Scottish & Southern Electricity Networks
TRANSMISSION

Beauly to Blackhillock to New Deer to Peterhead 400 kV Project

Environmental Impact Assessment Report

Volume 5 | Appendices

Appendix 12.1.19 & 12.1.20: Woodland Report Parcels 2800 & 270 Mam Mor

APPENDIX 12.1.19 & 12.1.20: Woodland Report Parcels 2800 & 270, Mam Mor

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 Woodland, Parcels 2800 and 270, Mam Mor Forest. 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 12.1.19a: Parcel 2800 Location Map and Figure 12.1.20a: Parcel 270 Location Map**. The woodlands at Mam Mor, consist largely of productive conifer plantation and are found 7 km southwest of Inverness within the Highland Council region (NH 574300 425271).

2.1.2 The unclassified U2362 Newton to Kirkhill public road runs along the west of the forestry, 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:

- 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 70 m in width is required throughout the native woodland and 90 m within the commercial woodlands within Woodland Parcel 38, taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.19b: Parcel 2800 Proposed Felling Requirements and Figure 12.1.20b: Parcel 270 Proposed Felling Requirements**

3.2 Access Track Route Design

3.2.1 The tracks associated with this section of the OHL are within the OC or within proposed management felling.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

4.1.1 The woodland was surveyed in December 2024. The forests at Mam Mor are found on the high ground between Beauly and Inverness on what is known as The Aird. The section of the woodland impacted by the proposed powerline mainly comprises the western part of the ownership.

4.1.2 The forests consist of productive blocks with a majority conifer species. In the southwest the proposed line traverses through Scots pine (SP) plantation and a recent restock largely consisting of Sitka spruce (SS). In the northwestern part of this ownership the proposed line coincides with a strip of very mature SP and larch (L), surrounded by, and partly intersecting, mixed plantation dominated by SS. On the northern boundary the proposed line intersects an area of broadleaved planting. The restock, which was felled in 2016 / 2017, is now between 1 and 2 meters high.

4.1.3 The area is covered under the Mam More Long-Term Forest Plan (LTFP) (15FGS00453) which contains an approved clearfell for the SP area in the south of the block. The eastern section of this clearfell has already been felled whereas the area surrounding the proposed powerline is still standing.

4.1.4 The area has a long history of forest cover demonstrated by the LEPO (long established plantation origin) classification in the Ancient Woodland Inventory. No other environmental designations impact this stretch of powerline.

4.1.5 The landscape is characterized by the rocky upland plateau of Inverness. The ground is relatively flat but does have a distinct northerly aspect.

4.1.6 The proposed section of OHL consists of a section of OC between towers BC5-2 and BC5-7A.

4.1.7 This section of Proposed OHL Alignment is moderately exposed with a maximum Detailed Aspect Method of Scoring (DAMS) score of 14[3,4].

4.1.8 The National Soil Map of Scotland[5] indicates soil conditions throughout the ownership are mainly humus-iron podzols with peaty gleyed podzols. The forest consists of a mixture of soils with better drained podzols and ironpans on the knolls and peaty gleys and peats in the flatter lower areas. Rooting depth is variable depending on landform and is locally limited by induration and bedrock.

4.1.9 The Ecological Site Classification (ESC)[6] identifies the site as having a cool, moderately exposed and wet climate. The soils have a slightly dry moisture status and very poor nutrient status.

4.1.10 There is existing forest road infrastructure across the property which appears to have been used for forest management in the recent years. The topography allows for building of infrastructure and timber extraction.

4.1.11 Considering the volume, species, quality and location felling using harvester / forwarder combinations is feasible. The roadside frontage in the southern part of the site is limited and could benefit from expansion if management felling of the SP is carried out. An element of mulching will be required for the young restocks. The nearest road suitable for timber extraction is the unclassified U2362 Newton to Kirkhill public road which runs along the west of the forestry. This is classified 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.

