be used to identify key interactions between the Proposed Development and the water environment. In doing so, the EIA Report chapter will identify the requirement for construction mitigation measures and provide an initial assessment of the requirements under the Controlled Activities Regulations (CAR)[50].

8.6.2 The proposed technical reports to accompany the EIA Report are as follows and will inform design and construction mitigation:

1. Watercourse Crossing Assessment: A site survey of existing water features will be undertaken and a map of the location of all proposed engineering activities in the water environment provided. A systematic table detailing the justification for the activity; possible crossing types and level of CAR authorisation; and how any adverse impact will be mitigated will be included, accompanied by photography and dimensions. This will be presented as an appendix to the Hydrology and Hydrogeology Chapter. The crossings for the Proposed Development are anticipated to be related to access tracks.
2. GWDTE Assessment: Where GWDTEs are identified within 250 m of the pole locations or 100 m of temporary access tracks, a technical report will be prepared to accompany the EIA Report to demonstrate how the GWDTEs would be protected (i.e. prevention of the development of preferential pathways for groundwater and significant drying of GWDTEs), in accordance with SEPA Guidance Note 31 (LUPS-GU31)[51]. This will be presented as an appendix to the Hydrology and Hydrogeology Chapter.
3. Private Water Supply Risk Assessment: Where private water supplies or other abstractions are identified within 250 m of the pole locations, or 100 m of temporary access tracks a technical report will be prepared to accompany the EIA Report to demonstrate how the abstraction will be protected, in accordance with SEPA Guidance Note 31 (LUPS-GU31). This will be presented as an appendix to the Hydrology and Hydrogeology Chapter.

Geology and Soils

8.6.3 The assessment of effects will be carried out in accordance with the principles contained within the Applicant's GEMPs as well as industry guidance documents produced by the Scottish Government, SEPA, NatureScot relating to peat management and assessment.

8.6.4 The EIA Report will include an assessment of potential effects on geological and peat resource from the construction and operation of the Proposed Development. The outcomes of the peat study will be included as a technical appendix to the EIA Report and will include a detailed map of peat depths showing all the built elements overlain, as well a discussion of mitigation measures used to minimise potential impacts on peat.

8.6.5 The Study Area in respect of potential impacts on peat and carbon-rich soils, considers land within 50 m of the Preferred Alignment.

8.6.6 Some historic peat survey has been undertaken by the Applicant to date but will be supplemented to inform the baseline conditions. Peat probing will be undertaken in accordance with good practice guidance and relevant methodologies[52].

[50] The Water Environment (Controlled Activities) (Scotland) Regulations 2011 https://www.legislation.gov.uk/ssi/2011/209/contents/made [Accessed 06/04/22]

[51] SEPA. September 2017. Land Use Planning System SEPA Guidance Note 31. https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions-and-groundwater-dependent-terrestrial-ecosystems.pdf [Accessed 06/04/22]

[52] Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey. Guidance on Developments on Peatland, on-line

8.6.7 As peat is likely to be present a higher resolution peat probing survey will be undertaken, to include the proposed infrastructure such as pole locations. No access tracks are proposed. The further peat probing will ensure that all infrastructure locations have sufficient peat depth information to support relevant studies on peat instability, peat excavation and reuse.

8.6.8 The peat survey will also record and confirm the geological site conditions based on rock exposures present. No intrusive ground investigation is proposed other than the removal of peat cores using a Russian auger to consider the peat characteristics and use for laboratory analysis. Peat core locations will be identified in the EIA Report.

8.6.9 An OPMP will be produced which will include:

- A summary of the peat conditions;
- Quantities of acrotelmic and catotelmic peat which will be excavated and where it will be re-used during reinstatement;
- Design of site works to minimise peat removal;
- Site reinstatement including use of peat in site restoration should it be necessary;
- Treatment, re-use and handling of excavated materials; and
- Site management plans/protocols for storage of peat.

