



Scottish & Southern
Electricity Networks

**Spittal to Loch Buidhe to Beauly 400
kV OHL Connection
Environmental Impact Assessment
Volume 5, Appendix 13.1 – Z:
Woodland Reports
South Clare wood**

July 2025



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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 South Clare woodland is situated approximately 6 km north of Dingwall, located on the foothill of the local hill, Cnoc nan Each. Access is available via the Swordale road, leading to Fannyfield farm and running north and parallel to the River Sgitheach.

3.2 A well-maintained access track runs through the woodland from the tarmac road at Fannyfield, extending from the north to the southwest. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.

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 South Clare extend from over 100 m north of Tower S123 to over 130 m south of Tower S128.
- 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.

4.2 Access Track Route Design

- 4.2.1 An existing access track within the property provides access to various sections of the woodlands and is in proximity to the Proposed Development features; however, new sections of both temporary access tracks will be constructed within and outside the OC.

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).

- 4.2.2 These new 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 Towers S123 to S128.
- 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 coniferous plantations, depending on the location of the access Tracks. 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

- 5.1A desk-based study of the woodland areas was conducted, to identify current woodland environmental designations and classifications.
- 5.2The 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 These woodlands within the OC range in elevation from approximately 200 m to 230 m above sea level, characterised by relatively flat terrain.

5.4 Within the Proposed Development, woodlands are predominantly composed of commercial conifer plantations with various age classes, some of which have undergone restructuring in recent years. While small clusters of broadleaved trees are found on the edges of these commercial coupes, their size is insufficient for mapping purposes, refer to **Figure 1: Woodland Impacted by the Proposed Development**.

5.5 Additionally, a small area designated as Long Established Woodland of Plantation Origin (LEPO) is located in the northern corner of the property, intersected by the Proposed Development, as classified under the Ancient Woodland Inventory (AWI). Refer to **Table 5.1** below.

Table 5.1: Woodland Designations			
Item	Type of Infrastructure	Woodland Designations	Area (ha)
Operational corridor	Permanent	AWI-LEPO 2b	0.30

5.6 This LEPO area covers 0.30 ha and consists mainly of commercial conifer woodland, with spruce being the dominant species, averaging 5 meters in height (see **Plate 1**). There is a relatively small area of trees along the roadside edge on the other side of the forest road. Scattered throughout are regenerated species, including Scots pine and birch, which are of similar size. No remnants of significant features are found within this designated LEPO area.

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.



Plate 1- LEPO classification area features a commercial conifer coupe primarily composed of spruce with scattered regenerated birch trees. Grid reference: NH 54983 65851.

5.6 Within the OC, the woodlands primarily consist of commercial conifer plantations, predominantly featuring spruce as the main species. The height of these trees varies, ranging from 5 to 9 m in most areas, with clusters of broadleaved trees of average 3 m found at the edges of the conifer coupes, particularly in wetter regions along riparian zones. Refer to **Plates 2 and 3**.

5.7 An exception is the southernmost area, where a patch of retained woodland presents semi-mature Scots pine, on a rather open canopy given to the level of windblow existing throughout the stand. Trees are reaching approximately 18 m in height, surrounded by a cluster of younger broadleaved species, including oak and birch, which average around 4 m tall. Refer to **Plate 4**.



Plate 2- Small group of broadleaved trees planted on the edge of the Scots pine retention block on the wettest ground. Grid ref: NH 53667 64682.



Plate 3- Commercial conifer plantation averaging 6 m in height, with semi-mature spruce visible in the background, located outside the Proposed Development area. Grid ref: NH 54463 65318.



Plate 4- Southernmost semi-mature Scots pine retained coupe that has experienced heavy windblow throughout. Grid reference: NH 53537 64678.

5.8 Additionally, there is a small area of recently restocked spruce conifer trees, approximately 0.40 cm tall. Refer to **Plate 5**.



Plate 5- Recently restocked plantation with mainly spruce species. Grid ref: NH 54850 65593.

5.9 The site presents soils of the composition of noncalcareous gleys 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.

6.2 Given the composition of the woodlands, which include young, immature conifer trees and the local characteristic of soils, topography and aspect, it is anticipated that the introduction of the OC will not result in future windblow to the adjoining woods. In the southernmost section, the retained Scots pine, some exceeding 18 m in height, has been assessed and identified as potentially vulnerable to future windblow. However, the existing extent of windblow across the stand has created areas of open canopy, which allows the OC to be routed through sections already impacted. This strategic alignment helps to minimise additional windblow risk and disturbance to the remaining woodland structure.

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.

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

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"

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)

- 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 potential impact of the Proposed Development on the viability and continuity of woodland management has been assessed. The affected area lies within a broader commercial conifer woodland. While the OC intersects several woodland compartments at South Clare wood and may slightly affect the implementation of forest operations and ongoing management, its alignment through central sections, where established access infrastructure exists on both sides, helps to maintain overall operational accessibility. As a result, no significant fragmentation or isolation of woodland units is anticipated.
- 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.

