

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

**Appendix 12.1.44: Woodland Report Parcel 3424,
Cawdor**



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1	Introduction.....	2
2	Woodland Property.....	2
3	Development Requirements.....	2
3.1	400 kV Overhead Line Infrastructure Requirements	2
3.2	Access Track Route Design.....	3
4	Woodland Characteristics	3
4.1	Woodland Composition and Site Conditions	3
4.2	Photo Record – Operational Corridor Assessment.....	5
5	Windblow Risk.....	17
6	Woodland Management Impact	18
7	Mitigation Opportunities	18
7.1	Woodland Mitigation Measures.....	18
7.2	Restocking	18
8	Net Effect / Summary.....	18
9	Compensatory Planting	19

Appendix Figures

Figure 12.1.44a: Parcel 3424 Location Map

Figure 12.1.44b: Parcel 3424 Proposed Felling Requirements

1 Introduction

- 1.1.1 This Appendix presents information relevant to the Beauly to Blackhillock to New Deer to Peterhead 400 kV 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 Overhead Line (OHL) 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 3424, Cawdor. 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 12.1.44a: Parcel 3424 Location Map**. The Cawdor woodlands consist of a mixture of planted native pinewoods, commercial conifer woods, and native broadleaved, in a wider matrix of farmland and moorland. The woodlands are located to the south and southeast of the village of Cawdor and situated approximately 10.7 km southwest to southeast of Nairn in the Highland council area (NH 87167 46813). The operational corridor (OC) comes in from Rehiran in the west, passing through Cawdor estate to Achagour in the east.

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 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.
- 3.1.2 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; and

- 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.

- 3.1.3 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.
- 3.1.4 A resilient OC of 70 m in width is required throughout the native broadleaved woodland within Woodland Parcel 3424 and a resilient OC of 90 m in width is required throughout the commercial conifer plantation within Woodland Parcel 3424 and taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.44b: Parcel 3424 Proposed Felling Requirements**.

3.2 Access Track Route Design

- 3.2.1 A permanent access track is proposed in the OC between CB4-21 and CB4-22A. A temporary track is proposed within the OC between CB4-22A and CB5-1, and a temporary track out with the OC is proposed to access CB5-2 and CB5-3. A permanent access track is proposed out with the OC to CB5-4. A temporary bellmouth off the C1154 and within the OC is proposed to access eastwards to CB5-7 and CB5-8. A permanent access track is proposed within the OC between CB5-10 and CB5-12, and a temporary access track within the OC is proposed to access CB5-13. A temporary access track within the OC is proposed between C5-15A and CB5-17A.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

- 4.1.1 The woodland was surveyed in January 2025. The OC traverses a wide variety of habitats, from open hill, farmland, and commercial conifer crops of various ages, and felled over land and native broadleaved woodland.
- 4.1.2 Between Towers CB4-21 and CB4-22A are open grown stands of mature Scots Pine (SP). Between Towers CB4-22A and CB5-1 is an area of younger planted SP with occasional native broadleaves, Downy birch (DBI) Rowan (ROW) and Eared willow (EW), approximately eight years old. Between Towers CB5-1 and the property boundary to the east of CB5-4 is a continuous area of mature native broadleaved woodland dominated by DBI. This woodland has a varied canopy structure with areas of young natural regeneration of birch and willow species as well as Alder (CAR).