8.6.10 A Peat Landslide Hazard Risk Assessment (PLHRA) will be undertaken which will include:

- The character of the peatland within the application boundary including thickness and extent of peat, and an understanding of site hydrology and geomorphology,
- An assessment of evidence for past landslide activity and present-day instability e.g. pre-failure indicators, a qualitative or quantitative assessment of the potential for or likelihood of future peat landslide activity (or a landslide susceptibility or hazard assessment) and identification of receptors (e.g. habitats, watercourses, infrastructure, human life) exposed to peat landslide hazards;
- A site-wide qualitative or quantitative risk assessment that considers the potential consequences of peat landslides for the identified receptors; and
- Appropriate mitigation and control measures to reduce risks to acceptable levels such that the Proposed Development is developed safely and with minimal risks to the environment.

8.6.11 A Groundsure report will be obtained in order to identify any potential sources of ground contamination within the Proposed Route. This report will be reviewed and the findings summarised within the EIA Report chapter.

8.7 Summary

8.7.1 It is proposed that a focused hydrological, hydrogeological, geology and soils (specifically with regard to peat and carbon-rich soils) impact assessment be provided. Flood risk will be scoped out of the assessment. Technical Appendices will be provided to support the EIA Report to ensure that the requirements of the statutory consultees are fully met as follows:

- Watercourse Crossing Assessment (if required);
- GWDTE Assessment (if required);
- Private Water Supply Risk Assessment (if required);
- Outline PMP; and
- Peat Landslide Hazard Risk Assessment.

version only, https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatlandsurvey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf [Accessed 06/04/22]

9. TRAFFIC AND TRANSPORT

9.1 Introduction

9.1.1 This chapter will assess the potential effects on Traffic and Transport in relation to the construction phase of the Proposed Development. Traffic associated with the operation of the Proposed Development will be negligible and is therefore not proposed to be included within the EIA process.

9.1.2 The assessment will be based on the effect of Heavy Goods Vehicles (HGVs), delivery vehicles and private car movements during the construction of the Proposed Development.

9.1.3 The traffic and transport chapter will:

- address potential disruption to pedestrians, cyclists and existing road users during the construction phase;
- assess changes to local traffic flows during the construction phase;
- assess the effect of the changes on the transport network and the level of significance of any effects established; and
- take account of the objectives of the local and strategic policy.

9.1.4 The following policy and guidance documents will be used to inform the Transport & Access Chapter:

- Transport Assessment Guidance (Transport Scotland, 2012);
- The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEA), 1993); and
- Scottish Government: Scottish Planning Policy (2014).

9.2 Baseline Conditions

9.2.1 Traffic survey data for use in the assessment would be obtained from the UK Department of Transport (DfT) traffic survey database for the following links:

- A859, South of Stornoway (Count Site Reference 91285);
- A859, East of Kinloch (Count Site Reference 80413);
- A859, South of Kintarvie (Count Site Reference 30948); and
- A859, Tarbert (Count Site Reference 10948).

9.2.2 In addition to traffic flow data, traffic accident data for a five year period for the A859 between the south of Stornoway and Grose Clett will be obtained from the public website source, Crashmap.co.uk.

9.2.3 A site visit will also be undertaken to review the route and obtain further baseline data and characteristics.

9.3 Sensitive Receptors

9.3.1 Sensitive receptors to be considered in the assessment will include communities within the study area and users of the road links. The proposed study area will include the A859 between the south of Stornoway and Grose Clett. All receptors, both communities and users will be considered in detail.

9.4 Issues Scoped Out

9.4.1 Once operational, it is envisaged that the level of traffic associated with the proposed development would be minimal. Regular maintenance visits would be made using 4x4 vehicles. It is considered that the effects of operational traffic would be negligible and therefore no detailed assessment of the operational phase of the development is proposed.

9.4.2 The traffic generation levels associated with the decommissioning phase will be less than those associated with the development phase as some elements such as access roads would be left in place on the site. As such, the construction phase is considered the worst case assessment to review the impact on the study area. An

assessment of the decommissioning phase would therefore not be undertaken, although a commitment to reviewing the impact of this phase would be made immediately prior to decommissioning works proceeding.

9.5 Potentially Significant Effects

9.5.1 Potential impacts that may arise during the assessment may include the following for users of the road and those resident along the delivery routes:

- Severance;
- Driver delay;
- Pedestrian delay;
- Pedestrian amenity;
- Fear and intimidation; and
- Accidents and safety.

