Scottish & Southern Electricity Networks

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5, Appendix 13.1 – A:

Woodland Reports

Banniskirk Wood

July 2025

Scottish & Southern Electricity Networks

Contents

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 Banniskirk Wood is affected by the Proposed Development throughout the entire woodland block. It is situated approximately 5 km south of Halkirk village, located 600 m east of the A9 public road.

3.2 The affected woodland within this property consists of coniferous and broadleaved mix woodland. The central point grid reference is ND 16396 56424.

3.3 The woodland block shares access to Banniskirk Quarry from the major road A9, a few metres northeast of Banniskirk woodland. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.

4. Development Requirements

4.1 400 kV Operational Corridor

4.1.1 With reference to **Figure 1: Woodland Impacted by the Proposed Development**, the Overhead Line (OHL) sections relevant to Banniskirk extend from Tower N1 to Tower N5.

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[1].

4.2 Access Track Route Design

4.2.1 The existing road within the property provides access to the edge of the woodland as it leads to Banniskirk Quarry. While it is near the Proposed Development OC, new sections of permanent access tracks will be constructed both within and outside the OC. These access tracks will serve as the primary vehicle access route for the Proposed Development, and will undergo maintenance and upgrades as part of the construction scope.

4.2.2 New access tracks will be built to service Towers N1 to N5. Refer to **Figure 1: Woodland Impacted by the Proposed Development.**

[1] 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).

4.2.3 The construction of these new access tracks will not contribute to additional woodland removal, as they are located outside areas of woodland.

4.2.4 These access tracks will serve as the main arterial construction route. Tree felling and timber extraction will be able to utilise existing tracks, prior to any construction activity.

4.2.5 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)

[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.

5.3 The OC passes through Banniskirk Wood, a coniferous plantation predominantly composed of spruce, with a minor presence of broadleaved trees, primarily sycamore. Refer to **Table 9.1** and **Plate 1**.

5.4 There are no woodland classifications or designations within this property.

5.5 The conifer component comprises pole-stage spruce trees planted at a medium density relative to typical commercial plantations, forming a structured conifer block interspersed with low-density clusters of sycamore trees. Refer to **Plates 2 and 3**.

5.6 The woodland appears to have been managed for recreational purposes, with evidence of high pruning and regular maintenance, giving it the structured appearance of a grove plantation.

5.7 The pole-stage spruce trees have an average height of 12 m, while the sycamore trees average 3 m in height.

Plate 1- Mixed woodland block consisting of spruce and broadleaved species, planted in distinct species groups. The spruce trees are significantly taller, averaging 12 m in height, while the sycamore, the dominant broadleaved species, reaches an average height of 3 m. Grid reference: ND 16395 56407.

5.1 The site soils are predominantly peaty gleys[4].

[4] Scottish Government's Scotland's soils website https://soils.environment.gov.scot

Plate 2- Pole-stage conifer block composed of spruce, planted at a medium to low density. The trees have developed extensive lateral branches, resulting in a broad crown structure, with canopy projections reaching up to 6 m in diameter. No understorey development is present. Grid reference: ND 16328 56418

Plate 3- Broadleaved block primarily composed of sycamore trees. The trees have been actively managed, with high pruning operations carried out in the last few years. They are planted at low densities and reach an average height of 3 m. Grid reference: ND 16393 56452.

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 characteristics of the woodlands, comprising low-density, pole-stage conifer stands with an open canopy, stable conifer trees, and scattered broadleaved groups, along with the local soil conditions, topography, and aspect, the introduction of the OC is not expected to result in future windblow affecting the adjoining woodland area.

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[5] windblow hazard class score of 15, classified as moderately exposed. The site presents mineral soils with shallow rooting.

7. Woodland Management Impact

7.1 The OHL alignment might create additional challenges for the future management of the forest as it dissects an existing single management coupe 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 OHL alignment 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.

[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)

7.3 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**.

7.4 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.

7.5 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.

7.6 The impact of the Proposed Development on the overall viability and continuity of woodland management has been assessed. Forest management at Banniskirk Woodland is not expected to be significantly affected, as only one woodland block is partially intersected by the OC, with good access on either side of the OC. This is unlikely to hinder forest operations or ongoing management, particularly as the affected coupe is managed primarily for amenity rather than commercial purposes.

7.7 The impacts arising from the Proposed Development are not anticipated to affect the wider woodland management regime on this woodland, 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**. The Applicant will be using a process of ‘managed resilience’ which will seek to retain naturally regenerated broadleaf trees and shrubs as close as possible to the line to keep as much tree cover as possible.

8.2 Smaller and lower growing tree species and shrubs are able to be retained closer to the line. OHL vegetation maintenance would take place on a 4-yearly cycle as required.

8.3 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

8.4 Before the construction phase, these areas 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.

8.5 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 **Table 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.

