

**Spittal to Loch Buidhe to Beauly 400
kV OHL Connection
Environmental Impact Assessment
Volume 5, Appendix 13.1 – T:
Woodland Reports
Estate of Balnagown**

July 2025



Contents

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

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 The woodlands within Balnagown estate, specifically those at Culeave, are privately owned. They are located in the Strathcarron Glen along the River Carron, approximately 4.5 km west of Ardgay. The nearest major road is the A836.
- 3.2 The woodland area within Balnagown estate affected by the Proposed Development consists of three small individual blocks separated by physical barriers such as a watercourse and a minor classified C-road, as well as being interspersed with grass fields. They are situated on relatively flat ground at an elevation of approximately 30 m above sea level. The central grid reference for the property is NH 55594 91168.

3.3 Access to the Balnagown woodlands is provided via the local public road located north of the River Carron. The Proposed Development crosses the River Carron, with the OC extending from north to south at Culeave. 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 13.4 (EIAR Volume 2)**, the sections of the Overhead Line pertinent to Balnagown are situated between Towers S38 and S39, both of which are located outside this ownership.
- 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 The c-class road north to the River Carron provides access to woodlands on either side of this road.
- 4.2.2 No new access construction or improvements to existing tracks are anticipated within the Balnagown Estate ownership as illustrated in **Figure 1: Woodland Impacted by the Proposed Development**.

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).

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 woodlands within this ownership are situated on relatively flat ground, surrounded by grass fields and exhibiting a slightly dominant south-facing aspect. In this landscape, the Proposed Development passes through semi-natural broadleaved woodlands along the riparian zone of the River Carron, as well as on the drier, elevated areas nearby.

5.4 These woodlands do not fall under any woodland designation or classification.

5.5 The woodland block near the River Carron features semi-mature birch trees, with scattered birch averaging 9 m in height and willow regeneration in shrub size found in the open gaps. These trees are spaced along the riverbank, adjacent to neighbouring woodlands. Additionally, gorse is commonly found in the open ground of this southern area. Refer to **Plate 1**.

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- Broadleaved woodland north of River Carron and south to the public road. Grid reference: NH 55582 90965.

5.6 The other two woodland blocks are similar in composition, featuring semi-mature birch trees interspersed with minor elements of other species such as aspen, beech, and oak. These trees average 12 m in height and are surrounded by fences to protect them from grazing by animals in the adjacent fields. Refer to **Plate 2**.



Plate 2- Broadleaved coupes consisting of biologically semi-mature trees of mixed species, averaging 12 m in height. This photograph was taken from the c-class road north of the River Carron. Grid reference: NH 55594 91168.

5.1 The site presents soils composed of alluvial soils and peaty and mineral components.⁴

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

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 nature of the woodland, their shape and size within this ownership and the local characteristic of topography and exposition, it is anticipated that future windblow may not impact the surrounding woodlands due to the creation of the 90 m wayleave for the overhead line (OHL).

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)⁵ windthrow hazard class score of 11, classified as low. The site presents mineral soils with shallow rooting being 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

7.2 While the OC will result in the sterilisation of some woodland areas, this is not expected to impact forest restructuring. This is due to the fact that native woodlands are generally not subject to commercial management. Opportunities for mitigation and woodland enhancement are outlined in **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.

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)

- 7.4 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 areas comprise isolated blocks of broadleaved woodland that fall entirely within the width of the OC. As such, if these woodlands are to be felled, future management would not be significantly affected. The creation of the OC is not expected to affect the management of other nearby woodland areas, and overall woodland management will remain unaffected.
- 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**. 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 9.1 to 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 of stability within the remaining crop have been assessed and considered as noted in **Section 6**.