9.5.2 The impacts on receptors within the study area will be reviewed during the construction phase, with a peak construction period assessment undertaken. This will review the maximum impact and presents a robust assessment of the effects of construction traffic on the local and trunk road networks.

9.5.3 The effects that will be considered will be based upon percentage increases in traffic flow and reviewed against the impacts noted above.

9.6 Assessment Methodology

9.6.1 The Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) sets out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

- Potential impacts (of changes in traffic flows) on local roads and the users of those roads; and
- Potential impacts (of changes in traffic flows) on land uses and environmental resources fronting these roads, including the relevant occupiers and users.

9.6.2 The main transport impacts will be associated with the movement of general HGV traffic travelling to and from the site during the construction phase of the development.

9.6.3 A cumulative assessment will take place where a proposed development has planning consent and would have a significant impact on the study network (i.e. over 30% increase in traffic flows). These traffic flows would be included into the baseline flows used within the assessment.

9.6.4 Planning proposals that are in scoping but not have planning consent are not committed development and as such would not be included in the assessment.

9.6.5 The following rules taken from the guidance would be used as a screening process to define the scale and extent of the assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

9.6.6 Increases below these thresholds are generally considered to be insignificant given that daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flow below this level predicted as a consequence of the proposed development will therefore be assumed to result in no discernible environmental impact and as such no further consideration will be given to the associated environment effects.

9.6.7 The estimated traffic generation of the proposed development will be compared with baseline traffic flows, obtained from existing traffic survey data, in order to determine the percentage increase in traffic.

9.6.8 Potentially significant environmental effects will then be assessed where the thresholds as defined above are exceeded. Suitable mitigation measures will be proposed, where appropriate.

9.6.9 Standard mitigation measures that are likely to be included in the assessment are:

- Production of a Construction Traffic Management Plan;
- The design of suitable access arrangements with full consideration given to the road safety of all road users; and
- A Staff Sustainable Access Plan.

9.7 Summary

9.7.1 The access, traffic and transport issues relating to the construction phase will be examined in detail. The Transport and Access Chapter will be accompanied by a Transport Assessment (TA) which will review the impact of construction traffic on the proposed study area.

10. LAND USE

10.1 Introduction

10.1.1 This section will assess the potential effects on sensitive receptors resulting from the construction and operation of the Proposed Development to establish if this topic should be scoped into the EIA.

10.2 Baseline Conditions

10.2.1 Land in the vicinity of the Proposed Development typically comprises open moorland, with The Macaulay Land Use Research Institute classifying the majority of land in the region as either Land Capable of supporting Improved Grassland (Class 5.3) or Land Capable of supporting Rough Grazing (Class 6.1 to 6.3). However, even though the agricultural land may be poor quality, the land surrounding the Proposed Development includes extensive areas of common grazing or land held runrig, and land included in the public register of crofts[53].

10.2.2 The majority of the Proposed Development avoids interaction with forestry with the noticeable exceptions being an area of commercial forestry west of Port Griogaspuil (Aline Woodland), a smaller area of forestry located between Loch Breugach and Loch Leiniscal and a small area of forestry located adjacent to Scaladale.

10.3 Potential Significant Effects

Crofting / Agricultural Land

10.3.1 On the basis that the agricultural land within the Proposed Route is of low sensitivity and that only a small proportion of the area (access tracks and pole bases) would be affected, the Proposed Development would not result in significant effects across the entire resource.

10.3.2 Construction work may result in some local temporary loss of land or access restriction; however, this can be adequately managed through agreements with the relevant landowners. In general, the permanent loss of land to pole locations would be negligible and it would remain possible for grazing to continue around and under poles during their operational lifetime. In addition, the existing 132 kV OHL would be dismantled following the commissioning of the Proposed Development, partially off-setting any impact on agricultural land.

Woodland

10.3.3 The Applicant is required to create safe operational corridors for construction and operation through the woodland areas identified. The typical operational corridor required within areas of woodland is 60 m. The Operational Corridor (as described in section 2.6.2) is defined with reference to the distance at which a tree could fall and cause damage to the overhead line, resulting in a supply outage[54]. As a result, the final corridor width would be based on the safety distance required to allow for a mature tree falling towards the OHL at the mid-point on a span between two poles, taking account of topography and tree height at maturity. On the basis that the Applicant will provide compensatory planting in accordance with the Scottish Government's Control of Woodland Removal Policy (CoWRP)[55] for all permanent woodland removal required to create the operational corridor, there would be no likely significant effect on the woodland resource.

