Scottish & Southern Electricity Networks
TRANSMISSION

Beauly to Blackhillock to New Deer to Peterhead 400 kV Project

Environmental Impact Assessment Report

Volume 5 | Appendices

Appendix 12.1.107: Woodland Report Parcels 2012 & 2458, South Balnoon Woods

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Appendix Figures

1 Introduction

1.1.1 This Appendix presents information relevant to the Beauly to Blackhillock to New Deer to Peterhead 400 kV Overhead Line (OHL) Project (the Proposed Development). It should be read in conjunction with the Environmental Impact Assessment (EIA) Report, specifically **Chapter 12: Forestry**, for full details of the Proposed Development.

1.1.2 As part of the EIA, it has been identified that construction of the Proposed OHL Alignment and the associated access tracks would cross several woodland areas within private or publicly owned landholdings.

1.1.3 This woodland report has been prepared to assess the potential impacts of the Proposed Development on Balnoon Woods, Parcels 2012 and 2458. It includes the requirements for woodland removal and management recommendations to mitigate the impact of the woodland removal. The report provides an overview of the characteristics of the affected woodland, including woodland composition, site conditions, soil conditions, exposure levels and existing felling approvals. The report also provides details of existing infrastructure, and potential constraints related to forestry operations. It aims to inform decision-making by identifying key environmental and logistical considerations associated with the Proposed Development. Additionally, it evaluates the feasibility of timber extraction and access whilst highlighting necessary mitigation measures to minimise disruption to the woodland ecosystem and surrounding landscape.

1.1.4 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 quantity in hectares (ha) to be compensatory planted to ensure no net loss of woodland is achieved.

2 Woodland property

2.1.1 The landholding property boundaries are identified in **Figure 12.1.107a: Parcels 2012 and 2458 Location Map**. South Balnoon Woods, Parcels 2012 and 2458, (NJ 646351 428811) are situated along the Whin Burn, on the unclassified Balnoon to Denmoss road approximately 6.9 km northeast of Huntly in the Aberdeenshire council district.

2.1.2 The B9024 is situated to the north of the woodlands, serving as a key access route.

3 Development Requirements

3.1 400 kV Overhead Line Infrastructure Requirements

3.1.1 The Study Area for this assessment initially focussed on a 100 m width either side of the centreline of the Proposed OHL Alignment and ancillary infrastructure, where relevant, prior to the identification of an Operational Corridor (OC). The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of the safe construction, resilience, and continued maintenance of OHLs, or protection of electrical plant as required by the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002[1] and the Electricity Act 1989[2]. The OC is defined based on two different factors as follows:

[1] UK Gov (2002). The Electricity Safety, Quality and Continuity Regulations 2002. Available at: The Electricity Safety, Quality and Continuity Regulations 2002
[2] UK Gov (1989). Electricity Act 1989. Available at: Electricity Act 1989

- The first factor in which the OC is determined is with reference to the distance at which a tree could fall and cause damage to the OHL, resulting in a supply outage. As a result, the OC width would be based on the safety distance required to allow for a mature tree falling towards the OHL at the mid-point on an OHL span between two towers, taking account of topography and tree height at maturity. Standard falling distance for a mature conifer tree is considered to be a minimum of 45 m. Where the OC passes through areas of broadleaved woodland, it is noted that the width of woodland removal is likely to be reduced, due to the general lower height and characteristics of the tree species present.
- The second factor that is considered is the maximum distance that the OHL conductors can blow out from the tower under a 1 in 50-year return period wind condition, plus the required electrical clearance distance. This is to ensure that the OHL conductors do not come into contact with, or come close enough to, any object that could result in an electrical clearance infringement. This conductor blowout distance varies between each tower dependent on span length and must therefore be considered on a span-by-span basis.

