

TECHNICAL ANNEX 2.1: FORESTRY REPORT

1.1 Introduction

1.1.1 The Proposed Development Site is located within the Keppochan East and Keppochan Forest at national grid reference centre point 'NN 08491 19207'. Keppochan East is a privately owned commercial conifer forest plantation and is under a woodland restructuring management regime of clear fell and replant. This Technical Annex (TA) has been prepared to identify the potential impacts from the Proposed Development in respect of woodland management and risks from windthrow, as well as set out the management and mitigation measures which would be put in place to mitigate impacts and ensure there is no net loss of woodland. This TA should be read in conjunction with **Chapter 3: Description of Proposed Development and Alternatives**, **Chapter 4: Ecology and Ornithology** and **Chapter 7: Hydrology and Geology (Volume 1)**.

1.1.2 Accordingly, the objectives of this report are to:

- Describe the woodland baseline conditions on-site and in the immediate surrounding area;
- Identify the potential windthrow risk in connection with the Proposed Development components, including the substation site and access tracks;
- Review the Long Term Felling Plans of the woodland property within which the Site boundary is located;
- Identify the short and long-term potential impacts to the commercial woodland;
- Describe any mitigation measures proposed to address likely impacts relating to windthrow risk; and
- Identify the required area quantity for compensatory planting.

1.1.3 This Report is supported by:

- **Figure 1: Proposed Development Felling**
- **Figure 2: Proposed Development Felling - M2 Ariel View**
- **Figure 3: Proposed Development Location and Context - M3 Landscape**
- **Figure 4: Proposed Development Tree Cover - M4 Current**
- **Figure 5: Long Term Forest Plan (LTFL) - M5 Felling**
- **Figure 6: LTFL – M6 Restock**
- **Figure 7: LTFL - M7 Development Felling**
- **Figure 8: LTFL M8 Development Restock**

1.2 Site Location

1.2.1 The Proposed Development is located in Argyll and Bute, Scotland. It encompasses a 740 m section of the existing 132 kV Taynuilt to Inveraray OHL, positioned approximately 2.5 km southwest of Cladich. The Site location plan is shown in **Figure 1.1** and the Site layout is illustrated on **Figure 3.1a (Volume 3a)**.

1.2.2 The Site is located within a large commercial conifer plantation which is in the process of being harvested. The surrounding land is a mix of regenerating moorland, conifers and a small number of large trees which have been retained. The majority of the Proposed Development lies in semi-mature commercial forestry plantation (approximately 20 years old) and the existing wayleave for the 132 kV Inveraray to Taynuilt OHL, which crosses modified heath.

1.2.3 The Proposed Development is located in the headwaters of the River Aray. The proposed towers for the Tie-In to the Creag Dhubh Substation are located between tributaries of the River Aray. Proposed Temporary Diversion Pole 5 is located within 30 m of one of the tributaries, which flows in a north-easterly direction and discharges into the River Aray to the north. Proposed Temporary Diversion Pole 1 is approximately 36 m from another tributary of the River Aray which flows in an easterly direction. The existing forestry access track crosses a

number of tributaries of the River Aray using existing culverted watercourse crossings. The potential for impacts on downstream receptors as a result of forestry felling is discussed in **Table 7.2, Chapter 7 (Volume 1)**.

- 1.2.4 The wider surrounding area is sparsely populated with the nearest residential receptors at Cladich, approximately 2.5 km north east of the substation platform. The main road network comprises the A819 carriageway, which provides the main access to the Site.

1.3 Proposed Development

- 1.3.1 The characteristics of the Proposed Development, as shown on **Figure 3.1a and 3.1b (Volume 3a)** are provided below:

- Removal of existing section of the 132 kV Taynult to Inveraray OHL, between T35a and T36b;
- a temporary diversion route and wood pole tower locations;
- new angle towers 35A¹ and 36A to replace existing towers;
- new terminal towers 35B and 36B;
- new section of overhead line between angle tower 35A to terminal tower 35B and downleads to substation gantry;
- new section of overhead line between angle tower 36A to terminal 36B and downleads to substation gantry;
- land take to accommodate ancillary works, including the proposed new access tracks and upgrades to existing access tracks; and
- felling (within the LOD) would be required to clear the site for construction, as well as for ongoing management of the operational corridor.

¹ The proposed height of the replacement tower would result in an increase of more than 20% when compared to the existing tower, and therefore falls above the limit set out under Section 4(d) of The Overhead Lines (Exemption)(Scotland) Regulations 2013.