10.4 Issues Scoped Out

10.4.1 Overall, the Proposed Development would not impinge on landowner choice over the type or intensity level of land operations and would not require any significant management changes. As such, no further assessment of land use or agriculture is proposed as part of the EIA and so is scoped out of the EIA.

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[53] Registers of Scotland (2021) Search the Crofting Register Available at: http://www.crofts.ros.gov.uk/register/search [Last accessed 26/11/2021]

[54] As specified by the 'red zone' set out in paragraph 39 of the Forest Industry Safety Accord (2013) Electricity at work: Forestry, FISA Safety Guide 804: https://www.ukfisa.com/assets/files/safetyLibrary/FISA%20804%20-%20Electricity.pdf [Accessed 08/03/2018]

[55] Forestry Commission Scotland. (2009) *The Scottish Government's Policy on Control of Woodland Removal*. Edinburgh

10.5 Summary

10.5.1 The scoping exercise has reviewed the current land use within the zone of influence of the Proposed Development and has confirmed the presence of low sensitivity agricultural land use and commercial forestry. The likely impacts of the Proposed Development on agricultural land use would potentially be localised loss of grazing access during construction; however, it is anticipated that normal farming activities would be able to resume once the Proposed Development is in operation. No likely significant effects are anticipated on agricultural land use and no further assessment is proposed.

10.5.2 The likely impacts of the Proposed Development on productive conifer plantation land use would be related to the permanent felling of an operational corridor and access track corridors. On the basis that permanent felling would be approved subject to compliance with CoWRP, no likely significant effects are anticipated and no further assessment is proposed.

11. SOCIO-ECONOMICS, RECREATION AND TOURISM

11.1 Introduction

11.1.1 This section will assess the potential effects on socio-economic, recreation and tourism receptors resulting from the construction and operation of the Proposed Development to establish if this topic should be scoped into the EIA.

11.2 Baseline Conditions

11.2.1 The main settlements close to the Proposed Development are Balallan and Tarbert. Smaller, scattered settlements in proximity to the Proposed Development include:

- Arivruaich;
- Ardhasaig;
- Laxay;
- Scaladale;
- Maraig; and
- Diraclett.

11.2.2 The A859 is the main road through the island and is used by residents and tourists. The A859 also forms part of a long-distance path, known as the Hebridean Way[56]; a 186-mile route which connects Vatersay with the Butt of Lewis. The Hebridean Way runs adjacent to the Proposed Development on the A859 from Luirbost in the north to Grosclett in the south.

11.2.3 A series of recreational core paths are present within 1 km of the Proposed Development, including the following:

- Core Path 6 - Lewis Castle Grounds Path;
- Core Path 10 - Miabhaig - Bhiogiadail Route;
- Core Path 11 - Urgha – Maraig;
- Core Path 13 - Diraclett Circular Route; and
- Core Path 14 - Seilebost - Aird Mhighe Circular.

11.2.4 One of the Aline Community Woodland Walks (Steep Stag Hill) is crossed once by the Proposed Development, where Stage Steep Hill joins the West Board Walk, after which the Proposed Development is located adjacent to West Board Walk.

11.3 Potential Significant Effects

11.3.1 Potential effects may include:

- potential beneficial socio-economic effects including from direct employment and indirect spend in the local economy;
- temporary loss of amenity resulting from construction traffic and construction activity close to recreational routes and settlements; and
- loss of visual amenity for recreational routes and tourism receptors resulting from the installation of wood poles.

[56] Whilst some online sources suggest that the Hebridean Way is part of National Cycle Route 780, Sustrans classifies the Hebridean Way as 'On-road route not on the National Cycle Network'. Available at: https://www.sustrans.org.uk/find-other-routes/the-hebridean-way [Last accessed 06/12/21]

11.4 Issues Scoped Out

11.4.1 The Proposed Development would result in the creation of temporary jobs during the construction period. It is envisaged that a small proportion of the workforce would be from the local area. In addition, there would be potential beneficial effects through temporary increased spending on the supply of goods and services during construction. It is anticipated that these effects, while beneficial, are unlikely to be significant beyond the local area. In the long term, the Proposed Development would ensure security of electricity supply to the region and facilitate the increase in renewable energy generation planned for the area. These beneficial effects will be highlighted within the EIA Report; however, no separate impact assessment chapter is proposed to cover these issues.