- 4.1.3 Between Towers CB5-7 and CB5-8 the Proposed OHL Alignment passes through a commercial conifer woodland of mixed ages and species, predominantly SP. Between Towers CB5-6 and Towers CB5-7 the Proposed OHL Alignment passes through an area of pole stage SP and mature SP and European Larch (EL) with an understory of Sitka spruce (SS) regeneration. The larch is well thinned in parts and towards Tower CB5-7 the stand becomes dominated by thicket stage SS which is the principal species, until a stand of mature SP/EL just to the west of Towers CB5-8.
- 4.1.4 Between Towers CB5-10 and CB5-11 is an area of felled over land and to the north of the OC a stand of mature SP, extensively thinned.
- 4.1.5 Similarly, there is an area of felled over land between Towers CB5-11 and CB5-12 with Tower CB5-12 located in a stand of mature mixed conifers which has suffered extensive windblow.
- 4.1.6 Directly to the east of CB5-12 is an area of recently restocked mixed conifers, predominantly SP, which adjoins an area of mature, well thinned SP woodland. To the west of Tower CB-15A and on the banks of the Muckle Burn, is a stand of planted broadleaves, including Sessile Oak (SOK) and Silver Birch (SBI), as well as ROW and CAR.
- 4.1.7 This native stand adjoins an area of thicket stage SS, approximately 10 years old, which continues between Towers CB5-15A and Towers 5-16A.
- 4.1.8 A stand of mature mixed conifers to the south of Keppernach wood lies between tower CB5-16A and CB5-17A. The principal species in the stand are SS and SP.
- 4.1.9 This section of Proposed OHL Alignment is moderately exposed ranging from a Detailed Aspect Method of Scoring (DAMS) of 12^{3,4} in the eastern compartments, to 11 at the lower elevations of the birchwood in the west.
- 4.1.10 The Ecological Site Classification⁵ describes the site as having a cool, moderately exposed and moist to wet climate. The soils have a slightly dry moisture status and a very poor nutrient status in the east and a wet moisture status and very poor nutrient status in the west.
- 4.1.11 The Soil Map of Scotland⁶ identifies the soils as being predominantly humus-iron podzols.
- 4.1.12 No environmental designations apply to this parcel.
- 4.1.13 The woodlands at Clunas Woodland and Knockaneorn Wood are identified as Long Established of Plantation Origin, in the Ancient Woodland Inventory⁷ (AWI).
- 4.1.14 The woodlands are currently managed under Long-Term Forest Plan Reference 4893987, Cawdor SDT Forest Plan.
- 4.1.15 There is existing access infrastructure into these compartments. In younger crops, tree removal is most easily achieved through hand felling or mulching after which material can be left on-site or extracted using standard machinery.
- 4.1.16 The nearest road suitable for timber haulage is the unclassified C1154 Cawdor to Aitnoch Road. This is classed as a Consultation Route⁸ by The Timber Transport Forum⁹.

³ Forest Research (n.d.). Available at: <http://www.forestdss.org.uk/geoforestdss/>

⁴ 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 Forest Research (n.d.). Ecological Site Classification (Tree Species). Available at: <http://www.forestdss.org.uk/geoforestdss/>

⁶ Scotland's Soils (n.d.). National Soil Map of Scotland. Available at: <https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/>

⁷ NatureScot (2023). A guide to understanding the Scottish Ancient Woodland Inventory (AWI). Available at: <https://www.nature.scot/doc/guide-understanding-scottish-ancient-woodland-inventory-awi>

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).

⁹ Timber Transport Forum (n.d.). Introduction to Agreed Routes Map. Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>

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.

Photo 1: Open grown Scots pine woodland at tower CB-22A within the OC (NH 863192 465341, looking southwest)



Photo 2: Young native Scots pine woodland at tower CB4-22A within the OC (NH 863346 466123, looking southeast)



Photo 3: Upland birch woodland within the OC between towers CB5-1 and CB5-2 (NH 865932 466816, looking northeast)



Photo 4: Mature upland birch woodland at tower CB5-3, within the OC (NH 87167 46813, looking northeast)



Photo 5 Mature upland birch woodland with advanced regeneration within the OC, at tower CB5-4 (NH 875353 469335, looking north



Photo 6: Varied storey mixed conifer stand within the OC between towers CB5-6 and CB5-7, (NH 884324 468809, looking northeast)



Photo 7: Stand of Scots pine and adjacent felled over land within the OC between towers CB5-10 and CB5-11, (NH 899262 468091, looking southwest)



Photo 8: Scots pine woodland and felled over land at tower CB5-11 within the OC, (NH 900794 468157, looking east)



Photo 9: Mature mixed conifer woodland with extensive windblow within the OC directly west of tower CB5-12 tower (NH 903529 467684, looking east)



