

**Spittal to Loch Buidhe to Beauly 400  
kV OHL Connection**

**Environmental Impact Assessment**

**Volume 5, Appendix 13.1 – AC:**

**Woodland Reports**

**Kinloch**

**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 Beauly 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 Kinloch Wood is a privately owned woodland located approximately 2 km west of Strathpeffer village. The nearest public road is the A834, which runs through Strathpeffer and to the south of Kinloch Wood, with the closest access via a categorised U road leading to Loch Kinellan, east of the Proposed Development. Within the site, an existing access track and infrastructure network provide access to

Towers S159 to S163, all within the Proposed Development. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.

3.2 Kinloch property is situated at the central grid point NH 46276 58465.

## 4. 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 Kinloch property extend from a few metres south of Tower S158, which is just outside the ownership, to 200 m south of Tower S163.
- 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 strategies<sup>1</sup>.

### 4.2 Access Track Route Design

- 4.2.1 An existing infrastructure network within the property provides access to various areas of the woodlands and is in proximity to the Proposed Development

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<sup>1</sup>As 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).

features; however, new sections of both temporary and permanent access tracks will be constructed within and outside the OC. Sections of both temporary and permanent roads will be constructed, within and outside the OC.

- 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**, to service the Towers S159 to S163.
- 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 and broadleaved woodlands, 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

5.1 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<sup>2 3</sup>:

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

5.3 The woodland is located on a small hill approximately 500 m west of Loch Kinellan, at the base of the Torrachilty Forest and the Ben Wyvis Mountain range. Within this landscape, the Proposed Development passes through mixed broadleaved and coniferous woodlands, primarily classified as native upland birchwood under the NWSS. These native woodland areas are composed of both productive conifer stands and broadleaved species, with an approximate ratio of 40% conifers to 60% broadleaves, mainly birch.

5.4 South of the OC, this mixed species woodland structure is more prominent, while the northern section is characterised by broadleaved upland birchwood interspersed with open ground, reflecting wetter, more moss-dominated conditions.

5.5 These areas identified in the NWSS comprise a mix of semi-mature conifers of species Scots pine, lodgepole pine, and Sitka spruce, alongside birch. Although

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

<sup>3</sup> 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.

classified by the NWSS as upland birchwood, the conifer species present are thought to be a mix of planted and regenerated conifer woodlands. The area displays a close-knit mix of coniferous and birch trees, contributing to a diverse and varied woodland ecosystem. Refer to **Table 5.1**.

<b>Table 5.1: Woodland Designations</b>			
<b>Item</b>	<b>Type of Infrastructure</b>	<b>Woodland Designations</b>	<b>Area (ha)</b>
Operational corridor	Permanent	NWSS- Native woodland	8.74
Access track corridor	Permanent	NWSS- Native woodland	0.39
	Temporary	NWSS- Native woodland	0.32
Equipotential Zone (EPZ) Pulling Positions	Temporary	NWSS- Native woodland	0.41
Management Felling*	Temporary	NWSS- Native woodland	0.84

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

5.6 Within the OC and towards the south of Kinloch, the landscape is predominantly a conifer mix, primarily Scots pine and lodgepole pine, averaging 14 m in height, mixed with broadleaves, mainly birch, at a lower average height of 6 m. These coupes vary in age class, ranging from semi-mature to pole-stage stands, with patches of younger conifers. While natural regeneration is limited, early signs of spruce regeneration are becoming evident. Refer to **Plate 1**.





Plate 1- A semi-mature conifer coupe dominated by Scots pine and lodgepole pine, interspersed with young birch. Grid ref: NH 46369 57756.

5.7 These coupes feature a relatively open canopy due to the mix of age classes within each stand. Semi-mature conifers form the upper canopy, while a secondary layer of broadleaves, predominantly birch, dominates the lower canopy. The understorey is scattered with newly regenerated Sitka spruce, birch, and willow, with the latter especially on the wet ground, creating a varied and dynamic woodland landscape. Minor element of regeneration observed in the conifer-dominant stands.

5.8 Within the more conifer-dominant coupes in the southern section of the OC within Kinloch Forest, patches of stunted spruce growth are frequently encountered within the mix, adding to the structural diversity of the woodland. Refer to **Plate 2**.