11.4.2 The potential effects on visual amenity for tourism and recreational routes and receptors will be fully assessed in the EIA Report as part of the LVIA. The potential for effects on core paths and national cycle routes would be included as part of the Traffic and Transport assessment and would be managed according to an outline CTMP. Therefore, no separate recreation and tourism assessment is proposed in the EIA Report.

12. POPULATION AND HUMAN HEALTH

12.1 Introduction

12.1.1 The World Health Organisation (WHO) defines health as a state of physical, mental and social wellbeing, as well as the absence of disease or infirmity. The focus of the chapter is on community health and wellbeing and not on occupational health and safety. The term 'health' is used to describe 'human health' and 'wellbeing' unless specifically referenced otherwise.

12.1.2 Given the nature of the Proposed Development, the potential and perceived effects on population and human health include:

- nuisance related to noise and vibration during construction and operation;
- perceived health effects related to electromagnetic fields (EMF); and
- potential for impact resulting from major accidents or disasters (considered to be limited to impacts from poles being destabilised).

12.2 Baseline Conditions

12.2.1 The Proposed Development is predominantly located in a rural area; however, a number of properties are located in close proximity to the Proposed Development including within the settlements of Laxay, Balallan, Arivruaich, Scaladale, Ardhasaig, Tarbert and Diraclett. Locations where the Proposed Development lies within 72 m[57] of the Preferred Alignment are at Ardhasaig and Tarbert.

12.2.2 Noise and Vibration

12.2.3 A desk-based review has been undertaken to identify potential noise sensitive receptors. There are residential properties in Ardhasaig and Tarbert within 72 m of the Proposed Development, with the next closest properties situated approximately 150 m away (Balallan). A site visit or a noise survey is not proposed.

Electro and Magnetic Fields (EMFs) during Operation

12.2.4 EMFs arise from electric charges and current flow. Exposure guidelines have been developed by the International Commission on Non-Ionising Radiation Protection (ICNIRP) to ensure protection of human health in different situations, occupational exposures and public exposure. These guidelines have been adopted by the UK Health and Protection Agency (HPA) for application in the UK[i].

12.2.5 The calculated field strengths for the Proposed Development are within the ICNIRP guidelines as shown in **Table 13.1** below.

Table 13.1: Typical EMF and UK Exposure Guidelines

Source	Electric Field (kV/m)		Magnetic Field (μT)	
	Calculated field beneath line	Typical field 25 m from line	Calculated field beneath line	Typical field 25 m from line
ICNRIP public exposure limit[58]	9		360	
Typical Field 132 kV OHL[59]	1-2	0.1-0.2	0.2-0.5	0.01-0.05

[57] 72 m was used in the routeing process to assess the potential for the development to be constrained, and was calculated as the distance that represents 4x the nominal height of the proposed OHL (in a worst case)..
[58] https://www.emfs.info/limits/limits-organisations/icnirp-1998/ [Accessed 06.04.2022]
[59] https://www.emfs.info/sources/overhead/ [Accessed 06.04.2022]

Major Accidents and Disasters

12.2.6 The potential for impact resulting from major accidents or disasters is considered to be limited to impacts from poles being destabilised. The design process seeks to avoid the potential for impacts arising from major accidents or disasters in two ways:

- Altitudes over 300 m above sea level are avoided to reduce the extent of pole strengthening (and speed of refurbishment) required due to the higher potential for ice and high winds in such locations.
- Pole locations are chosen that are generally 100 m from sensitive receptors; which is greater than the topple distance of the poles.