Photo 10: Recently restocked Scots pine east of tower CB5-12, within the OC (NH 905262 468303, looking southeast)



Photo 11: Mature, thinned Scots pine woodland at tower 13 within the OC (NH 909165 467792, looking northwest)



Photo 12: Planted native broadleaved woodland on the east bank of the Muckle Burn, west of tower CB5-15A within the OC (NH 915366 467062, looking east)



Photo 13: Thicket stage Sitka spruce at tower 5-15A within the OC (NH 916218 466829, looking northeast)



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 **Chapter 12: Forestry** in **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 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)¹⁰ for the implementation of the works required.
- 5.1.2 There is a risk of windblow within this to adjacent mature conifer woodland at Knockaneorn Wood, adjacent to the U3114 road.

¹⁰ Scottish Forestry (2024). UK Forestry Standard (UKFS). Available at: <https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs> (Accessed 15 August 2025).

6 Woodland Management Impact

- 6.1.1 The impact on younger woodland design and future management will be significant, creating permanent wayleaves through establishing native pinewood and commercial conifer restock areas. The landowner will have reduced production of due to a loss of productive ground, and potentially higher management effort in negotiating wayleaves.
- 6.1.2 The infrastructure built for this section of the OHL could provide a minor benefit to the landowner for future forest management as it could provide greater long-term access. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s). The wayleave will introduce a green edge in younger crops which may provide greater flexibility in coupe scale in forest design.
- 6.1.3 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 FISA 804 "Electricity at Work: Forestry"¹¹).
- 6.1.4 The total loss of Native Broadleaved woodland resulting from the proposed alignment is 9.23 ha.
- 6.1.5 The total loss of Commercial conifer woodland resulting from the proposed alignment is 14.98 ha.

7 Mitigation Opportunities

7.1 Woodland Mitigation Measures

- 7.1.1 The forest is diverse with in terms of species and age class structure. The OC will cut through native woodlands which is likely negative for the environmental value of these woodlands at a local scale. In the immediate locality and at the regional scale, significant areas of similar woodland will be retained, preserving a varied woodland structure over a wider area.
- 7.1.2 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.

7.2 Restocking

- 7.2.1 Management felling is suggested in this section of Proposed OHL Alignment therefore there will be a restock obligation on the landowner, should they proceed.

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 CB4-21 and CB5-4; CB5-7 and CB5-8; CB5-10 and CB5-12, and CB5-15A and CB5-17A. 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)
OC felling	Native broadleaves (70 m)	9.23
OC felling	Commercial conifers (90m)	14.98
Total area		24.21

¹¹ Forest Industry Safety Accord (2025). FISA Safety Guide 804 – Electricity at Work: Forestry. Available at: <https://ukfisa.com/Safety/Safety-Guides/fisa-804> (Accessed: 15 August 2025).

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Native broadleaves	9.63
Compensatory Planting Area	Commercial conifer	14.98
Total area		24.21

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	24.21
Total Compensatory Planting Area	24.21
Total Net Loss of Woodland Area	0.00

