



Scottish & Southern
Electricity Networks

**Spittal to Loch Buidhe to Beauly 400
kV OHL Connection
Environmental Impact Assessment
Volume 5, Appendix 13.1 – Y:
Woodland Reports
Sworddale Forest**

July 2025



Contents

1. Introduction	2
2. Purpose of this Woodland Report	2
3. Woodland Property	2
Development Requirements	3
4.1 400 kV Operational Corridor	3
4.2 Access Track Route Design	4
5. Woodland Characteristics	5
6. Windblow Risk Impact	8
7. Woodland Management Impact	9
8. Mitigation Opportunities	10
9. Woodland Removal Impact	10
10. Compensatory Planting	11

1. Introduction

- 1.1 Scottish and Southern Electricity Networks (SSEN) Transmission, hereafter referred to as ‘the Applicant’, owns, operates, develops and maintains the high voltage electricity transmission system in the north of Scotland and the Scottish islands. Due to the growth in renewable electricity generation in the north and north-east of Scotland, upgrade of the transmission network is required to provide the necessary increase in transmission capacity. The Applicant is applying for consent under Section 37 of the Electricity Act 1989 to construct and operate a new double circuit 400 (kilovolt) kV overhead line (OHL).
- 1.2 This report provides an assessment of woodland impact related to the Spittal to Loch Buidhe to Beaully 400 kV OHL Connection project (the ‘Proposed Development’). The report details the woodland area affected by the Operational Corridor (OC), new access tracks (permanent), and additional felling required due to windblow risk within individual ownerships. It also includes mitigation considerations and compensatory planting recommendations.

2. Purpose of this Woodland Report

- 2.1 As part of the Environmental Impact Assessment (EIA) process, it was identified that construction of the OHL and associated access tracks would cross a number of woodland areas within both public and private landholdings. The landholding property boundaries are identified in **Figure 1: Woodland Impacted by the Proposed Development**.
- 2.2 This document provides an assessment of the woodland areas that are affected by the Proposed Development, including the requirement for woodland removal and management recommendations to mitigate the impact of the woodland removal.
- 2.3 Field surveys of the woodland areas have been undertaken and have been used to determine the various woodland characteristics to identify the woodland removal required and recommended. This document also sets out the area, in hectares (ha), of compensatory planting required to ensure no net loss of woodland is achieved.

3. Woodland Property

- 3.1 Swordale is a woodland located approximately 8 km west of Evanton, in Dingwall. The nearest public road providing access to the area near the Proposed Development is Swordale Road, which terminates at the eastern boundary of the area affected by the OC on this property, on the western edge of Swordale Woodland, to the north of Fannyfield Farm.
- 3.2 Access to the site is via Fannyfield, where the public road, Swordale Road, ends after extending from Evanton, along the north of the River Sgitheach.

3.3 There is no existing infrastructure to reach the OC nor the proposed location for the Tower S122, the only tower proposed within this property, refer to **Figure 1: Woodland Impacted by the Proposed Development**.

3.4 The woodland features a gently sloping, south-facing terrain at an average elevation of 240 m above sea level.

Development Requirements

4.1 400 kV Operational Corridor

4.1.1 With reference to **Figure 1: Woodland Impacted by the Proposed Development**, the OHL sections relevant to Swordale affect only Tower S122 on the southern line of the Proposed Development.

4.1.2 The Study Area for this assessment is based around an operational corridor of 90 m. The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of creation of new OHL, resilience and maintenance of OHLs, or protection of electrical plant as required by the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002 regulations and The Electricity Act 1989. The OC is defined as to the distance at which a tree could fall and cause damage to the OHL, resulting in a supply outage. As a result, the final OC width would be based on the safety distance required from the OHL centreline to allow for a mature tree falling towards the OHL, taking account of topography and tree height at maturity.

4.1.3 The OC width that has been assessed and identified for the safe build and energisation of the new OHL through areas of conifer woodland is 90 m (45 m either side of the OHL centreline). Further details can be found in **Section 13.3 of Volume 2, Chapter 13: Forestry** which outlines the extent of the study area.

4.1.4 The OC width that has been assessed and identified for the safe build and energisation of the OHL through the areas of broadleaves is also 90 m (45 m either side of the OHL centreline). This has been assessed as a maximum OC width required at these woodland locations, with the potential of further narrowing of the OC prior to construction to allow greater tree retention depending on factors such as tree height, topography, crown reduction or other mitigation strategies¹.