3.1.2 The typical OC required within areas of commercial conifer forestry for a 400 kV OHL is 90 m (i.e. 45 m either side of the centre line). Where the OC passes through areas of broadleaved woodland, it is proposed that the extent of woodland removal is likely to be reduced due to the lower height of the tree species present. The OC for the Proposed OHL Alignment through areas of broadleaved woodland has been reduced to 70 m (i.e. 35 m either side of the centre line of the OHL). This has been based on the likely height of the woodland at maturity. Where any woodland removal within the OC is proposed to be reduced from the 45 m either side of the line, a site-specific assessment must be carried out to confirm that the conductor blowout does not exceed the OC width. If the conductor blowout exceeds the OC, then the width of the OC must be increased to meet the requirements of the blowout assessment as a minimum. This will ensure compliance with ESQCR requirements and that the required safety clearances are maintained.

3.1.3 A resilient OC of 70 m in width is required throughout the native woodland and 90m within the commercial woodlands within Woodland Parcels 2012 and 2458 taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.107b: Parcels 2012 and 2458 Proposed Felling Requirement**.

3.2 Access Track Route Design

3.2.1 Permanent access tracks between towers between BN4-11 and BN4-12 and BN4-13 to BN4-14 are proposed within the OC of the Proposed OHL Alignment. Temporary access tracks to towers BN4-10 and BN4-11 will be created from existing farm roads and the unclassified Balnoon to Denmoss road, these are out with the OC.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

4.1.1 The woodland parcels 2012 and 2458 were surveyed in January 2025. The woodland is managed by Forestry and Land Scotland (FLS) under a Long Term Management Plan (LMP 33). South Balnoon was purchased by FLS in the early 2000's and planted in 2008 & 2009 with productive conifers and broadleaves, including an experiment with short rotation forestry.

4.1.2 Within the OC between towers BN4-11 and BN4-12 lies a mature conifer-dominated field edge, forming part of an overgrown shelterbelt. The primary species present include Norway spruce (NS), along with scattered Sycamore (SYC) and Downy birch (DBI). This linear woodland feature was originally established to provide shelter from prevailing winds and to act as a boundary planting. Over time, the shelterbelt has become unmanaged and is now showing clear signs of windthrow and structural instability. The NS, in particular, appears vulnerable due to shallow rooting on exposed ground, leading to partial canopy collapse in some sections. The deteriorating condition of this stand may present operational challenges and will require careful consideration during vegetation management and any clearance works.

4.1.3 Between towers BN4-12 and BN4-13, the north-western boundary of the OC intersects a remnant area of mature native woodland, identified as Long Established Plantation Origin (LEPO) within the NatureScot Ancient Woodland Inventory (AWI)[3]. This designation indicates that the site has been continuously wooded since at least the 18th century, though subject to historic management or planting interventions. As such, it holds both ecological and cultural significance.

4.1.4 The woodland composition is typical of upland native and semi-natural woodland types, comprising predominantly Scots pine (SP), DBI, and scattered Larch (L). The structure is varied, with mature specimens providing vertical complexity and some evidence of natural regeneration contributing to a layered woodland profile.

4.1.5 As the OC extends southeast toward tower BN4-13, the woodland transitions into more open upland habitat. This area is characterised by open moorland with scattered young regeneration of SP and DBI, indicating gradual woodland encroachment onto previously open ground. These younger trees are naturally establishing across the moor, likely benefiting from reduced grazing pressure and seed source proximity.

4.1.6 Between towers BN4-13 and BN4-15, the OC passes through a semi-mature conifer plantation established in 2008. The plantation is composed primarily of Sitka spruce (SS), NS, and L forming a dense, single-age stand that has not yet undergone thinning. The absence of thinning has resulted in a relatively uniform canopy with limited structural diversity and minimal ground flora, due to the low levels of light reaching the forest floor.

4.1.7 Along the margins of the plantation, there is a transitional belt of broadleaved species. This fringe includes Sessile oak (SOK), SYC, and DBI. These broadleaves were likely planted as part of a short rotation forestry scheme. While they may also serve to soften the visual impact of the conifer block and offer limited ecological buffering, their origin and management context differ from that of long-term native woodland planting.