Plate 2 – A Patch of stunted Sitka spruce amongst a mix of conifer-dominated stands. Grid ref: NH 46340 58068.

5.9 On the northern side of the OC within Kinloch Forest, the landscape is more broadly dominated by birchwood, where most of the native woodland classification is found.

5.10 These woodlands are primarily in a pole-immature stage, with birch averaging 8 m forming the dominant canopy, accompanied by scattered holly and willow in shrub form. Conifer regeneration is also present, mainly from Scots pine, with a minor component of Sitka spruce. Scattered Scots pine trees can emerge as prominent features, reaching an average height of 16 m. The varied age classes and species composition, shaped by multiple regeneration cycles, create a semi-open canopy with approximately 50% cover in most coupes. Refer to **Plates 3 and 4**.



Plate 3– Open upland birchwood with scattered semi-mature Scots pine throughout and spruce. Grid ref: NH 46495 58740.



Plate 4- Upland birchwood with semi-mature trees and Scots pine and Sitka spruce established regeneration on the background. Grid ref: NH 46220 58246.

- 5.11 Within the areas affected by new roads, the woodland characteristics are similar to the OC, with the mix of conifer and broadleaves as explained above. Most of those areas are also classified as native woodland as per NWSS.
- 5.12 A total of 8.74 ha within the OC are classified as native woodlands. However, there is no clear distinction between these areas and those not classified as native woodlands, as the woodland composition is seamlessly blended throughout the OC, sharing similar characteristics.
- 5.13 The site presents peaty gleyed soils with shallow rooting being mostly cool and moist.<sup>4</sup>

## 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 the woodland unthinned with mixed conifer stands, some of which are reaching maturity, with tree height average of 14 to 16 m, and the local characteristic 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)<sup>5</sup> windblow hazard class score of 12, 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**.

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

<sup>5</sup> Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, "Forest Gales software programme" and Forestry Commission Leaflet 85 "Windthrow Hazard Classification"



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 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”.<sup>6</sup>

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 comprises approximately half of the woodland within the Kinloch property. The Proposed Development's OC intersects several woodland compartments, primarily in the western portion, where access is easier due to existing tracks. As a result, forest operations and ongoing management are expected to be minimally affected, although some small (<1.0 ha) areas may become isolated.

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<sup>6</sup> 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)

7.6 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 Mitigation to reduce the extent of tree felling within the OC will be considered and incorporated in areas of broadleaved woodlands as part of the Proposed Development. Refer to **Section 13.5.3** Good practice and **Section 13.7.1** Mitigation within **Volume 2, Chapter 13: Forestry**. This includes effects to the broadleaved trees on the northern area of Kinloch wood. 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 have 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	Broadleaved woodland	4.22
		Conifer woodland	6.68
Access track corridor	Permanent	Broadleaved woodland	0.17
		Conifer woodland	0.25
	Temporary	Conifer woodland	0.07
Equipotential Zone (EPZ) Pulling Positions	Temporary	Broadleaved woodland	0.40
		Conifer woodland	0.43

**Table 9.2: Compensatory planting**

Compensatory Planting Area		12.22
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**Table 9.3: Woodland Removal Impact of Infrastructure**