¹As specified by the 'Red Zone' set out in paragraph 41 of the Forest Industry Safety Accord. (2020) Safety Guide 804 Electricity at Work: Forestry. [pdf] Available at: FISA 804 (ukfisa.com).

4.2 Access Track Route Design

- 4.2.1 There is currently no existing infrastructure within the property that provides direct access to the woodland. However, the public road is located nearby, in proximity to the Proposed Development. As a result, new sections of both temporary and permanent access tracks will be constructed within and beyond the OC to facilitate access.
- 4.2.2 These access tracks will serve as the primary vehicle access route for the Proposed Development, as illustrated in **Figure 1: Woodland Impacted by the Proposed Development**, and will undergo maintenance and upgrades as part of the construction scope.
- 4.2.3 New access tracks, also detailed in **Figure 1: Woodland Impacted by the Proposed Development** will be built to service Tower S122.
- 4.2.4 The access track corridor width required for clearing through the woodland is 20 m (10 m on either side of the centreline), but this will be evaluated in situ to determine the suitability for further tree retention.
- 4.2.5 The construction of these new access tracks will increase the impact of woodland removal along routes located outside the OC. The affected woodland along the new access tracks will consist of a similar composition to that found within the OC, featuring a combination of young coniferous plantations. Refer to **Table 9.1** below.
- 4.2.6 Tree felling, stump removal and residue mulching will be required for the installation of new access tracks and at each tower location for the formation of temporary construction working areas.
- 4.2.7 These access tracks can serve as the main arterial construction route. Tree felling and timber extraction would be able to utilise existing tracks, prior to any construction activity.
- 4.2.8 Where existing tracks require maintenance or upgrading, this may involve the removal of trees and scrub to facilitate the works, particularly to accommodate the creation of additional passing places. While much of the upgrade activity would fall within standard forest access maintenance, which typically involves the removal of scrub, regeneration, and crown management, some sections may require additional tree clearance within a corridor of up to 12 m in width.

5. Woodland Characteristics

5.1 A desk-based study of the woodland areas was conducted, to identify current woodland environmental designations and classifications.

5.2 The web-based data provided by Scottish Forestry and referencing the Scottish Government's Ancient Woodland Inventory (AWI), and

- The Scottish Forestry Map Viewer provides spatial data on the Native Woodland Survey of Scotland (NWSS) and classifies the woodland types into four categories^{2 3}:

1. Native woodland
2. Nearly-native woodland
3. Open land habitat
4. Plantations on Ancient Woodland Sites (PAWS)

5.3 The Proposed Development primarily traverses coniferous plantations, with 1.95 ha within the OC classified as Long-Established Woodland of Plantation Origin (LEPO) 2b, as designated under the Ancient Woodland Inventory (AWI). Refer to **Table 5.1**.

Table 5.1: Woodland Designations			
Item	Type of Infrastructure	Woodland Designations	Area (ha)
Operational corridor	Permanent	AWI-LEPO 2b	1.95
Management felling*	Temporary	AWI-LEPO 2b	2.26

*Management Felling reference and details described in **Section 6- Windblow Risk Impact**.

5.4 The LEPO areas within the OC cover 1.95 ha, with an additional 2.26 ha within the Management Felling areas. These sections primarily consist of commercial conifer

² Scottish Forestry Map Viewer URL
<https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18>

³ Scottish Forestry Native Woodland Survey of Scotland: Glossary of Terms; URL: Main Title (forestry.gov.scot)

Native Woodland – woods where the canopy cover is composed mainly of native species (i.e., over 50%).

Nearly Native Woodland - where native species make up between 40% and 50% of the canopy. These are woods that could have potential to be converted into native woodlands by altering their species mix.

Open Land Habitat – areas with <20% canopy cover of trees and shrubs adjoining a native woodland.

PAWS - Plantation on Ancient Woodland Sites. These are surveyed in the NWSS where they are recorded in the Scottish ancient woodland inventory (SAWI). These woodlands appear to have originated through natural regeneration sometime before the mid-19th century, but were later converted to planted wood.

plantations, dominated by spruce trees averaging 17 m in height within an unthinned coupe. Due to the dense canopy cover, there is no understorey development.

5.5 At the northern edge of the property, within the LEPO classification, the commercial conifer stand includes a sparse few birch trees reaching approximately 8 m in height, though these do not form a distinct stand of their own.