[3] Forest Research (2025). 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] Scottish Government (2024). Available online at: https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/
[6] Forest Research. Available online at: Ecological Site Classification. Available at: http://www.forestdss.org.uk/geoforestdss/
[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] Agreed Routes Maps identify the consultation routes as:
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: Scots pine plantation and Sitka spruce restock from BC5-7 to BC5-6 (NH 578719 422931, looking west)

Photo 2: Thinned Plantation at BC5-5 (NH 575791 424575, looking northwest)

Photo 3: Mature Scots pine and larch between BC5-5 and BC5-3 (NH 574501 425309, looking west)

Photo 4: Broadleaves between BC5-4 and BC5-3 (NH 571701 427144, looking north)

Photo 5: Edge of remaining plantation and adjacent clearfell at BC5-3 (NH 570831 427941, looking east)

Photo 6: Windfirm edge north of proposed management felling (NH 575731 428435, looking southeast)

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 **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 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 UK Forestry Standard (UKFS)[9] for the implementation of the works required.

5.1.2 There is a medium risk of windblow in this area of woodland. Exposure and crop stability is both moderate. The mature Scots pine in the southwestern section has recently been exposed and along forest edges small amounts of windblow are found. The younger plantation further north is underthinned and brown edges and gaps could result in wind damage. Management felling is proposed for this plantation and windfirm edges have been identified however it is acknowledged that the windfirm edge on the north is suboptimal and in conversation with the landowner the extent of management felling will need to be identified balancing forest retention and wind risk.

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

6 Woodland Management Impact

6.1.1 Considering the current land use it is expected the line will have a medium impact on the forest management along and around the OC. A large part of the proposed management felling is in crops that would have probably retained longer were it not for the proposed development. As such the felling could lead to loss of timber income as a result of early felling. Furthermore, the OC will no longer be available for productive forestry going forward. The felling of the OC in the southern corner will result in a significant brown edge, potentially leading to windblow, in the mature Scots pine. As the area is currently approved for felling the impact on the planned management is likely minimal.

6.1.2 In the long-term impact on forest management will be limited as there is enough forest on either side of the proposed line to provide workable management units.

6.1.3 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 an improvement to the existing infrastructure. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s).

6.1.4 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 Forest industry Safety Accord, FISA 804 "Electricity at Work: Forestry"[10]).

6.1.5 The total loss of Native Broadleaved woodland resulting from the proposed alignment is 0.13 ha.

7 Mitigation Opportunities

7.1 Woodland Mitigation Measures

7.1.1 To mitigate the landscape impact on this section of the Proposed OHL Alignment the 'Landscape Replanting Proposals' as set out in the Landscape chapter will be followed as demonstrated in **Figure 12.1.19c: Parcel 2800 Proposed Planting Areas and Figure 12.1.20c: Parcel 270 Proposed Planting Areas**

7.2 Restructuring

7.2.1 Considering the recent felling and restocking and the proposed management felling the proposed operations will have a negative impact on forest structure. The site currently consists of mature Scots pine, overmature Scots pine and larch, semi-mature plantation and an area of restock. The proposed operation will result in the block consisting mostly of even aged, young, crop.

7.2.2 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.

7.3 Restocking

7.3.1 In case of management felling taking place there will be a restock obligation on the landowner.

7.3.2 As set out in the Landscape chapter under the 'Landscape Replanting Proposals' restocking can take place within the OC to mitigate the visual impact of the OC. Restocking within the OC will be carried out by the applicant. Detail shown in **Figure 12.1.19c: Parcel 2800 Proposed Planting Areas and Figure 12.1.20c: Parcel 270 Proposed Planting Areas**

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

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 BC5-2 and BC5-7A. 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	Mixed Conifer (90 m)	12.94
OC felling	Native broadleaves (70 m)	0.13
Track	Mixed Conifer	1.13
Total area		**14.19**

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Mixed Conifer	14.07
	Native broadleaves	0.13
Total area		**14.19**

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	14.19
Total Compensatory Planting Area	14.19
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	Mixed Conifer	49.67
Replanting / Restocking Opportunities	Mixed Conifer	49.67
Net Loss of Woodland Area		**0.00**