8.6 Impacts of stability within the remaining crop have been assessed and considered as noted above.

9. Woodland Removal Impact

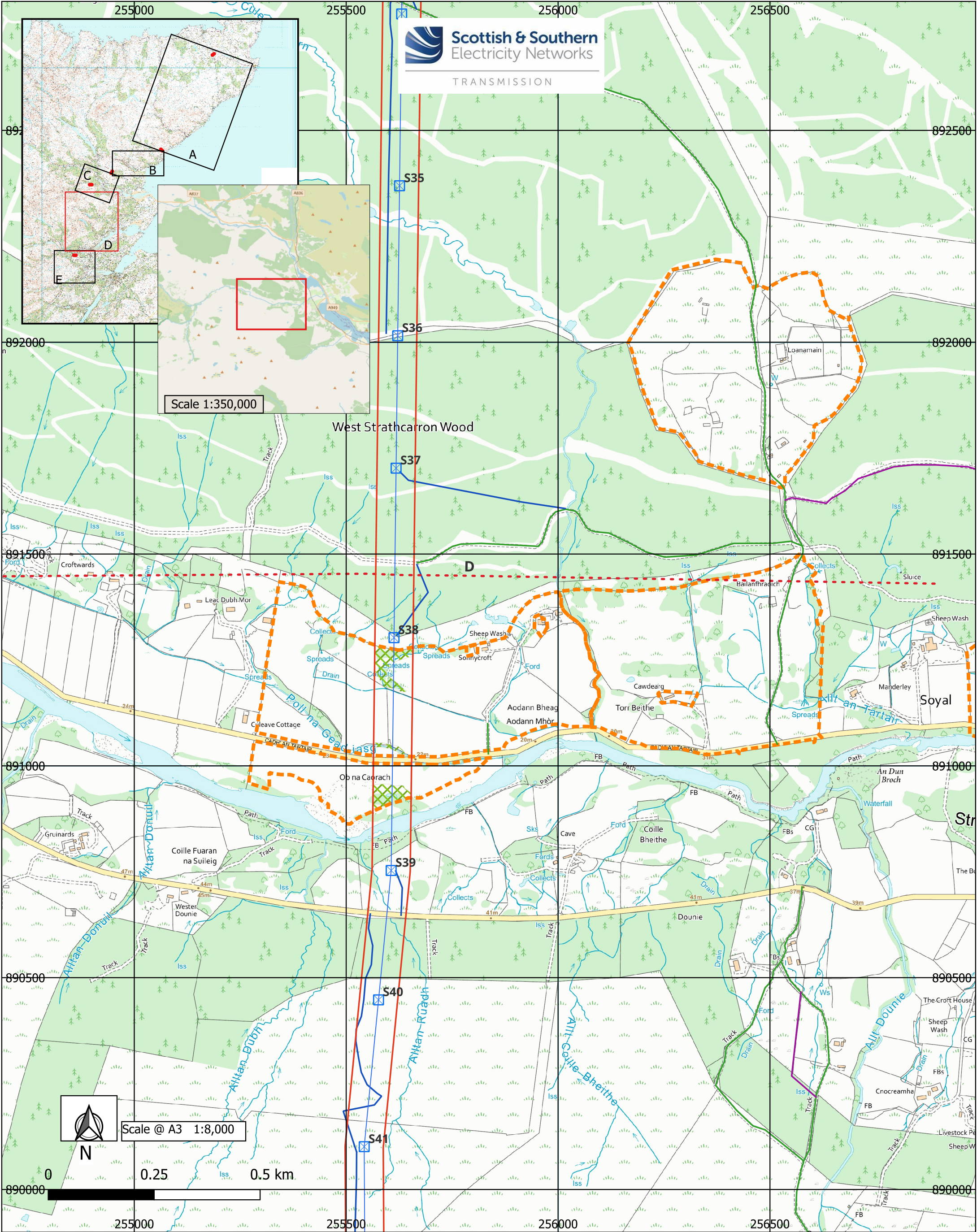
Table 9.1: Woodland Removal for Infrastructure			
Item	Type of Infrastructure	Woodland type	Area (ha)
Operational corridor	Permanent	Broadleaved woodland	0.96

Table 9.2: Compensatory planting		
Compensatory Planting Area		0.96

Table 9.3: Woodland Removal Impact of Infrastructure		
Item	Woodland type	Area (ha)
Total Loss of Woodland Area	Broadleaved woodland	0.96
Total Compensatory Planting Area off-site	Broadleaved woodland	0.96
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
- Operational Corridor
- Central line Operational Corridor
- Proposed 400kV OHL Towers
- Broadleaved woodland- Operational Corridor 90m
- Access Tracks- Existing Upgrade
- Access Tracks- New Stone Perm
- Access Tracks- New Stone Temp

Reproduced by permission of Ordnance Survey on behalf of HMSO.
Crown copyright and database right (2025) all rights reserved.
Ordnance Survey Licence Number 0100022432

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