5.6 Within the OC, commercial conifer plantations—primarily composed of spruce—are present, with trees averaging 17 m in height in an unthinned coupe. The dense canopy cover has resulted in the absence of understorey development. No notable remnant features of ancient woodland were identified within the LEPO-designated areas affected by the Proposed Development. Refer to **Plate 1**.



Plate 1 – The LEPO area presents a semi-mature spruce stand with trees averaging 17 m in height. This coupe has not undergone previous thinning, resulting in a dense plantation structure. Grid ref: NH 55111 66196.

5.7 The remaining areas within the OC that are not designated as LEPO within the AWI have recently undergone clearfelling and have not yet been restocked. A very small section to the east of this area, north of the proposed new access track, features a recently restocked plantation composed of young (50 cm tall) spruce trees at commercial density. Refer to **Plates 2 and 3**.

5.8 There is also an edge of semi-mature larch trees and birch along the roadside, with larch averaging 22 m in height and the scattered birch averaging 8 m.



Plate 2- Recently planted commercial woodland with young spruce trees on this site at grid ref: NH 55107 66078.



Plate 3- Recent clear-fell site that has not yet been restocked. Grid ref: NH 55069 65995.

5.9 The woodland characteristics consist of a mix of recently clear-felled areas that have not yet been restocked, adjacent to a newly conifer-restocked site. Additionally, the LEPO woodland features an unthinned, commercially managed, semi-mature spruce plantation.

5.10 The site presents soils of the composition of peaty gleyed podzols.⁴

6. Windblow Risk Impact

6.1 An assessment was undertaken of the risk of windblow to areas of woodland adjacent to the OC, which would be exposed due to the tree clearance required for the OC. This assessment was based on the professional judgement of the forestry surveyor with consideration being given to the soil and moisture regime, the topography, tree species, top height, exposure, altitude and aspect in relation to the prevailing wind direction and any previous management regimes. This assessment was also based on site visits and observations, and available data of the site. Reference was also made to Forest GALES 2.5 Forest Research decision support system, where appropriate. Felling outwith the OC to a windfirm boundary is termed Management Felling and is presented within **Figure 1: Woodland Impacted by the Proposed Development**.

6.2 Given the nature of some of the woodlands- those of semi-mature conifer woodlands of an average height of 17 m with unthinned stands and the local characteristics of soils, topography and aspect, it is anticipated that the introduction of the OC will result in future windblow to the adjoining woods. Refer to **Table 9.1**.

6.3 The woodland site affected by the Proposed Development has a ‘Detailed Aspect Method of Scoring’ (DAMS)⁵ windblow hazard class score of 14, which is classified as moderately exposed. The site has mineral soils with shallow rooting which are mostly cool and moist.

6.4 Management felling is proposed in the areas adjacent to the OC and the access track corridors to minimise the future risk of windblow. However, certain areas within the woodland contain more open coupes, which are likely to remain wind-stable. These coupes have been assessed up to the nearest green-edge and are therefore considered stable in the current conditions. Refer to **Table 9.4**.

6.5 While management felling is proposed by the Applicant as part of sound forestry practice, the decision to implement such operations ultimately rests with the forest owner, who must align any felling activities with their broader forest management plans and objectives. Felling permission for these areas must be obtained by the

⁴ Scottish Government’s Scotland’s soils website <https://soils.environment.gov.scot>

⁵ Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, “Forest Gales software programme” and Forestry Commission Leaflet 85 “Windthrow Hazard Classification”

landowner through an application to Scottish Forestry. As part of this regulatory process, Scottish Forestry will consider the appropriateness of the proposed felling and will attach conditions requiring the restocking of felled areas to ensure continued sustainable forest management.

7. Woodland Management Impact

- 7.1 The OHL will create additional challenges for the future management of the forest as it dissects existing management coupes and introduces an electrical hazard. The risks associated with the electrical hazard will be reduced by regular maintenance of the OC, so maintaining the compliance of the OC and reducing any need for future tree clearance operations within the “Red Zone”.⁶
- 7.2 The sterilisation of the OC, however, will have an impact on forest restructuring, potentially impacting the landowner's ability to utilise the forest's commercial viability in accordance with the UK Forestry Standard. Mitigation opportunities are discussed in the following **Section 8**.
- 7.3 The OHL will cross the woodland road network at either approximately 45 or 90 degrees and will be built to the regulatory safe height clearances above forest access tracks, which will reduce the hazard in respect of future timber haulage. It may still, however, impact on machine operations within the proximity of the OHL, such as stacking and loading. Mitigation of which could be incorporated into the access design, following discussions with the landowner.
- 7.4 The OHL may be restrictive to future in-forest machinery access. The requirement for dedicated forestry machine OHL crossing points will be discussed with the landowner and if required, will be identified once the OHL has been constructed, thus providing a safe OHL crossing point(s) for future working within the woodland.
- 7.5 The impact of the Proposed Development on the overall viability and continuity of woodland management has been considered. The affected woodland forms part of a larger commercial woodland setting comprising predominantly commercial conifer blocks. The proposed OC intersects several of these woodland compartments to the west of the property and it is not expected to compromise the implementation of forest operations or ongoing management in the woodland generally or in this western corner. No significant fragmentation or isolation of woodland units is anticipated, and the Proposed Development is not considered to materially affect the viability of the current or future management regime.
- 7.6 The impacts arising from the Proposed Development are not anticipated to affect the wider woodland management regime, nor are they expected to necessitate any alteration to the current or planned species composition.