9 Compensatory Planting

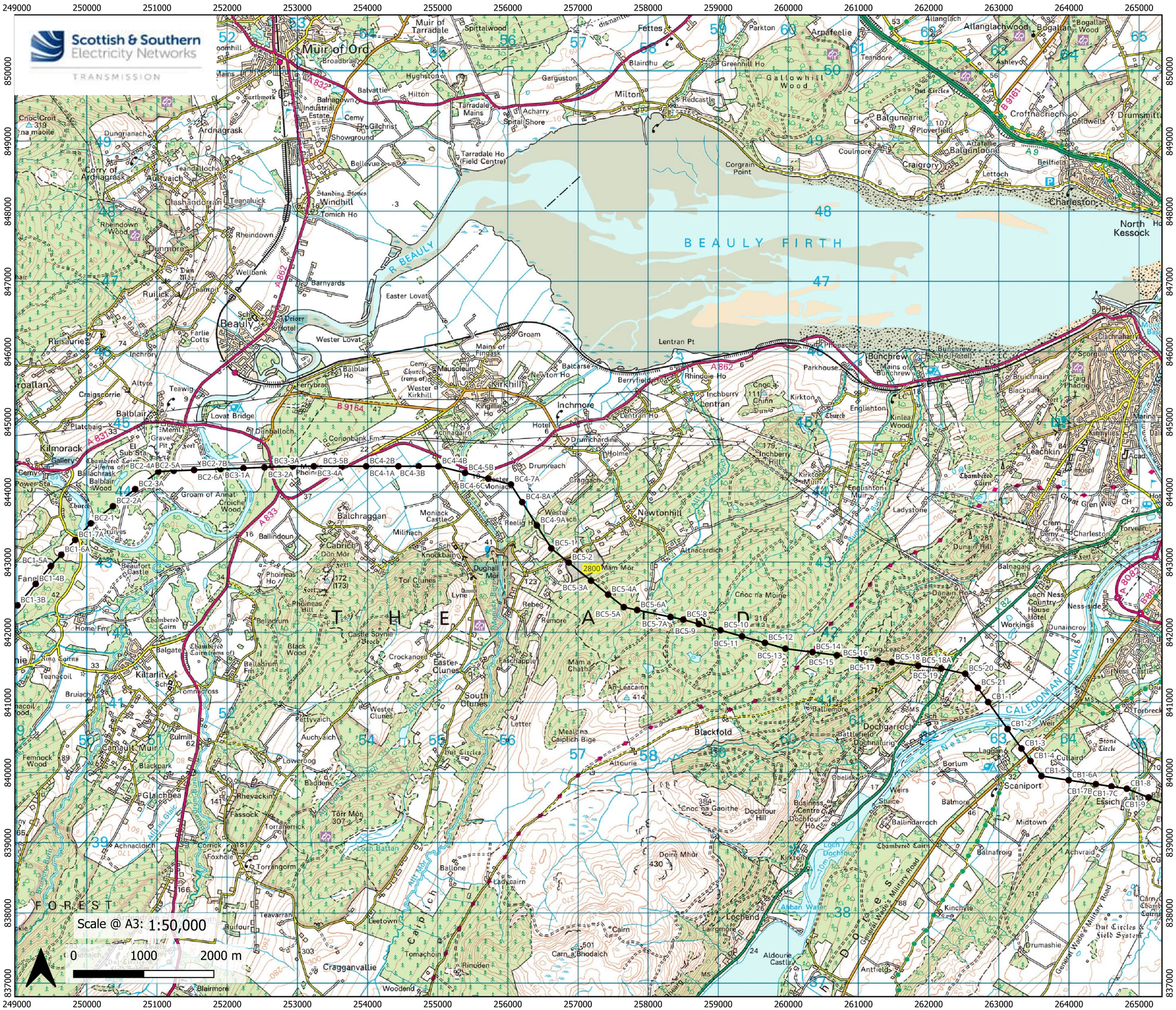
9.1.1 Only areas directly impacted by the OC will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)[11]. This policy ensures that woodland loss due to development is mitigated by appropriate replanting or regeneration efforts, but it specifically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

[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

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.

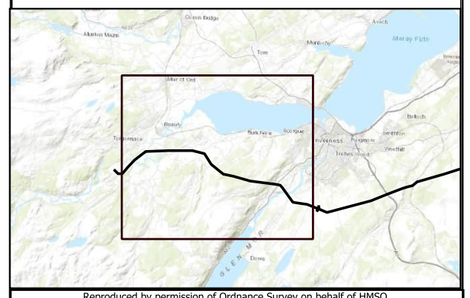
9.1.3 The total amount of net felling requiring compensation under the CoWRP 14.19 ha.