4.1.8 The Detailed Aspect Method of Scoring (DAMS) score is showing a maximum of 13[4], indicating moderately exposed.

4.1.9 The Ecological Site Classification[5] identifies the site as having a cool, moderately exposed, and moist climate. The soils have a slightly dry moisture status and very poor nutrient status.

4.1.10 The National Soil Map of Scotland[6] indicates, the predominant soil type within the affected areas consists of mostly humus-iron podzols with some brown earths, peaty gleys, peaty podzols and peat. The presence of these soils suggests that the area may experience challenges related to tree stability and growth, particularly in wetter conditions.

4.1.11 The forest in parcel 2458 do not appear in the Scottish Ancient Woodland Inventory.

[3] The Scottish Ancient Woodland Inventory. Available at:https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi
[4] Forest Research (2025). Available at: http://www.forestdss.org.uk/geoforestdss/
The Detailed Aspect Method of Scoring (DAMS) is a system used to assess wind exposure in forestry and land management. It provides a numerical score that quantifies the level of exposure a site experiences based on factors such as elevation, topography, and aspect (the direction a slope faces). The DAMS score helps foresters predict wind risk, which is crucial for understanding tree stability, growth potential, and the likelihood of windthrow (trees being uprooted or broken by wind) The scoring system ranges from 0 to 24, with higher scores indicating more exposure to wind.
[5] Ecological Site Classification. Available at: http://www.forestdss.org.uk/geoforestdss/
[6] Scottish Government (2024). Available at: https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/

4.1.12 The forest does not appear in the Native Woodland Survey of Scotland[7].

4.1.13 The proposed section of OHL consists of a section of OC between towers BN4-9 and BN4-15.

4.1.14 The closest public road suitable for access within the ownership is B9024 to the northwest, this is classed as a Consultation Route by the Timber Transport Forum[8]. Access to the site will need to be taken along the existing forest roads from the unclassified Balnoon to Denmoss road. Considering the quality and quantity of the material operations can be carried out by a combination of hand felling / mulching.

4.2 Photo Record – Operational Corridor Assessment

4.2.1 The following photographs provide a visual record of key locations along the OC. Each image illustrates existing vegetation types, land use, and notable landscape features relevant to the planning and management of the OC. Particular attention has been given to areas of mature woodland, natural regeneration, and locations where proposed works may intersect with ecologically or visually sensitive habitats. The photos are intended to support site assessments and inform mitigation strategies.

[7] Native Woodland Survey of Scotland. Available at: https://www.forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss

[8] The Timber Transport Forum. Introduction to Agreed Routes Map. Available at: https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/

The Agreed Routes Maps identify the following categories of roads:

- **Consultation Routes**
  Consultation Routes are recognised as being key to timber extraction but are not up to Agreed Route standard. Consultation with the Local Authority is required and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B roads and minor roads that are not categorised should be assumed to be Consultation Routes unless covered by one of the other classifications (e.g. Severely Restricted Route).

Photo 1: View from NJ 637911 430932, looking southeast at tower BN4-11. This image shows the over mature shelterbelt of NS, showing signs of windthrow damage. The stand is now in decline, with clear signs of windthrow and structural instability—particularly evident in the leaning and fallen stems within the mid-ground.

Photo 2: View from NJ 642381 430812, looking northwest toward tower BN4-12. The image shows the mature SP , L, and semi-mature DBI within the LEPO area. The photo illustrates the woodland's character and highlights the need for sensitive management within the OC.

Photo 3: View from NJ 643321 430642, looking south towards tower BN4-13. This image shows the young SP, within the open moorland habitat. The relatively open structure of the woodland, along with the natural age progression of the stand, will reduce any need for additional management felling.