12.2.7 A review was undertaken regarding the expected effects deriving from the vulnerability of the Proposed Development to risks of major accidents and disasters. An initial list of major accidents and disasters was compiled using a variety of sources including the Cabinet Office National Risk Register of Civil Emergencies 2015 Edition and UK Government Emergency Response & Recovery Guidance. This list was screened in two stages to identify risks which would be applicable to the Proposed Development; firstly based on the location and use/nature of the Proposed Development; and then based on the likelihood of the event and consequence of the outcome. The final screened list was then considered in terms of existing mitigation or prevention measures such as regulations and guidance; key documents included:

- Health and Safety Executive Guidance Note GS6 (Forth edition) Avoiding danger from overhead power lines
- Forestry Industry Safety Accord (FIAS) Safety Guide 804 Electricity at work: Forestry; and
- ENA Technical Specification 43-8 2004: Overhead Line Clearances

12.2.8 The baseline conditions for the following topics which have the potential to impact human health can be found in the following chapters of this Scoping Report:

- Hydrology, Hydrogeology, Geology and Soils (Chapter 8);
- Air Quality and Climate Change (Chapter 13);
- Landscape and Visual Impact (Chapter 4);
- Socio-economics, Recreation and Tourism (Chapter 11); and
- Traffic and Transport (Chapter 9).

12.3 Sensitive Receptors

12.3.1 Potential sensitive receptors that have been identified in the area surrounding the Proposed Development include:

- On-site populations (e.g., site personnel);
- Off-site populations (e.g., local residences/towns/villages);
- Noise sensitive receptors within 300 m of the Proposed Development, along the length of the Proposed Development.

12.4 Potential Significant Effects

12.4.1 At this preliminary stage, possible effects associated with construction and operation of the Proposed Development include:

- effects of construction noise (including traffic) on the surrounding area and on nearest residential properties;
- effects of vibration during construction on receptors in the area surrounding the connections and
- operational effects of noise from any ‘corona discharge’ along the overhead lines.

12.4.2 Potential significant effects identified for the further topics listed in Section 12.2 can be found in the relevant technical sections of this Scoping Report.

12.4.3 Appropriate control measures to ensure potential effects on human health are managed appropriately in the construction phase will be addressed through a CEMP, which would be produced to manage the construction of the Proposed Development and would address the following issues related to human health and well-being:

- Water quality;
- Noise controls; and
- Air and dust management.

12.5 Assessment Scope and Methodology

12.5.1 The technical sections listed in Section 12.2 set out the assessment methodology for the various technical topics relating to human health and population.

12.6 Issues Scoped Out

12.6.1 Construction noise will be short-term and intermittent and can be controlled through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP would include working hours agreed with CnES. As such, no detailed assessment of construction noise associated with plant or traffic is proposed as part of the EIA Report.

12.6.2 Based on the scope and duration of construction activities required for pole installation, it is expected that construction traffic noise impacts and construction traffic vibration impacts would be negligible; therefore, no detailed assessment of construction traffic noise and vibration is proposed as a part of the EIA Report.

12.6.3 Operational noise is likely to be minimal; the noise associated with overhead lines is a result of a phenomenon known as ‘corona discharge’. This phenomenon generally occurs during damp weather when rain enhances the local electrical field strength allowing an audible discharge to occur.

12.6.4 The typical field strengths for 132 kV OHL are within the ICNIRP exposure guidelines. As such there is no likely significant effects on human health associated with EMFs and this issue is scoped out from further assessment.

12.6.5 This review did not identify potentially significant effects from major accidents or disasters that would require assessment under the EIA Regulations and therefore this topic has been scoped out from further assessment.

12.6.6 Issues scoped out of the further topics listed in Section 12.2 are listed in the relevant technical sections of this Scoping Report.

12.7 Summary

12.7.1 The potential for significant effects on human health in terms water quality, air quality, noise, visual impacts, traffic and transport have been considered in the appropriate sections of this Scoping Report.

12.7.2 There is no potential for public or occupational exposure to EMFs above appropriate thresholds as a result of the Proposed Development.

12.7.3 As such, a separate human health and population impact assessment chapter will not be presented in the EIA Report.

13. AIR QUALITY AND CLIMATE CHANGE

13.1 Introduction

13.1.1 This section sets out the proposed approach to the potential impacts of the Proposed Development on air quality and climate change during construction and operation.