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.



Legend

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



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

Title:
Figure 12.1.19a Parcel 2800 Location Map

Drawn by: LA

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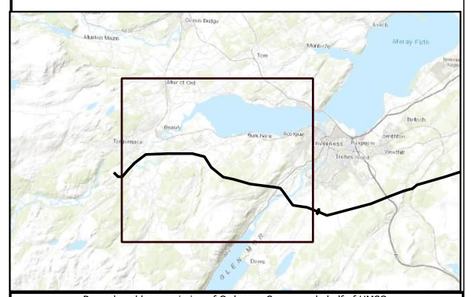
Legend

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



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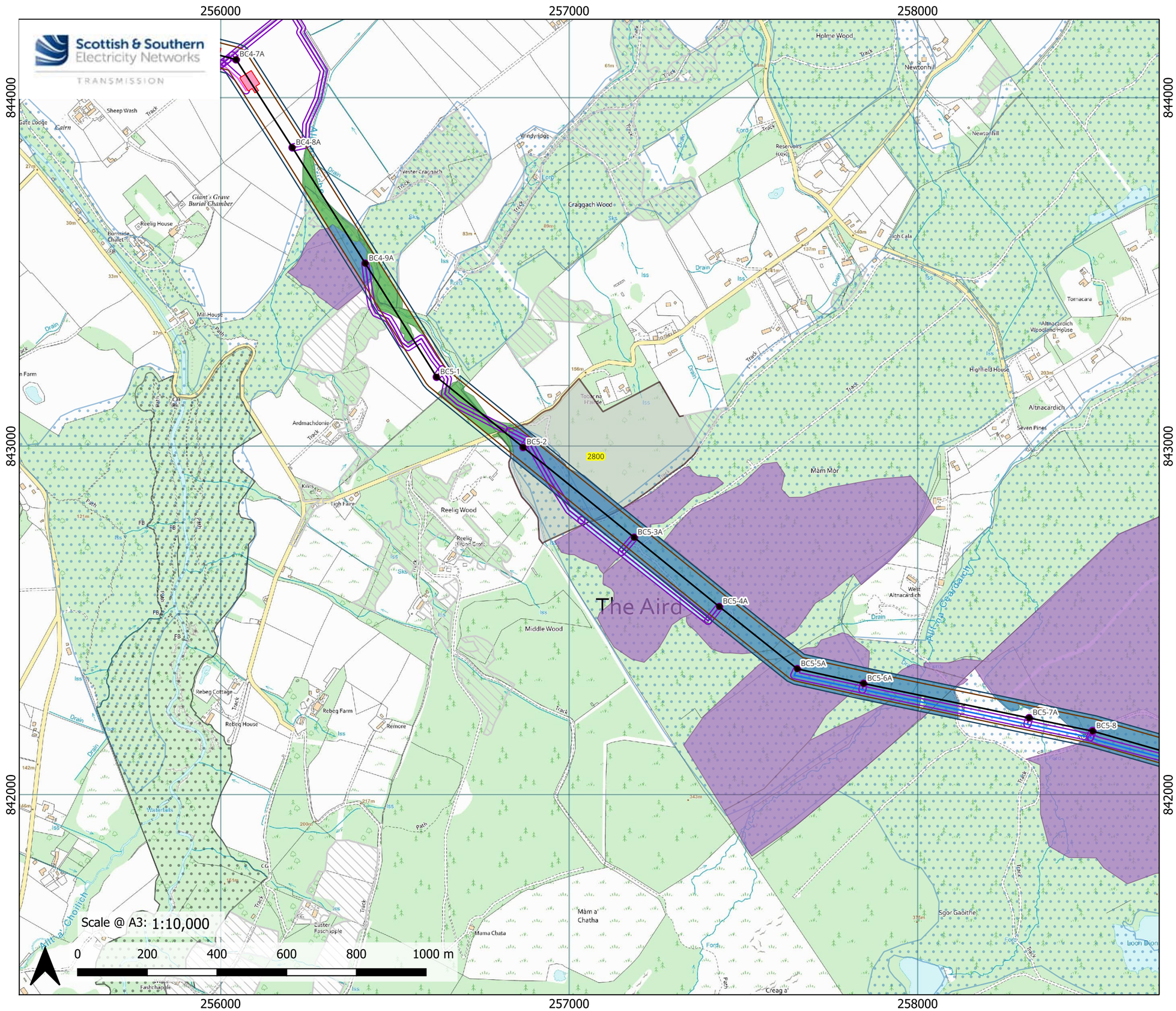
Project:
Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL Project