- 1.3.2 The Proposed Development will use the temporary laydown area² (approximately 1.5 ha) which is to be constructed for the proposed Creag Dhubh Substation (Planning Ref: 22/00782/PP), therefore there would be no additional laydown area for the Proposed Development.
- 1.3.3 Works associated with the construction of the proposed Creag Dhubh Substation, including upgrading the existing culverted watercourse crossing (River Aray), widening of the existing forestry track, would also be required for the Proposed Development.
- 1.3.4 These works have been considered as part of the Creag Dhubh Substation (Planning Ref: 22/00782/PP), and any felling/compensatory planting requirements have been captured as part of Creag Dhubh Substation assessment.

1.4 Woodland Characteristics

- 1.4.1 The woodland characteristics of the temporary OHL diversion site are predominantly thicket stage Sitka spruce *Picea sitchensis* of approximately 15 years old, with a smaller area of semi-mature Sitka spruce located in the northern area of the Site (Plate 1.1). The ground conditions are generally wet peaty gley soil.
- 1.4.2 The area of woodland removal required to provide a suitable Operational Corridor (OC) for the construction and safe energization of the Temporary OHL Diversion is shown in Figure 1 – Forestry Felling Map and equates to 2.4 hectares.



Plate1.1: Looking north, the temporary OHL diversion to be located to the west of the existing OHL.

² Subject of Permitted Development, under The Town and Country Planning (General Permitted Development)(Scotland)Amendment Order 1992.

1.5 Existing Access Track Upgrade and Widening

- 1.5.1 The current access track corridor is suitable to accommodate the proposed upgrade works. Only minor pruning of forest (access track) roadside conifers will be required in places.

Access Track Construction (New Build Section)

- 1.5.2 Any felling requirements for the new section of access track (Figure 1) will be captured as part of the proposed Creag Dhuhb substation construction works.

1.6 Windthrow Risk Impact Assessment

- 1.6.1 The windthrow risk resultant from the felling of the operational corridor (OC) is considered low, as the OC felling boundary 'brown edge' is located on the leeward side of the predominant westerly winds. The OC felling boundary associated with the mature conifers is identified as temporary due to the timing of the proposed landowner Long Term Forest Plan felling phases, as shown in Figure 5. The windthrow risk of the OC felling boundary associated with the young conifers is considered negligible due to the age and tree height of this woodland area.
- 1.6.2 After the dismantling of the temporary diversion OHL, the intention would be to replant with suitable tree species the area of woodland removal associated with the redundant temporary diversion OHL operational corridor. This would be subject to agreement with the Landowners, should agreement not be attained offsite compensatory planting would be sought for this area as part of the wider compensatory planting commitment for the project.

1.7 Woodland Management Impact

- 1.7.1 The temporary diversion OHL will serve very minimal impact on future woodland management activities, as the OHL is only temporary and the establishment of the OC will remove trees to safe distance from the temporary OHL.
- 1.7.2 The level of constraint on woodland management activities of the existing OHL will not be increased and will remain consistent with the OHL having been in situ for a significant number of years.

1.8 Woodland Removal Impact

Table 2.1.1: Woodland Removal for Infrastructure

Item	Woodland Type	Area
Temporary Operational Corridor	Mature conifer tree crop	1.6 ha
	Young conifer tree crop	0.8 ha

Table 2.1.2: Compensatory Planting

Item	Woodland Type	Area
Compensatory Planting Area	Mixed native conifer or broadleaves	2.4 ha