8.6 Impacts on tree windfirm stability within the remaining crop have been assessed and considered as noted in **Section 6**. Woodland loss has been minimised through retention of crops identified as likely to be windfirm.

8.7 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	2.57

Table 9.2: Compensatory planting

Compensatory Planting Area		2.57

Table 9.3: Woodland Removal Impact of Infrastructure

Item	Woodland type	
Total Loss of Woodland Area	Conifer woodland	2.57

Total Compensatory Planting Area off-site	Conifer woodland	2.57
Total Restocking/ Replanting Area on-site		0
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.**

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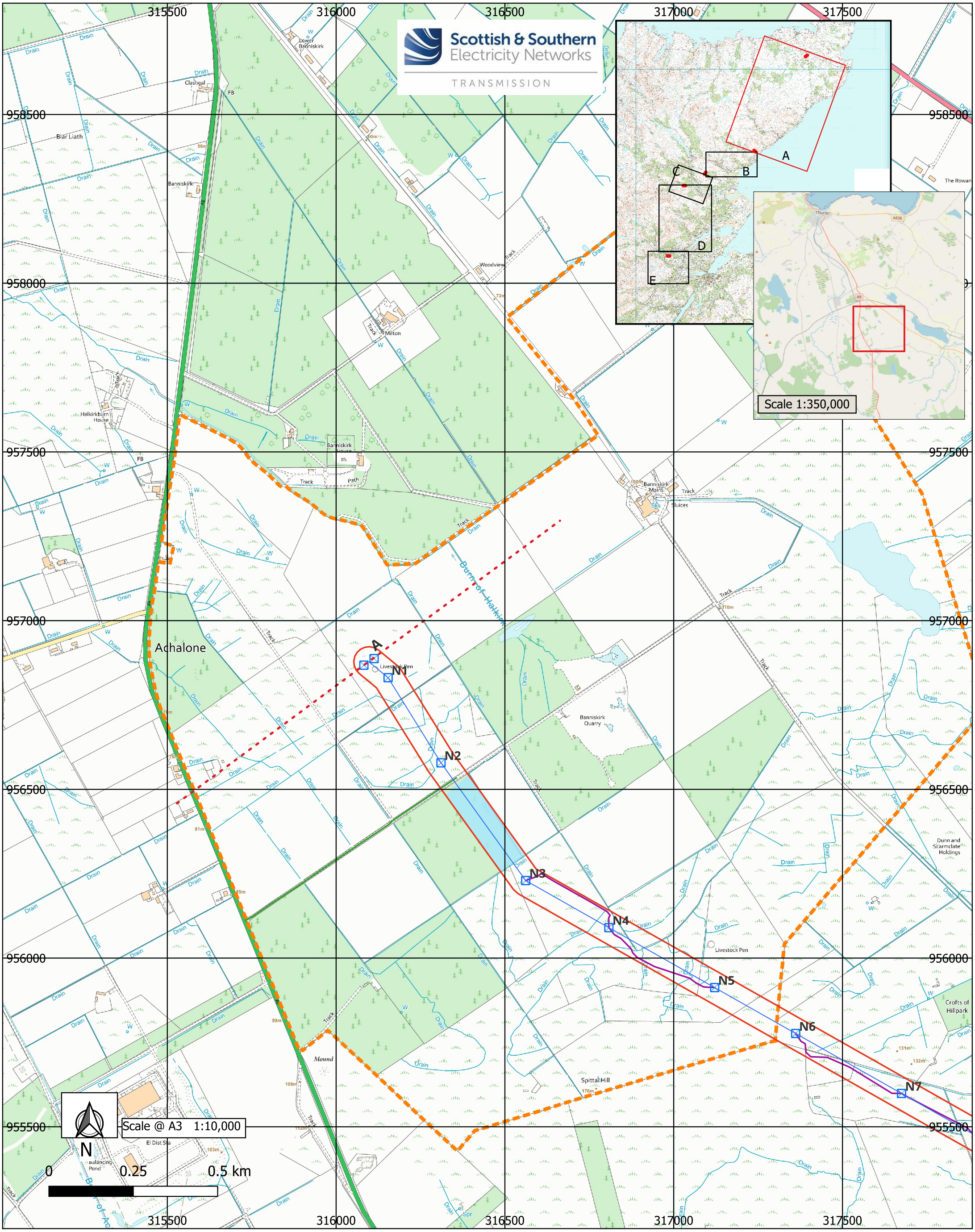
TRANSMISSION



Legend

- Landownership boundary/parcel
- Sections OHL
- Operational Corridor
- Central line Operational Corridor
- Proposed 400kV OHL Towers
- Access Tracks- Existing Upgrade
- Access Tracks- New Stone Temp
- Conifer woodland- Operational Corridor 90m

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

Ref No: 01-07-2025