

**Beauly to Blackhillock to New Deer to
Peterhead 400 kV Project
Environmental Impact Assessment Report
Volume 5 | Appendices**

**Appendix 12.1.91 – Woodland Report Parcel 2068,
Balloch Wood: Forestry and Land Scotland**



APPENDIX 12.1.91 – Woodland Report. Woodland Report Parcel 2068, Balloch Wood: Forestry and Land Scotland

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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 Woodland, Parcel 2068, Balloch Wood. 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 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 12.1.91a: Parcel 2068 Location Map**. The Balloch Wood is a large commercial forestry block large commercial forest plantation 3 km east of the town of Keith. The parcel is found within the Moray council area (NJ 460571 494252). The wood is managed by Forestry and Land Scotland on behalf of the Scottish Ministers. It is a key landscape feature in the area and important for timber production as well as local recreation.

3 Development Requirements

3.1 400kV 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) 2002¹ and The Electricity Act 1989². The OC is defined based on two different factors as follows:
- 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

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](#)

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 90 m in width is required throughout the commercial conifer woodland within Woodland Parcel 2068 and taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.91b: Parcel 2068 Proposed Felling Requirement**.

3.2 Access Track Route Design

- 3.2.1 Proposed tracks in this section cut through short sections of existing woodland and make use of existing infrastructure.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

- 4.1.1 The woodland was surveyed in January 2025. The woodland in and around the OC consists of plantation of mainly Scots pine (SP) and Sitka spruce (SS) with other species such as lodgepole pine (LP) and larch (L) forming minor components. Small quantities of broadleaves (BL) are found where the OC crosses burns or gullies or along forest edges.
- 4.1.2 The Proposed OHL Alignment runs through the eastern boundary of the woodland, where the exposure is sheltered with a Detailed Aspect Method of Scoring (DAMS) of 13³.
- 4.1.3 The Ecological Site Classification⁴ describes the site as having a cool, sheltered and wet climate. The soils have a fresh moisture status and a very poor nutrient status.
- 4.1.4 The Soil Map of Scotland⁵ identifies the soils as being predominantly peaty gleyed podzols. These soils are moderately to poorly drained, which can influence rooting depth and tree stability. The presence of gleying indicates potential seasonal waterlogging, which may impact wind firmness.

³ 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.

⁴ Ecological Site Classification, Available at: <http://www.forestdss.org.uk/geoforestdss/>

⁵ National Soil Map of Scotland. Available at: <https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/>

- 4.1.5 The woodlands appear in the Native Woodland Survey of Scotland⁶.
- 4.1.6 There are no environmental designations within the parcel.
- 4.1.7 An existing Land Management Plan (LMP) 31, covers all the woodlands in this ownership. The affected areas have been identified for felling, Long Term Retention (LTR) and Low Impact Silviculture Systems (LISS).
- 4.1.8 The proposed section of OHL consists of a section of OC between towers CB16-6 and CB16-13.
- 4.1.9 The historical thinning of mature SS and SP between towers CB16-10 to CB16-11 and CB16-8 to CB16-9 has played a crucial role in enhancing the structural stability of the remaining crop. As a result, there is no additional requirement for Management Felling beyond the designated OC felling area, as the residual stand is expected to remain wind-firm and structurally resilient. However, the understorey of young regenerating SS within this section will require removal through mulching to prevent excessive competition, maintain access, and ensure long-term stand stability.
- 4.1.10 The unthinned semi-mature plantations of SS and SP between towers CB16-11 to CB16-13 and CB16-6 to CB16-7 require additional management felling to establish a wind-firm boundary. Due to the lack of previous thinning, the trees in this section have developed dense, closely spaced canopies with weaker individual root systems, making them highly susceptible to windthrow following adjacent felling within the OC.
- 4.1.11 The plantation between CB16-7 to CB16-8 consists of young SS and SP, approximately 6-10 years old. Due to the age, density, and growth characteristics of the stand, this area will require mulching to facilitate site preparation, access, and future management objectives. This method will efficiently remove the young crop, while minimising soil disturbance, preserving organic material, and maintaining long-term site stability.
- 4.1.12 To facilitate efficient access from the existing forest road network to the towers, additional felling will be required. This will ensure that forestry operations, including harvesting, construction, and ongoing maintenance, can be conducted safely and effectively.
- 4.1.13 There is a good network of forest roads through the wood. Regular forest operations are taking place in the blocks and the majority of roads are suitable for timber haulage.
- 4.1.14 Considering the quality and quantity of the material and the landform, operations can largely be carried out by harvester / forwarder combinations.
- 4.1.15 The closest forest road suitable for haulage within the ownership is the unclassified U44H. This is classed as a Consultation Route by the Timber Transport Forum^{7,8}.

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.

⁶ Scottish Forestry. Native Woodland Survey of Scotland. Available at: <https://www.forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss>

⁷ The Timber Transport Forum. Introduction to Agreed Routes Map. Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>

⁸ 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 460541 494507 looking east into the young Sitka spruce and Scots pine plantation between CB16-7 and CB16-8.