13.2 Baseline Conditions

13.2.1 The Climate Change (Scotland) Act 2009[60] requires an 80% reduction in GHG emissions in Scotland by 2050, compared to the 1990-1995 baseline. The Scottish Government has since passed the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 which has set a target of reducing domestic emissions to net zero by 2045. The Scottish Government has set annual targets[61] shown in Error! Reference source not found..

Table 14.1: Annual GHG Emission Target for Scotland

Year	Annual Target (tCO2 e)	% Reduction from baseline
2019	41,976,000	-46%
2020	40,717,000	-47%
2021	39,495,000	-49%
2022	38,310,000	-50%
2023	37,161,000	-52%
2024	35,787,000	-54%
2025	34,117,000	-56%
2026	32,446,000	-58%
2027	30,777,000	-60%
2028	29,854,000	-61%
2029	28,958,000	-62%
2030	28,089,000	-64%
2031	27,247,000	-65%
2032	26,429,000	-66%

13.2.2 The UK climate change risk assessment[62] details some of the hazards related to climate change of most relevance to the Proposed Development. The hazards include:

- increased precipitation (heavier rainfall) leading to potential flooding and erosion;
- higher extreme temperatures leading to risks associated with wildfire or risks to the grid connection;
- increased severity of storms with the potential for damage to plant and infrastructure.

13.2.3 There are no Air Quality Management Areas (AQMAs) in the CnES area, indicating that the area is meeting national air quality objectives and European directives[63] limits and target values for the protection of human health.

[60] Climate Change Plan. The Third Report on Proposals and Policies 2018-2032. Scottish Government, 2018. https://www.gov.scot/publications/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/ [Accessed on 05/10/2021].
[61] Climate Change Plan. The Third Report on Proposals and Policies 2018-2032. Scottish Government, 2018. Available at: same as above
[62] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf [Accessed 05/10/2021]
[63] Directive 2008/50/EC, Directive 2004/107/EC and 2001/81/EC

13.3 Sensitive Receptors

13.3.1 In the context of the EIA process, climate change is required to be assessed both in relation to the contribution of the Proposed Development to increasing the nature and magnitude of greenhouse gas emissions and the vulnerability of the Proposed Development to climate change.

13.3.2 The key receptors for air quality are the population (from a human health perspective), flora and fauna (from a biodiversity perspective).

13.4 Potential Significant Effects

Climate Change

13.4.1 IEMA guidance[64] indicates all GHG emissions should be considered as significant; however, in this case it is anticipated that the Proposed Development will indirectly result in a net-reduction/saving of GHG emissions. Construction of the OHL is likely to contribute to greenhouse gas emissions from vehicles during construction, from the carbon footprint (embodied carbon) of the materials required to build the OHL and from the removal of forestry. The emissions directly associated with construction are likely to be temporary and short in duration from exhaust gases from vehicles and potentially from the construction plant. The amount of material and potential emissions required during construction and operation of the plant is not disproportionate for a development of this scale. Therefore, the greenhouse gas emissions from this project are unlikely to increase the nature and magnitude of greenhouse gas emissions, as annually there will be projects of this scale that are required to ensure that infrastructure needs are met in Scotland.

13.4.2 In relation to climate adaptation, the design and location of the OHL will consider the potential risk posed by locations with increased flood risk and ground instability. The intention is to reduce potential risks to the electricity assets so that repairs and upgrades are less frequent.

13.4.3 The Proposed Development is required for asset management purposes and would also provide capacity for connection of distributed renewable energy generation to the electricity transmission network. The Proposed Development falls within the National Development 4 designation within National Planning Framework 3 (NPF3) relating to the development of a "High Voltage Electricity Transmission Network" which is needed "to support the delivery of an enhanced high voltage electricity transmission grid which is vital in meeting national targets for electricity generation, statutory climate change targets, and security of energy supplies."[65] It therefore comprises a nationally significant development in planning terms and will play an important role in facilitating the transition to net zero emissions. Therefore, a climate change assessment to consider GHG emissions is not proposed and this topic is scoped out from further assessment.

Climate Change Hazard Vulnerability

13.4.4 The vulnerability of the Proposed Development to climate change hazards is low on the basis that the design (which will be set out in the EIA Report) will specifically include embedded mitigation to ensure that significant effects are avoided or reduced to an acceptable level. A detailed assessment of the vulnerability of the Proposed Development to climate change hazards is not proposed.