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	17.26
Access track corridor	Temporary	Conifer plantation	0.64
Equipotential Zone (EPZ) Pulling Positions	Temporary	Conifer plantation	0.97

Table 9.2: Compensatory planting

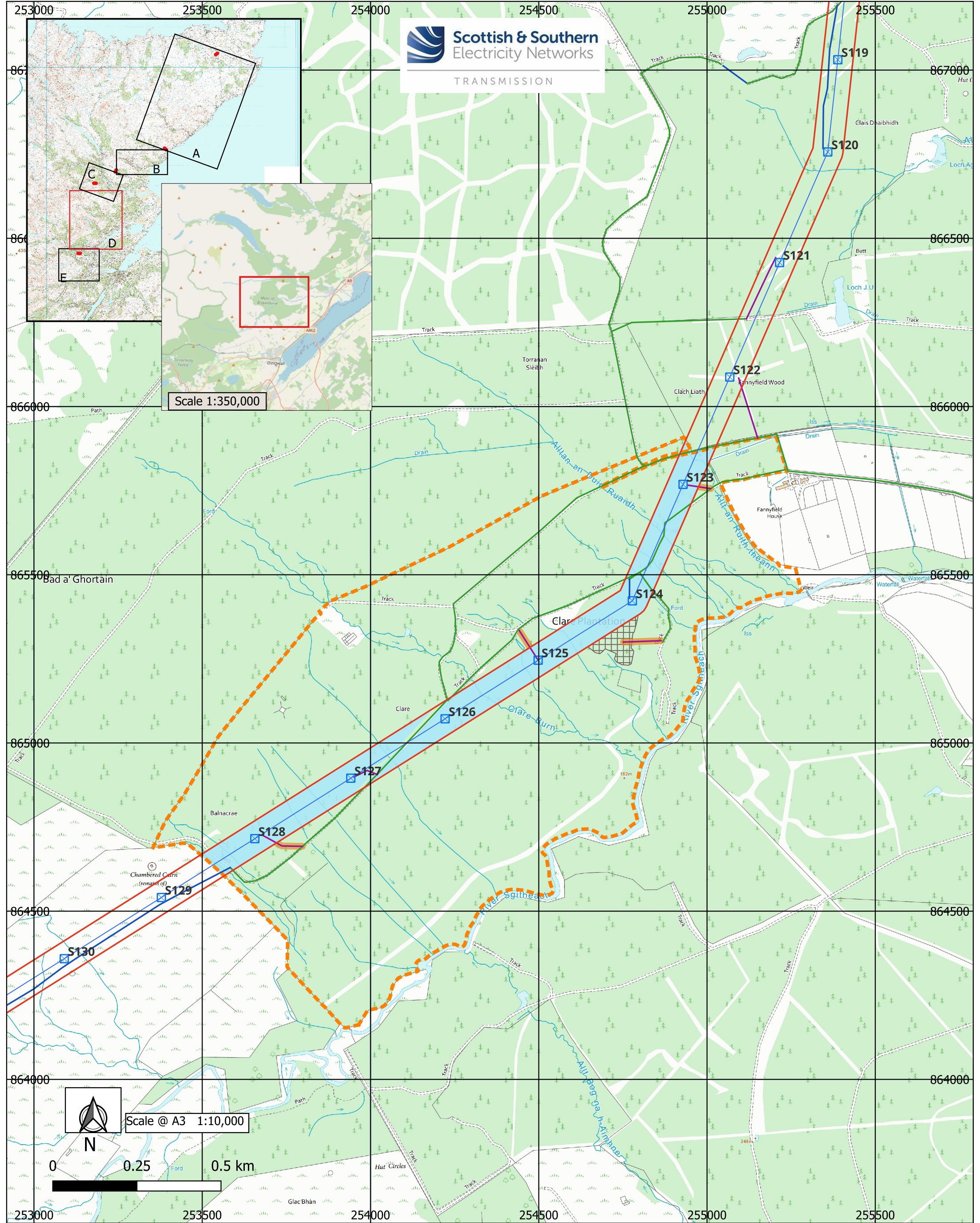
Compensatory Planting Area	18.87
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Table 9.3: Woodland Removal Impact of Infrastructure

Item	Woodland type	Area (ha)
Total Loss of Woodland Area	Conifer plantation	18.87
Total Compensatory Planting Area off-site	Conifer plantation	17.26
Total Restocking/ Replanting Area on-site	Conifer plantation	1.61
Total Net Loss of Woodland Area		0

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

Sections OHL

Central line Operational Corridor

Proposed 400kV OHL Towers

20m Access Corridor

Access Tracks- Existing Upgrade

Access Tracks- New Stone Perm

Access Tracks- New Stone Temp

HLP/EPZs buffer

Conifer woodland- Operational Corridor 90m

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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-South Clare Wood

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