Title:
Figure 12.1.20a Parcel 270 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

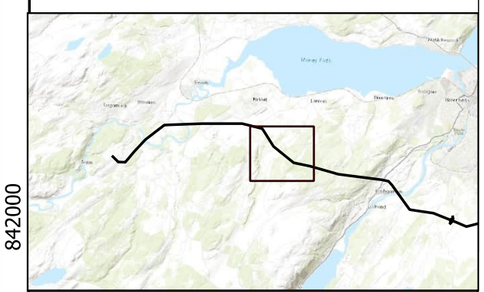
- Proposed Access – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Temporary

Proposed Felling Requirements

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

Ancient Woodland Inventory

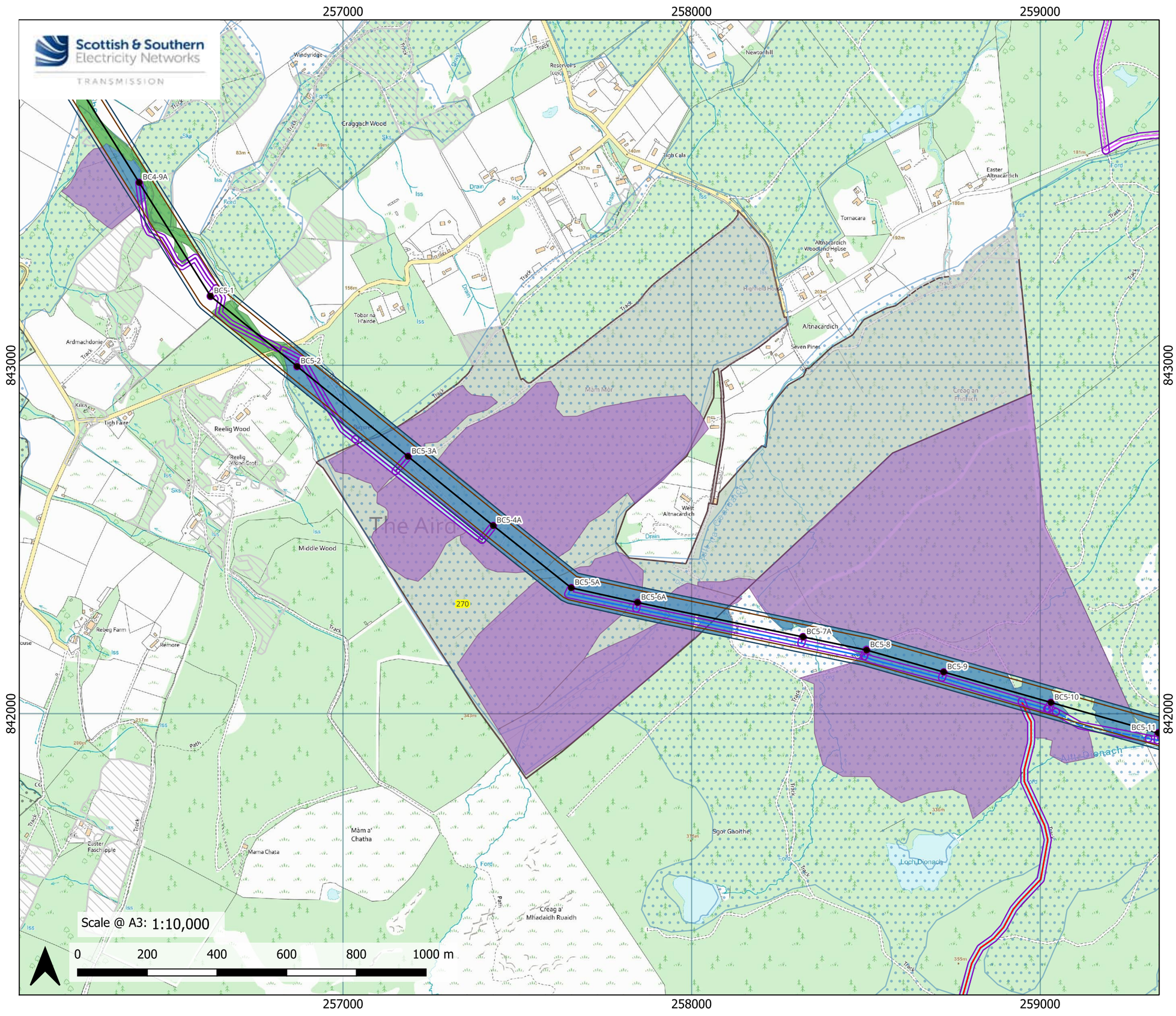
- Long-Established (of plantation origin)
- Landownership Boundary/Parcel