Photo 4: View from NJ 646572 428691, looking west towards tower BN4-14. Showing the broadleaved fringe of planting and the young SS. Again, the relatively open structure of the woodland, along with the natural age progression of the stand, will reduce any need for additional management felling.

Photo 5: View from NJ 646701 428163, looking north into the plantation of young SS. The image captures a relatively uniform stand, established as part of a commercial forestry planting. The trees are at an early stage of

development, with dense spacing and limited canopy closure, typical of young, unthinned conifer blocks. Given the early age of the plantation, the stand does not currently require any additional management felling.

5 Windblow Risk

5.1.1 It is acknowledged that the creation of the OC would result in wider potential indirect effects on the surrounding woodland areas. These areas would be subject to potential increased risk of damage (windblow). Each woodland report identifies further areas of felling to a windfirm edge, defined as 'Management Felling' (categorised as an indirect secondary impact). This is covered in more detail in the Forestry Chapter in **Section 12.4**. Any felling undertaken out with the OC would be solely under the control of the relevant landowner (and not the Applicant). It is the intention of the Applicant to encourage the landowners to follow this good practice in terms of redesign of their current Long-Term Forest Plans, which in-turn would aim to follow UK Forestry Standard (UKFS)[9] for the implementation of the works required.

5.1.2 Considering the age and open grown nature of the species present there is little risk of windblow as a result of the felling of the trees in the OC.

6 Woodland Management Impact

6.1.1 Considering the current land use, it is expected the line will impact the forest management within and surrounding the OC. The OC will reduce the area available for growing productive conifer which will have a lasting impact on the woodland productivity.

[9] Scottish Forestry (2024). Available online at: https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs (accessed 01/05/2025)

6.1.2 The infrastructure built for this section of the OHL could provide a benefit to the landowner for future forest management as it could provide long term access. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s).

6.1.3 The powerline furthermore introduces an electrical hazard, but the constraint associated with the electrical hazard will be reduced by regular maintenance of the OC which will avoid the incidences of "Red Zone" trees (reference FISA 804 "Electricity at Work: Forestry"[10]).

6.1.4 The total loss of NBL woodland resulting from the proposed alignment is 1.46 ha.

7 Mitigation Opportunities

7.1 Woodland Mitigation Measure

7.1.1 There is potential opportunity for compensatory planting out with the OC. This opportunity could be explored with the landowner.

Restructuring

7.1.2 Considering the size of the felling the proposals will have an impact on forest structure. However, the reestablishment of the felled areas as a result of the Proposed OHL Alignment, although large and contiguous, will lead to a different age category in the block.

Restocking

7.1.3 It is anticipated that native broadleaved regeneration is likely to occur within the OC as a result of its proximity to existing seed sources.

8 Net Effect / Summary

8.1.1 **Tables 8.1 to 8.4** outline the operational requirements for forestry management within the OC between towers BN4-9 and BN4-15. They detail the areas designated for clear felling, both within the OC and additional recommended Management Felling outside the OC to address windthrow risks and forest design considerations.

Table 8.1: Woodland removal for Infrastructure, within OC.

Item	Woodland Type	Area (ha)
Operational corridor felling	Native Broadleaved Woodland (70 m)	1.46
Operational corridor felling	Young Conifer Woodland (90 m)	3.24
Total area		**4.69**

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Native Broadleaved Woodland (70 m)	1.46
Compensatory Planting Area	Young Conifer Woodland (90 m)	3.24
Total area		**4.69**

[10] Forest Industry Safety Accord (2020), FISA 804 Electricity at Work: Forestry. Available at: https://ukfisa.com/Safety/Safety-Guides/fisa-804

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	4.69
Total Compensatory Planting Area	4.69
Total Net Loss of Woodland Area	**0.00**

Table 8.4: Woodland removal for Management Felling, outwith OC.

