

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

**Appendix 12.1.127: Woodland Report Parcel 3104,
Mains of Ludquharn**



APPENDIX 12.1.127: Woodland Report Parcel 3104, Mains of Ludquharn

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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 assesses the potential impacts of the Proposed Development on woodland, Parcel 3104, Mains of Ludquharn Woodland. 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 hectare (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 12.1.127a: Parcel 3104 Location Map**. The woodland parcel is situated approximately 5.3 km southeast of Mintlaw, within the Aberdeen Council region (NK 039061 445683). The woodland is a mixed conifer commercial forest.

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) 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 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.

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 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 within the commercial forest within Woodland Parcel 3104 taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.127b: Parcel 3104 Proposed Felling Requirement**.

3.2 Access Track Route Design

- 3.2.1 Temporary access tracks will be created within the OC and existing woodland to access towers NP4-22 to NP4-23A.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

- 4.1.1 The woodland was surveyed in November 2024. This is a young (approx. 10–12 years) conifer plantation dominated by Sitka spruce with larch (SS/L), currently standing about 6–10 m tall. The crop is even aged and appears to be establishing well, with no immediate structural concerns. Along the north-eastern margin there is a native broadleaf fringe, originally tubed, growing at roughly 4–8 m. Recorded species include downy birch (DBI), willow (WL), hazel (HZ), and oak (OK).
- 4.1.2 The area is sheltered with a maximum Detailed Aspect Method of Scoring (DAMS) score of 12³.
- 4.1.3 The National Soil Map of Scotland⁴ identifies the site as being predominantly noncalcareous gleys with peaty gleys, with parent material of drifts derived from intermediate rocks or mixed acid and basic rocks, both metamorphic and igneous.
- 4.1.4 The Ecological Site Classification (ESC)⁵ identifies the site as having a warm, sheltered and moist climate. The soils have a wet moisture status and a very poor nutrient status.
- 4.1.5 The proposed section of OHL consists of a section of OC between towers NP4-22 to NP4-23A.

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 Scottish Government (2024). National soil map of Scotland. Available at: <https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/>

⁵ Forest Research Decision Support Tools. Ecological Site Classification. Available at: <http://www.forestdss.org.uk/geoforestdss/>

- 4.1.6 The closest public road suitable for haulage of timber within the ownership is unclassified Longside to Clola road which runs along the north of the woodland, leading to the A952 to the west. This is classified as a Consultation Route by the Timber Transport Forum⁶⁷. Considering the quality and quantity of the material and the landform operations can be carried out by harvester / forwarder combinations. An element of hand felling is likely required for the mature trees amongst the crop. A new access track is to be constructed on the southeast boundary, it is recommended this is constructed prior to felling to facilitate timber extraction.

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: View at NK 038271 447842 looking southeast into the woodland toward tower NP4-23A, showing the native and commercial species present.



⁶ The Timber Transport Forum. Introduction to Agreed Routes Map. Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>

⁷ 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 2: View at NK 038951 446833 looking south into the woodland toward tower NP4-23A. The view highlights the relatively young age and early growth stage of the commercial plantation species, with trees showing uniform structure and limited canopy closure. Their current height and density confirm that the stand is still maturing and does not require 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 Forestry Chapter 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)⁸ for the implementation of the works required.
- 5.1.2 There is minimal risk of windblow as a result of the proposed felling, as indicated by the species present, the age of the crop and the topography of the site.

6 Woodland Management Impact

- 6.1.1 While tree felling within the OC will result in a slight reduction in the total area of woodland, this loss is minimal and should not significantly affect overall forest management, or access at a larger scale.

⁸ Scottish Forestry (2024). UK Forestry Standard (UKFS). Available 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 minor benefit to the landowner for future access to the remaining trees. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner.
- 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 (Forest Industry Safety Accord, FISA 804 “Electricity at Work: Forestry”⁹).
- 6.1.4 The total loss of Native Broadleaved woodland resulting from the proposed alignment is 0.12 ha.

7 Mitigation Opportunities

7.1 Restructuring

- 7.1.1 The section of forest within this parcel is generally single aged and will likely be felled all at once. Therefore, there is no positive or negative impact of the felling on the structure within the ownership.

7.2 Restocking

- 7.2.1 Given the loss trees from the wider landscape setting, opportunities to strengthen the wider tree network by planting existing gaps and/or extending the network in the locality should be discussed with 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 NP4-22 to NP4-23A. It details the areas designated for clear felling, within the OC and forest design considerations.

Table 8.1: Woodland removal for Infrastructure, within OC

Item	Woodland Type	Area (ha)
Operational Corridor Felling	Native Woodland (70m)	0.12
Operational Corridor Felling	Mixed Conifer (90m)	1.23
Access Track Felling	Mixed Conifer	0.11
Total area		1.46

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Native Woodland	0.12
Compensatory Planting Area	Mixed Conifer	1.34
Total area		1.46

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	1.46
Total Compensatory Planting Area	1.46
Total Net Loss of Woodland Area	0.00

⁹ Forest Industry Safety Accord (2020), FISA 804 Electricity at Work: Forestry. Available at: <https://ukfisa.com/Safety/Safety-Guides/fisa-804>

Table 8.4: Woodland removal for Management Felling, outwith OC

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

9 Compensatory Planting

- 9.1.1 Only areas directly impacted by the OC and access tracks will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)¹⁰. 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 and access tracks, 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 1.46 ha.
- 9.1.4 In order to provide greater balance, limiting long-term impacts on woodland 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 offsite compensatory planting is notified to Scottish Forestry prior to energising the OHL.