⁶ As specified by the ‘Red Zone’ set out in paragraph 41 of the Forest Industry Safety Accord (FISA) Safety Guide 804. Electricity at Work: Forestry (2020) FISA 804 (ukfisa.com)

8. Mitigation Opportunities

- 8.1 The Applicant will be using a process of ‘managed resilience’ which will seek to retain naturally regenerated broadleaved trees and shrubs as close as possible to the line to keep as much tree cover as possible. Smaller- and lower-growing tree species and shrubs can be retained closer to the OHL. OHL vegetation maintenance would take place on a 4-yearly cycle as required.
- 8.2 Impacts on woodland restock opportunities, resulting from the OC sterilisation, could be addressed through the amendment of the Felling Licence Application or the Long-Term Forest Plan (LTFP), adhered to the regulations of the Forestry and Land Management (Scotland) Act 2018, and in line with the UK Forestry Standard guidance to utilise wayleave corridors as designed Open Ground, repurposing currently unplanted areas to maintain the commercial productivity of the woodland.
- 8.3 Before the construction phase, these areas, along with access tracks, will be assessed for selective felling and also crown reduction to determine if greater tree retention is feasible. The final extent of tree retention will depend on the requirements of the Proposed Development, particularly ensuring the safety of OHL wiring operations during construction.
- 8.4 The OC woodland removal area is required for the construction and operation of the new OHL infrastructure. Opportunities will be assessed for encouraging woodland regeneration within the OC, the identification of suitable areas cannot be guaranteed due to the requirement of maintaining the safe energisation of the OHL. Reference to **Tables 9.2 and 9.3** below, will fully mitigate the loss of forest resource within the OC through compensatory planting of the equivalent area (ha) of woodland removed.
- 8.5 Impacts on tree windfirm stability within the remaining crop has been assessed and considered as noted in **Section 6**. Woodland loss and management felling have been minimised through retention of crops identified as likely to be windfirm.
- 8.6 Impact of stability within the remaining crop has been assessed and reported on above.

9. Woodland Removal Impact

Table 9.1: Woodland Removal for Infrastructure			
Item	Type of Infrastructure	Woodland type	Area (ha)
Operational Corridor	Permanent	Conifer woodland	1.95
		Felled- awaiting restocking	1.82
Access track corridor	Temporary	Conifer woodland	0.30