Item	Woodland Type	Area (ha)
Management Felling		0.00
Replanting / Restocking Opportunities		0.00
Net Loss of Woodland Area		**0.00**

9 Compensatory Planting

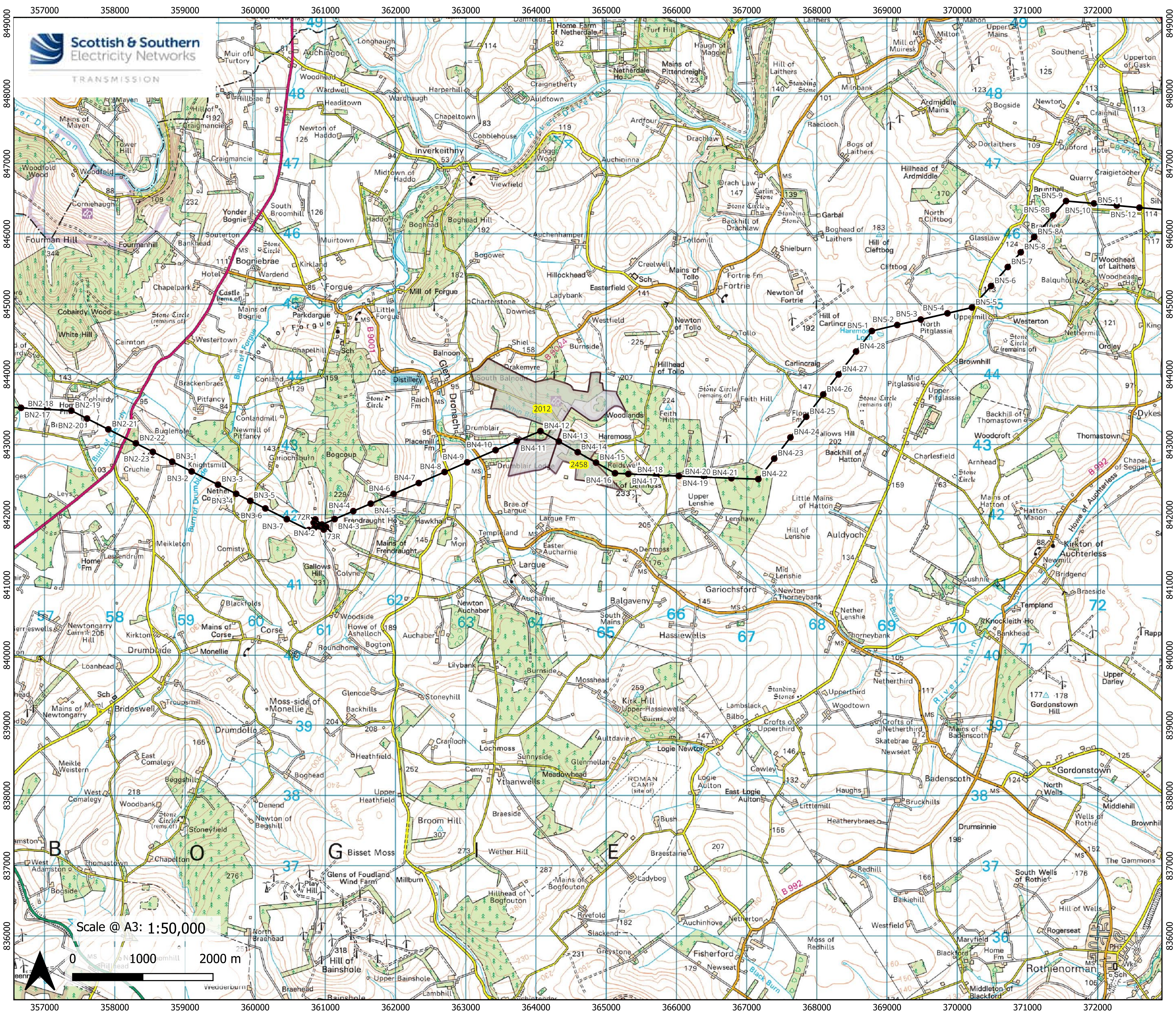
9.1.1 Only areas directly impacted by the OC will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)[11]. This policy ensures that woodland loss due to development is mitigated by appropriate replanting or regeneration efforts, but it specifically applies to areas where tree removal is necessary for the Proposed Development. See **Appendix 12.3 Compensatory Planting Management Strategy**.