Photo 2: View from NJ 451711 496291 looking northeast into the semi-mature Sitka spruce plantation at tower CB16-6, showing the extent of the required additional management felling.



Photo 3: View from NJ 461092 491363 looking east. Scots pine and larch previously thinned plantation between towers CB16-8 to CB16-9.



Photo 4: View from NJ 460911 490332 looking east into a proposed new access track route at CB16-9.



Photo 5: View from NJ 460672 486729 looking south east into the previously thinned Sitka spruce and Scots pine plantation at tower CB16-10 showing a potential green edge.



Photo 6: View from NJ 458792 483281 looking north into the thinned Scots pine and larch plantation with significant Sitka spruce young understorey.



Photo 7: View from NJ 457241 480019 looking north into the semi-mature Sitka spruce plantation at tower CB16-12 that will require additional management felling.



Photo 8: View from NJ 457291 479040 looking south into the semi mature Sitka spruce plantation on the right of the access track requiring 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), which is covered in more detail in the **Section 12.4**. Management felling would be considered as part of any application for felling permission. This would provide restocking as agreed with Scottish Forestry which would result in balancing the loss of woodland. Any felling undertaken outwith 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 the UK Forestry Standard (UKFS)⁹ for the implementation of the works required.
- 5.1.2 Considering the exposure and maturity of the crop within the unthinned areas, there is a high risk of windblow as a result of the felling of the OC

6 Woodland Management Impact

- 6.1.1 As can be seen in the current Land Management Plan for Balloch Wood the current woodland management throughout the vast majority of woodland coinciding with the OC is LISS and LTR. This is particularly the case for the mature SS/SP and L of the forest block. This management type is defined by small scale operations to regenerate the forest whilst retaining an overstorey. The thinning of these areas has created an internal green edge reducing the impact of the OC felling.

⁹ Scottish Forestry (2024). UK Forestry Standard (UKFS). Available at: <https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs>

- 6.1.2 Within the unthinned areas of the OC, it is expected that the forest edges along the OC will be severely destabilised and as such significant areas of management felling have been identified. The felling of the OC and the management felling will form a drastic shift in management strategy in areas affected resulting in loss of canopy and large clearfells.
- 6.1.3 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 into currently poorly accessible areas such as between towers CB16-10 to CB16-13. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s).
- 6.1.4 The Proposed OHL Alignment 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 Forest Industry Safety Accord (FISA) 804 "Electricity at Work: Forestry"⁸).
- 6.1.5 The total loss of Native Broadleaved woodland resulting from the proposed alignment is 0 hectares (ha).

7 Mitigation Opportunities

- 7.1.1 As identified within the LMP, the open heath ground to the east of the Proposed OHL Alignment could be expanded into the young SS and SP plantations between towers CB16-7 to CB16-8 once the OC has been mulched.

7.2 Restructuring

7.3 Woodland Mitigation Measures

- 7.3.1 Considering the size of the felling, the proposals will have an impact on forest structure within the forest. However, the block is generally mature and extends far beyond the OC and management felling. 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.
- 7.3.2 The felling of the OC for the development will create new green edges, which will allow the landowner to work to in the future if that is desired. In the long term this might benefit forest structure.

7.4 Restocking

- 7.4.1 In case the management felling of the OC takes place there will be a restock obligation on the landowner.

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 CB16-6 and CB16-13. 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	Mature Conifer Plantation (90 m)	18.13
Access Track Felling	Mature Conifer Plantation	0.39
Total area		18.52

⁸ Forest Industry Safety Accord (2020), FISA 804 Electricity at Work: Forestry. Available at: <https://ukfisa.com/Safety/Safety-Guides/fisa-804>

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Mature Conifer Plantation	18.52
Total area		18.52

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	18.52
Total Compensatory Planting Area	18.52
Total Net Loss of Woodland Area	0.00