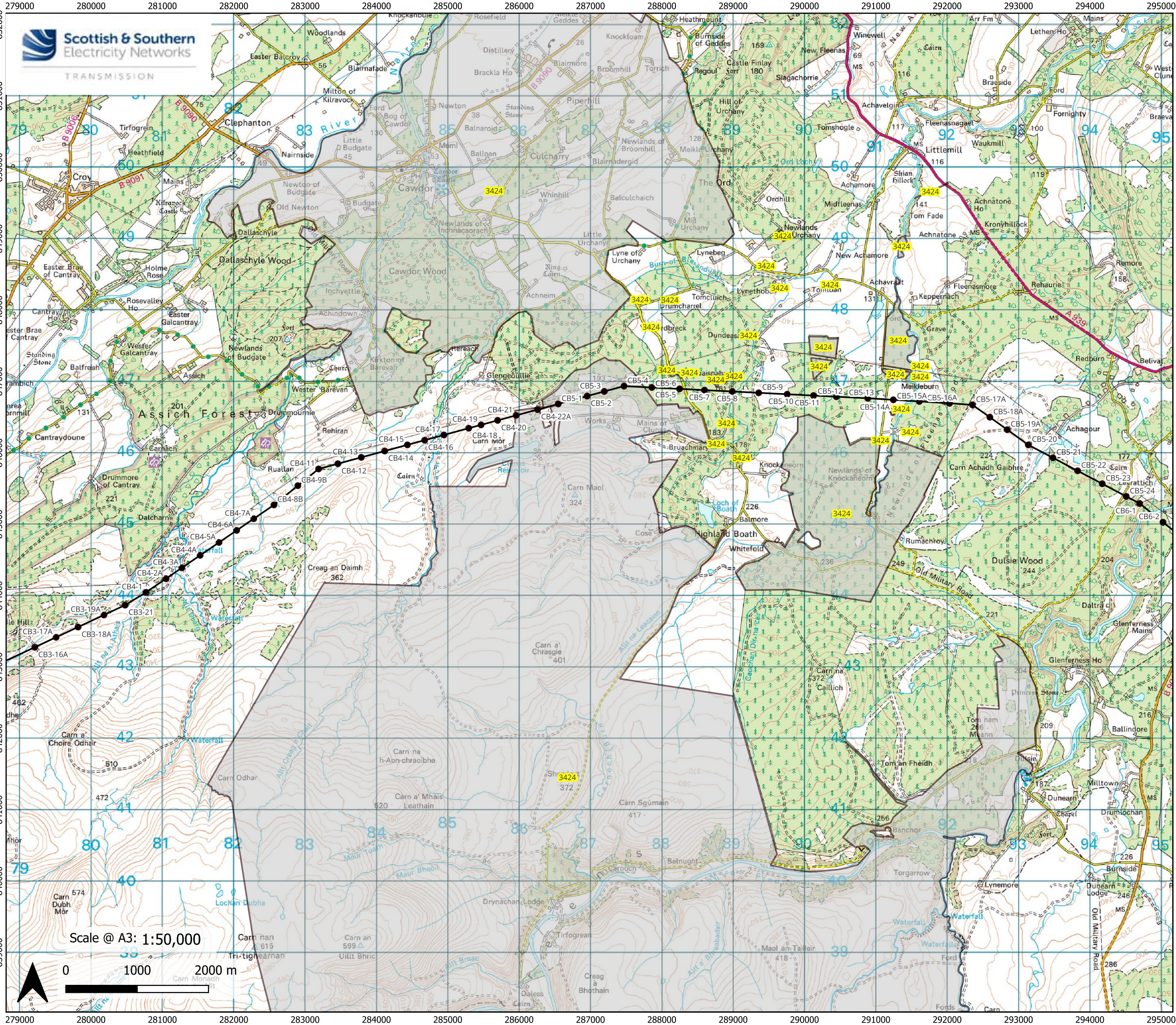
Table 8.4: Woodland removal for Management Felling, outwith OC

Item	Woodland Type	Area (ha)
Management Felling	Native broadleaves	0.94
Management Felling	Commercial conifers	38.81
Replanting / Restocking Opportunities	Native broadleaves	0.94
Replanting / Restocking Opportunities	Commercial conifers	38.81
Total 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)¹². 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 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 24.21 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 off-site compensatory planting within the same local authority area. It is proposed that full details of the areas subject to this off-site compensatory planting is notified to Scottish Forestry prior to energising the OHL.