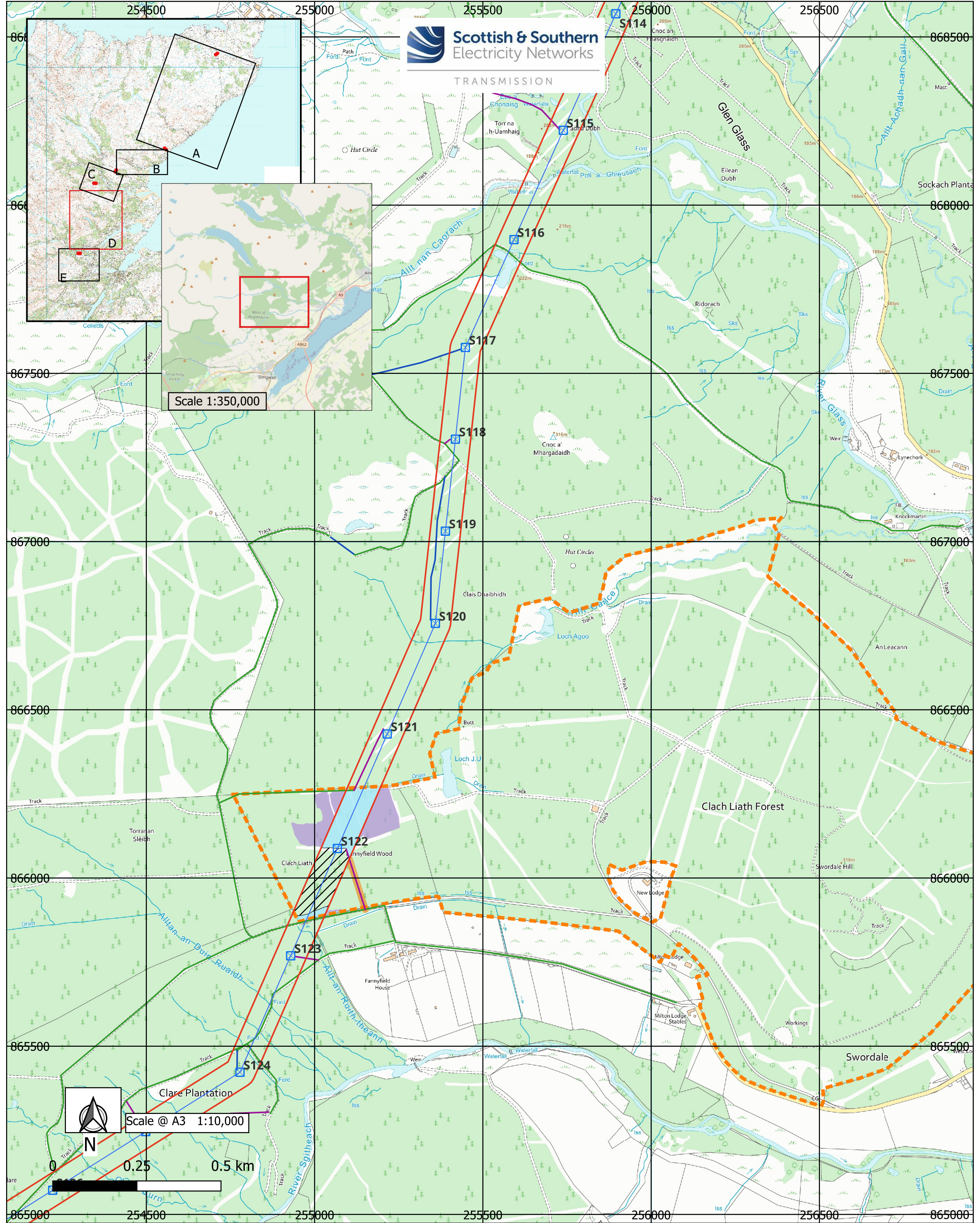
Table 9.2: Compensatory planting		
Compensatory Planting Area		4.07

Table 9.3: Woodland Removal Impact of Infrastructure		
Item	Woodland type	Area (ha)
Total Loss of Woodland Area	Conifer woodland	2.25
	Felled- awaiting restocking	1.82
Total Compensatory Planting Area off-site	Conifer woodland	1.95
	Felled- awaiting restocking	1.82
Total Restocking/ Replanting Area on-site	Conifer woodland	0.30
Total Net Loss of Woodland Area		0

Table 9.4: Woodland Removal for Management Felling			
Item		Woodland type	Area (ha)
Management Felling	Temporary	Conifer woodland	2.26
Replanting / Restocking	Adhere to Forestry and Land Management (Scotland) Act 2018.	Conifer woodland	2.26
Net Loss of Woodland Area			0
Note: Felling approval is via the Scottish Forestry Felling Licence Application process or Long-Term Forest Plan application, or the amendments process.			

10. Compensatory Planting

10.1 Compensatory planting to achieve the area quantity (ha) of woodland removal as a result of the Proposed Development will be in accordance with the Scottish Government's Control of Woodland Removal Policy of no net loss of woodland. A compensatory planting strategy is set out in **Volume 5, Appendix 13.3: Compensatory Planting Strategy**.



Legend

Landownership boundary/parcel

Operational Corridor

Central line Operational Corridor

Proposed 400kV OHL Towers

20m Access Corridor

Management Felling

Conifer woodland- Operational Corridor 90m

Felled - Operational Corridor 90m

Access Tracks- Existing Upgrade

Access Tracks- New Stone Perm

Access Tracks- New Stone Temp

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Woodland report
Project No- LT000132
Spittal- Loch Buidhe - Beaully 400kV Connection
Figure 1. Woodland Impacted by the Proposed Development
Section D-Sworddale

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