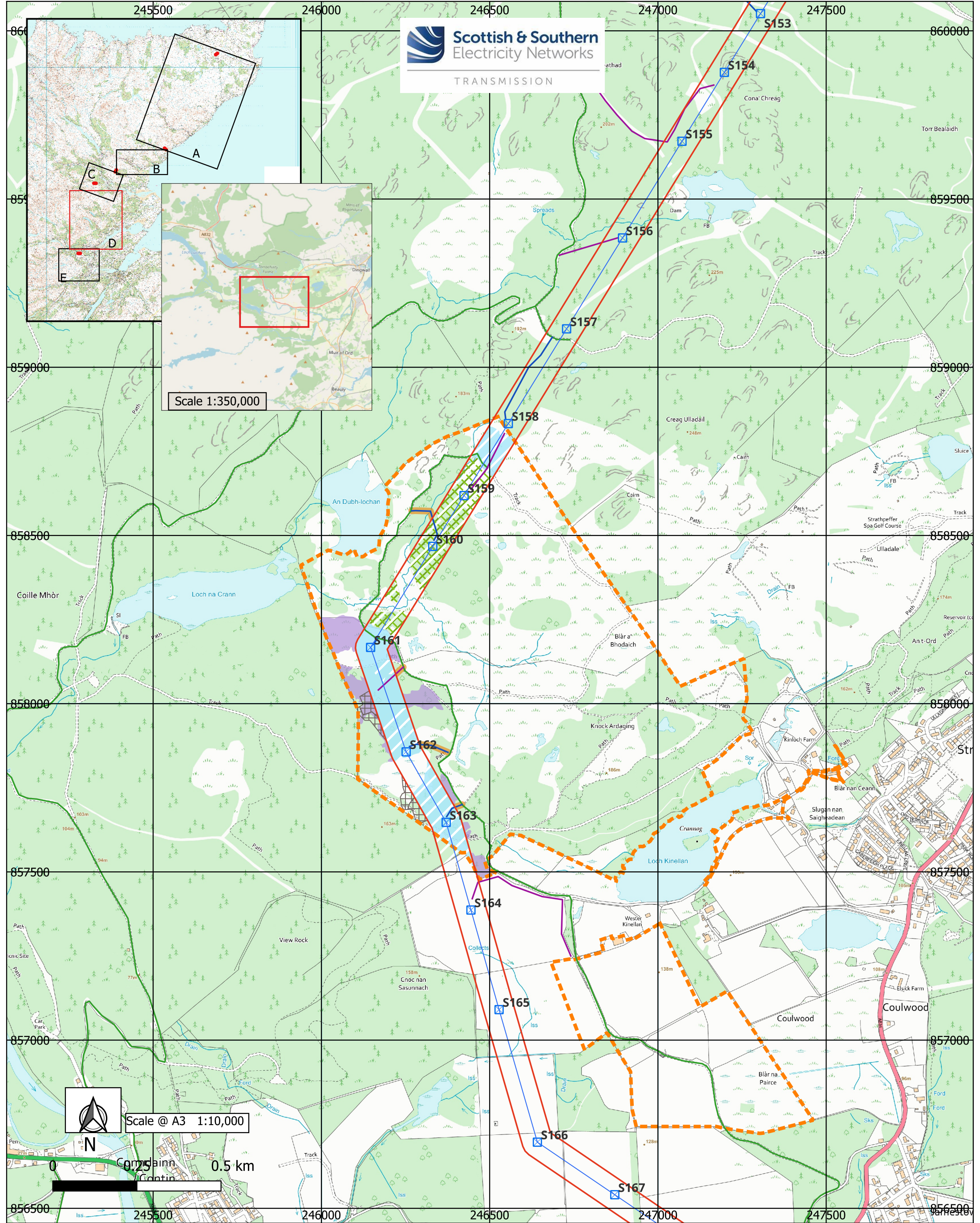
Item	Woodland type	Area (ha)
Total Loss of Woodland Area	Conifer	7.43
	Broadleaved woodland	4.79
Total Compensatory Planting Area off-site	Conifer	6.93
	Broadleaved woodland	4.39
Total Restocking/ Replanting Area on-site	Conifer	0.50
	Broadleaved woodland	0.40
<b>Total Net Loss of Woodland Area</b>		<b>0</b>

Table 9.4: Woodland Removal for Management Felling			
Item		Woodland type	Area (ha)
Management Felling	Temporary	Conifer woodland	2.90
Replanting / Restocking	Adhere to Forestry and Land Management (Scotland) Act 2018.	Conifer woodland	2.90
Net Loss of Woodland Area			0
Note: Felling approval is via Scottish Forestry Felling Licence Application process or Long-Term Forest Plan application or 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**.





Scale 1:350,000

Scale @ A3 1:10,000

- Legend**
-  Landownership boundary/parcel
  -  Proposed 400kV OHL Towers
  -  20m Access Corridor
  -  Access Tracks- Existing Upgrade
  -  Access Tracks- New Stone Perm
  -  Access Tracks- New Stone Temp
  -  NWSS- Native woodland
  -  Conifer woodland- Operational Corridor 90m
  -  Broadleaved woodland- Operational Corridor 90m
  -  Management Felling
  -  HLP/EPZs buffer

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