¹⁰ 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

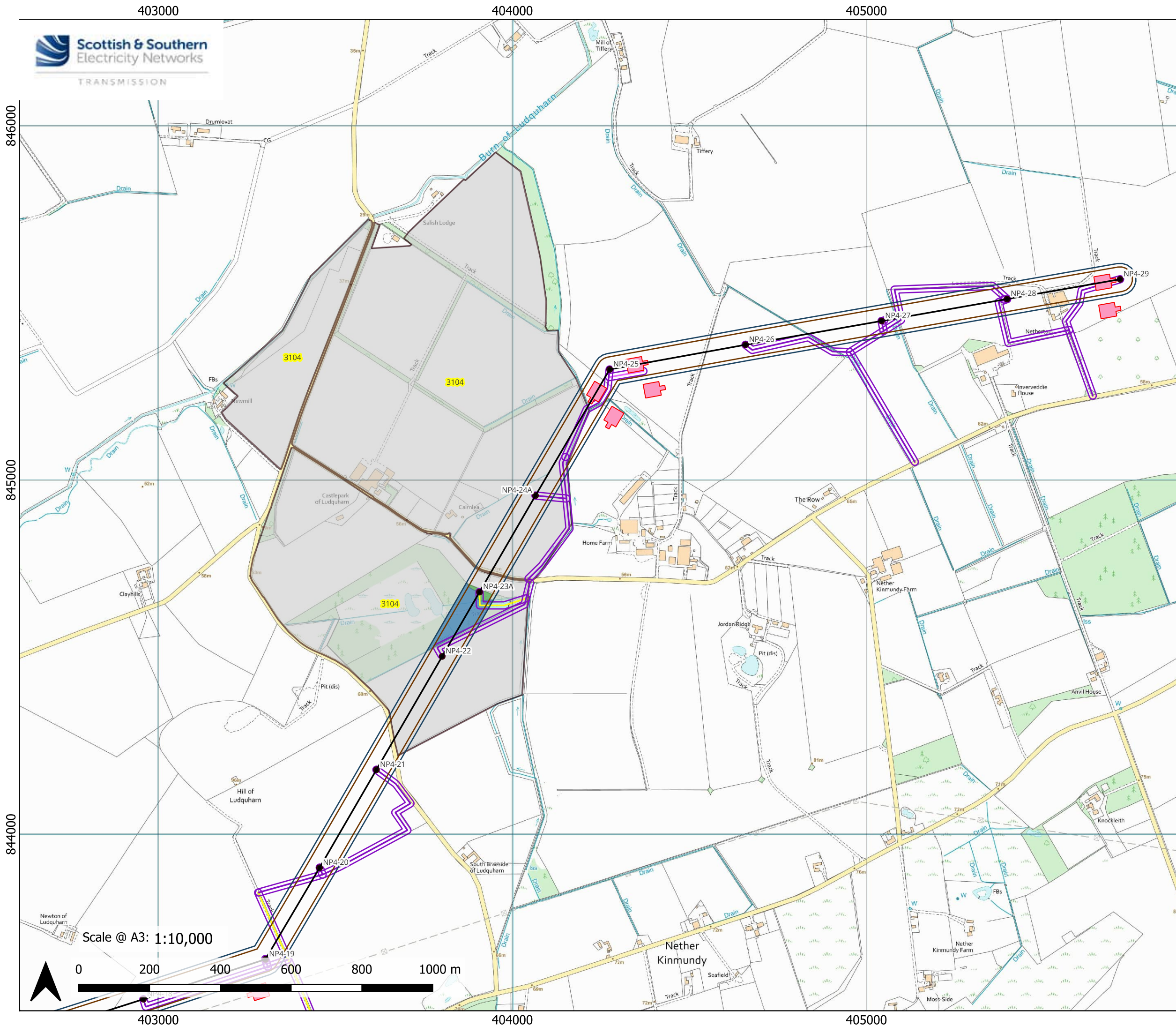
- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- ▭ Landownership Boundary/Parcel

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Project:
Beaulieu to Blackhilllock to New Deer to Peterhead 400 kV
OHL Project

Title:
Figure 12.1.127a Parcel 3104 Location Map

Drawn by: LA



Legend

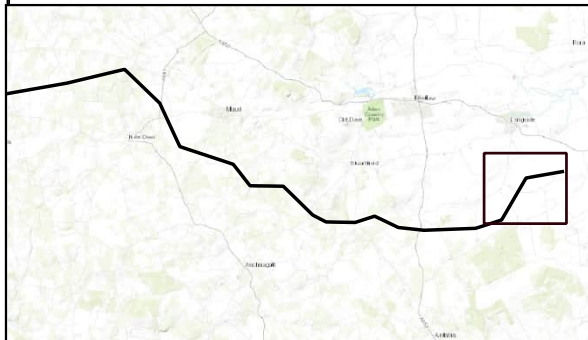
- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- Proposed Conductor Pulling Area (EPZ)
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

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

Proposed Felling Requirements

- Native Woodland Operational Corridor Felling
- Mixed Conifer Operational Corridor Felling
- Mixed Conifer Access Track Felling
- Landownership Boundary/Parcel



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

Title: **Figure 12.1.127b** Parcel 3104 Proposed
Felling Requirements

Drawn by: LA