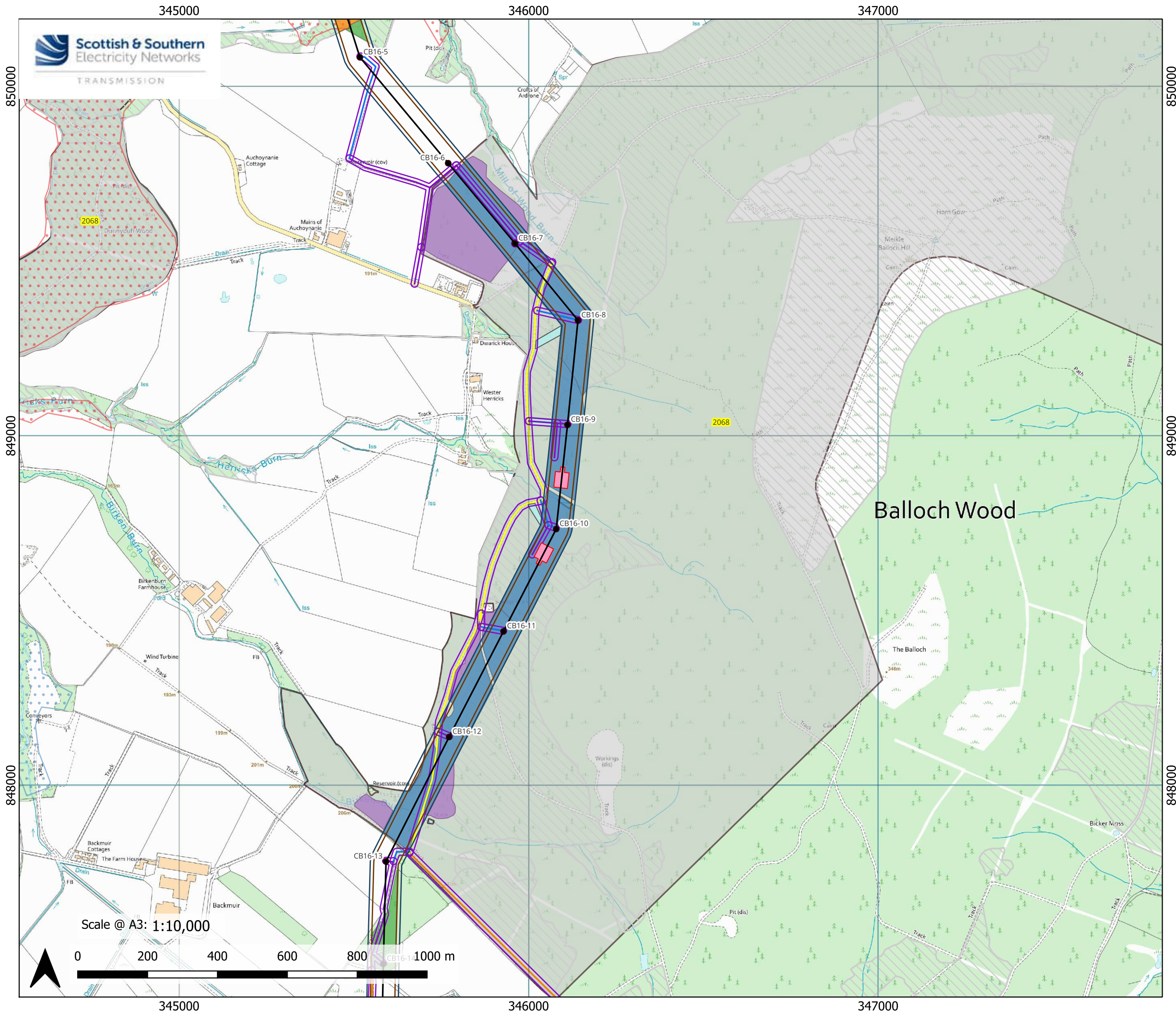
Table 8.4: Woodland removal for Management Felling, outwith OC

Item	Woodland Type	Area (ha)
Management Felling	Mature Conifer Plantation	5.96
Replanting / Restocking Opportunities	Conifer Plantation	5.96
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)⁹. 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 license 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 18.52 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 Proposed OHL Alignment.

⁹ 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
- Proposed Conductor Pulling Area (EPZ)
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

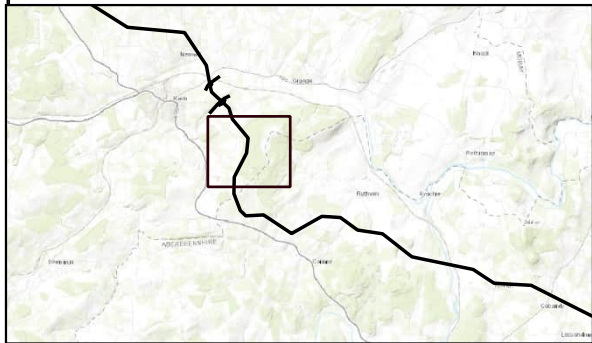
- Existing Access - Upgrade - Good/Fair Condition
- Existing Access - Upgrade - Poor Condition
- Proposed Access - Permanent
- Proposed Access - Temporary

Proposed Felling Requirements

- Native Woodland Operational Corridor Felling
- Mixed Conifer Operational Corridor Felling
- Mixed Conifer Management Felling
- Mixed Conifer Access Track Felling
- Native Woodland Crown Reduction
- Site of Special Scientific Interest (SSSI)
- Native Woodland Survey Scotland (NWSS)

Ancient Woodland Inventory

- Ancient (of semi-natural origin)
- Long-Established (of plantation origin)
- Landownership Boundary/Parcel
(Landownership boundary extends beyond map extent - relevant area shown)



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

Title: **Figure 12.1.91b** Parcel 2068 Proposed
Felling Requirements

Drawn by: LA