9.1.2 Any additional felling outside the OC, such as areas cleared for windthrow management or forest design improvements, falls under the responsibility of the landowner, and is not included in the compensatory planting requirements. Instead, these areas may be replanted under a forest plan revision or felling licence at the landowner's discretion. This approach aligns with national forestry guidelines, balancing infrastructure development with sustainable woodland management.

9.1.3 The total amount of net felling requiring compensation under the CoWRP is 4.69 ha.

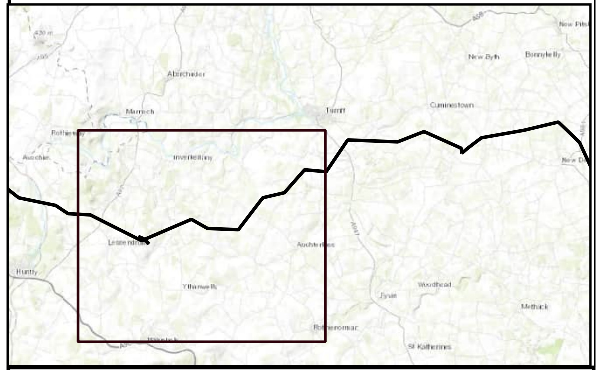
9.1.4 In order to provide a greater balance limiting long-term impacts on forestry interests it is proposed that the majority of this woodland loss is compensated via offsite compensatory planting within the same local authority area. It is proposed that full details of the areas subject to this offsite compensatory planting is notified to Scottish Forestry prior to energising the OHL.

[11] Forestry Commission Scotland (2009). Control of Woodland Removal Policy. Available at: https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal/viewdocument/285



Legend

- ● Proposed Tower - 400 kV
- — Proposed OHL Alignment - 400 kV
- ▨ Landownership Boundary/Parcel



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Project:
Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL Project

Title:
Figure 12.1.107a Parcels 2012 and 2458 Location Map

Drawn by: LA

363000 364000 365000

844000 843000 842000

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BN4-8 BN4-9 BN4-10 BN4-11 BN4-12 BN4-13 BN4-14 BN4-15 BN4-16 BN4-17 BN4-18

2012 2458

Scale @ A3: 1:10,000

0 200 400 600 800 1000 m

Legend

- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- Proposed Conductor Pulling Area (EPZ)
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

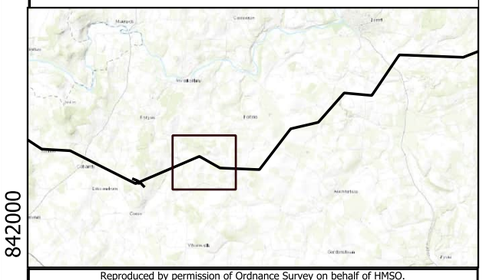
- Existing Access – Upgrade – Good/Fair Condition
- Existing Access – Upgrade – Poor Condition
- Proposed Access – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Temporary

Proposed Felling Requirements

- Broadleaved Woodland Operational Corridor Felling
- Native Woodland Operational Corridor Felling
- Mixed Conifer Operational Corridor Felling
- Native Woodland Survey Scotland (NWSS)

Ancient Woodland Inventory

- Ancient (of semi-natural origin)
- Long-Established (of plantation origin)
- Landownership Boundary/Parcel



Project:
Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL Project

Title: **Figure 12.1.107b** Parcels 2012 and 2458 Proposed Felling Requirements

Drawn by: LA