Air Quality

13.4.5 The Proposed Development is not considered to give rise to significant effects to air quality. There is the potential for some localised and temporary construction related air quality effects associated with dust (pole construction, passage of vehicles along access tracks) and construction plant and traffic exhaust emissions. However, the nature of the construction activities is that they will be short in duration, intermittent and

[64] IEMA (2017). Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available at: https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance . [Accessed 05/10/2021].
[65] https://www.gov.scot/publications/national-planning-framework-3/pages/8/ [Accessed 10/05/2022]

controllable through the application of good construction practice. Once Proposed Development is operational there is no potential for significant air quality effects.

13.4.6 The potential for nuisance effects on residential or recreational amenity will be limited and will be strictly controlled in accordance with a detailed Construction and Environmental Management Plan (CEMP).

13.4.7 The Proposed Development will not result in significant adverse effects on air quality during the construction and operational phases. Therefore, this issue is scoped out of the EIA and no further assessment of air quality is proposed as part of the EIA Report.

13.5 Issues Scoped Out

13.5.1 The Proposed Development would not result in significant adverse effects on air quality or climate change during the construction or operational phases. The Proposed Development would provide capacity for connecting renewable electricity generation to the transmission network, in turn displacing emissions associated with fossil fuel based electricity generation elsewhere. As such, this issue is scoped out of the EIA and no assessment of air quality and climate change is proposed as part of the EIA Report.

14. SUMMARY OF TOPICS

14.1.1 As explained above, a number of topics are considered to be not significant, and will be scoped out from further consideration within the EIA process. Table 15.1 below lists each topic and the elements scoped in and out from further assessment; with a summary of the justification for doing so.

Table 15.1: Issues Scoped In and Out

Topic	Scoped In	Scoped Out
Landscape Character and Visual Impact	✓	• Decommissioning impacts
Cultural Heritage	✓	• Battlefields; • World Heritage Sites; • Listed buildings within the Stornoway townscape; • Designated heritage assets that lie outside of the zone of theoretical visibility (ZTV) for the Proposed Development; • Assessment of settings impacts on designated heritage assets more than 2 km from the Proposed Development
Ecology and Nature Conservation	✓	• Statutory designated sites within 10 km of the Proposed Development where there is no potential impact pathway • Potential impacts on protected species (otter; reptiles and amphibians, terrestrial invertebrates, aquatic ecology, including fish) and from invasive species (rhododendron).
Ornithology	✓	• Barrier effects; • Habitat loss (during both construction and operational phases); and • Potential disturbance during the operational phase.
Hydrology, Hydrogeology, Geology, and Soils	✓	• Flood risk; • Contaminated land; and • Operational impacts.
Traffic and Transport	✓	• operational impacts • decommissioning impacts • Where the thresholds for significant effects during the construction phase are not met in a specific location (in accordance with IEMA Guidelines) it is proposed that further assessment is not required.
Land Use	×	✓
Socio-economics, Recreation and Tourism	×	✓
Population and Human Health	×	✓
Noise and Vibration	×	✓

Table 15.1: Issues Scoped In and Out		
Major Accidents and Disasters	×	✓
Climate Change	×	✓
Air Quality	×	✓

15. NEXT STEPS

15.1.1 The Applicant invites consultees to comment on the following:

- What environmental information do you hold or are aware of that will assist in the EIA described here?
- Do you agree with the proposed approach for baseline collection, prediction and significance assessment?
- Are there any key issues or possible effects which have been omitted?
- Do you agree with the list of issues to be scoped out, and the rationale behind the decision?
- Of those issues identified for assessment, which do you consider the most important/material and which the least?

15.1.2 All responses should be addressed to:

Email: Econsents_Admin@gov.scot

OR

Energy Consents Unit
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow,
G2 8LU

15.1.3 The Scoping Opinion provided will be used to finalise the terms of the EIA and the specific approach to the individual assessments.

15.1.4 All comments received will be included in the EIA Report for reference, unless consultees request otherwise.

FIGURES NOT INCLUDED

APPENDIX A: FIGURES