¹² 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

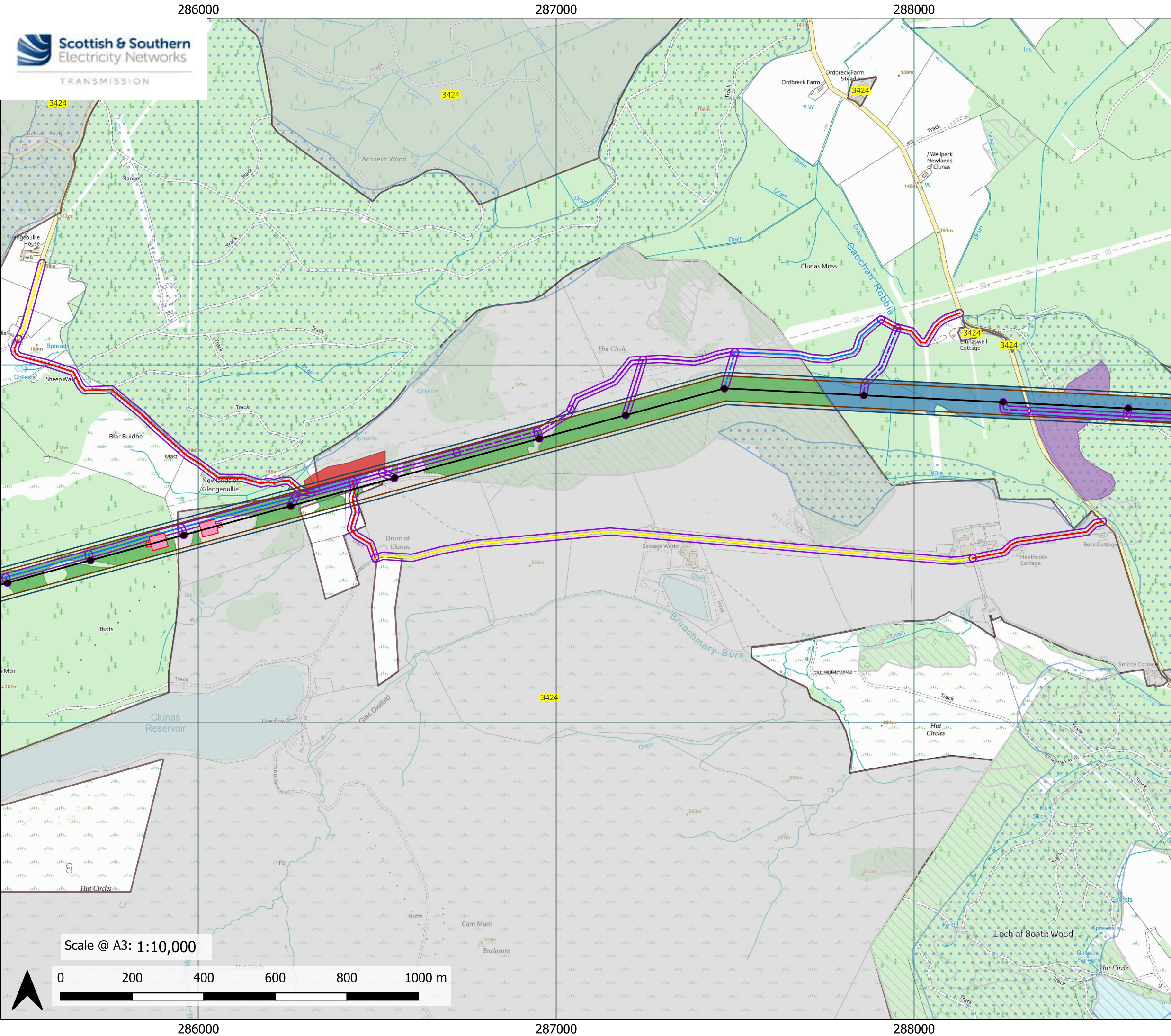
- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- Landownership Boundary/Parcel
(Landownership boundary extends beyond map extent – relevant area shown)

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

Title:
Figure 12.1.44a Parcel 3424 Location Map

Drawn by: LA



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 – Very Poor Condition
- Proposed Access – Permanent
- Proposed Access – Permanent Floated
- Proposed Access – Temporary
- Proposed Access – Temporary Floated

Proposed Felling Requirements

- Native Woodland Operational Corridor Felling
- Mixed Conifer Operational Corridor Felling
- Mixed Conifer Management Felling
- Native Woodland Management Felling
- Mixed Conifer Access Track Felling
- Native Woodland Survey Scotland (NWSS)

Ancient Woodland Inventory

- 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 12.1.44b** Parcel 3424 Proposed Felling Requirements

Drawn by: LA