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

Title: **Figure 12.1.19b** Parcel 2800 Proposed Felling Requirements

Drawn by: LA



Legend

- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

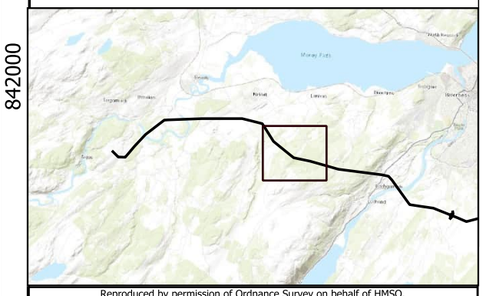
- Existing Access – Upgrade – Very Poor Condition
- Proposed Access – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Permanent Floated
- Proposed Access – Temporary

Proposed Felling Requirements

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

Ancient Woodland Inventory

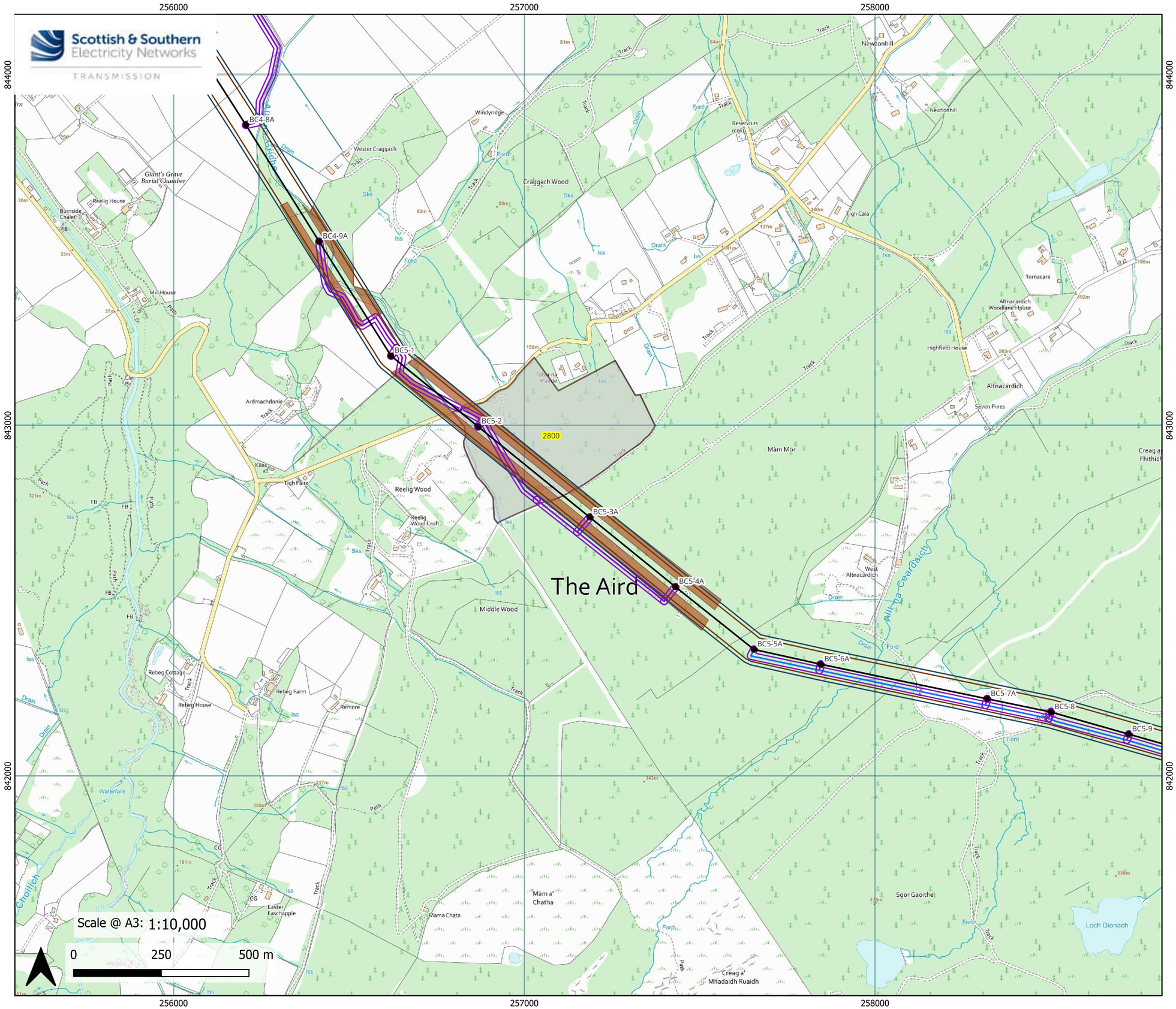
- Long-Established (of plantation origin)
- Landownership Boundary/Parcel



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

Title: **Figure 12.1.20b** Parcel 270 Proposed Felling Requirements

Drawn by: LA

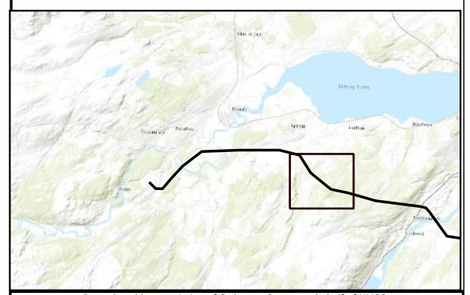


Legend

- 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

- Proposed Access – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Temporary
- Landownership Boundary/Parcel
- Forest Edge Planting Locations



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

Title:
Figure 12.1.19c Parcel 2800 Proposed Planting Areas

Drawn by: LA

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BC4-9A BC5-1 BC5-2 BC5-3A BC5-4A BC5-5A BC5-6A BC5-7A BC5-8 BC5-9 BC5-10 BC5-11

270

The Aird

Craggach Wood
Tigh Cala
Tornacara
Altnacardich Woodland House
Easter Altnacardich
Altnacardich
Seven Pines
Highfield House
Màm Mòr
Creag an Fhithich
Tobar na H'airde
Ardmachdonie
Kilns
Tigh Faire
Reelig Wood
Reelig Wood Croft
Middle Wood
West Altnacardich
Allt na Ceardaich
Rebeg Farm
Remore
Easter Faschapple
Màm a' Chatha
Mama Chata
Creag a' Mhadaidh Ruaidh
Sgor Gaoithe
Loch Dionach
Allt a' Dionach
An Leacainn

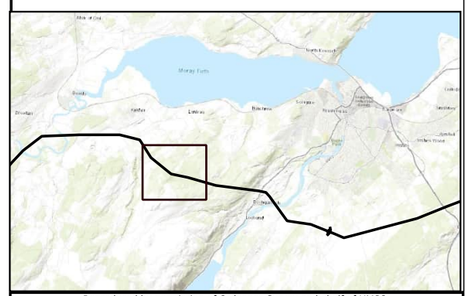
Scale @ A3: 1:10,000
0 250 500 m

Legend

- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- 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 – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Permanent Floated
- Proposed Access – Temporary
- Landownership Boundary/Parcel
- Forest Edge Planting Locations



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

Title:
Figure 12.1.20c Parcel 270 Proposed Planting Areas

Drawn by: LA