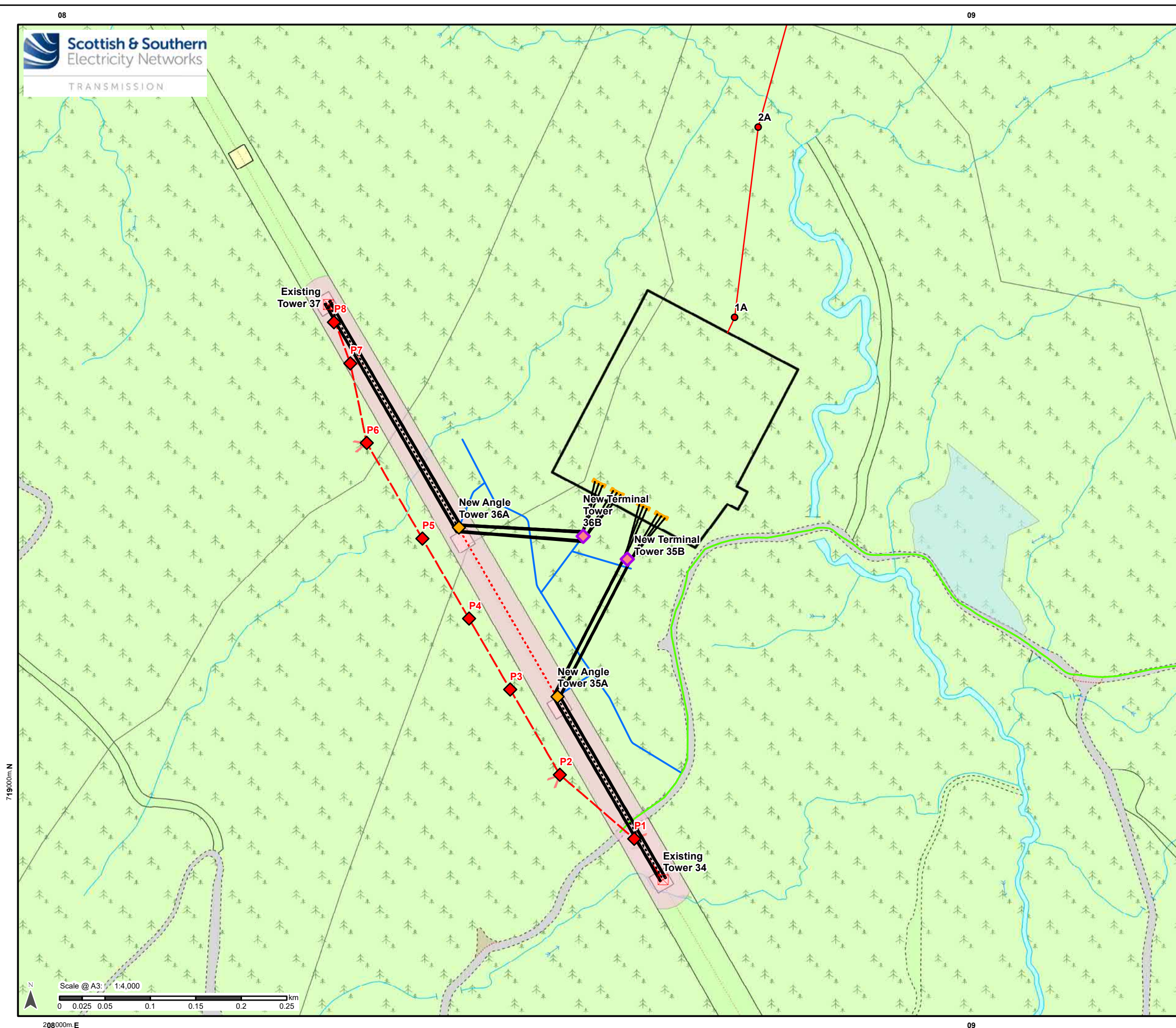
Table 2.1.3: Woodland Removal Impact of Infrastructure

Item	Woodland Type	Area
Total Loss of Woodland Area		2.4 ha
Total Compensatory Planting Area		2.4 ha

Total Nett Loss of Woodland Area		0.0 ha
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1.9 Compensatory Planting

- 1.9.1 In accordance with the Scottish Government's Control of Woodland Removal Policy to achieve no net loss of woodland, the area of woodland removal will be replanted as part of the Development's compensatory planting strategy. After the decommissioning of the Temporary OHL Diversion the proposal would be to replant the same area with suitable tree species for woodland establishment.
- 1.9.2 The compensatory planting would be undertaken in-line with the construction work programme and completion of the Proposed Development.



Proposed Development

- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Connection
- New Proposed Connection - Gantries
- Section of Existing Inveraray to Taynuilt 132kV to be Removed
- Temporary Diversion Route
- Temporary Diversion Route - Working Area
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Tower
- Temporary Diversion Poles
- New Towers
- Replacement Angle Towers
- Temporary Laydown Area
- Existing Wayleave Corridor

Adjacent Proposed Developments

- Creag Dhuhb to Dalmally 275kV Connection (Ref: ECU00002199)
- Creag Dhuhb to Dalmally 275kV Connection (Ref: ECU00002199)
- Proposed Creag Dhuhb Substation



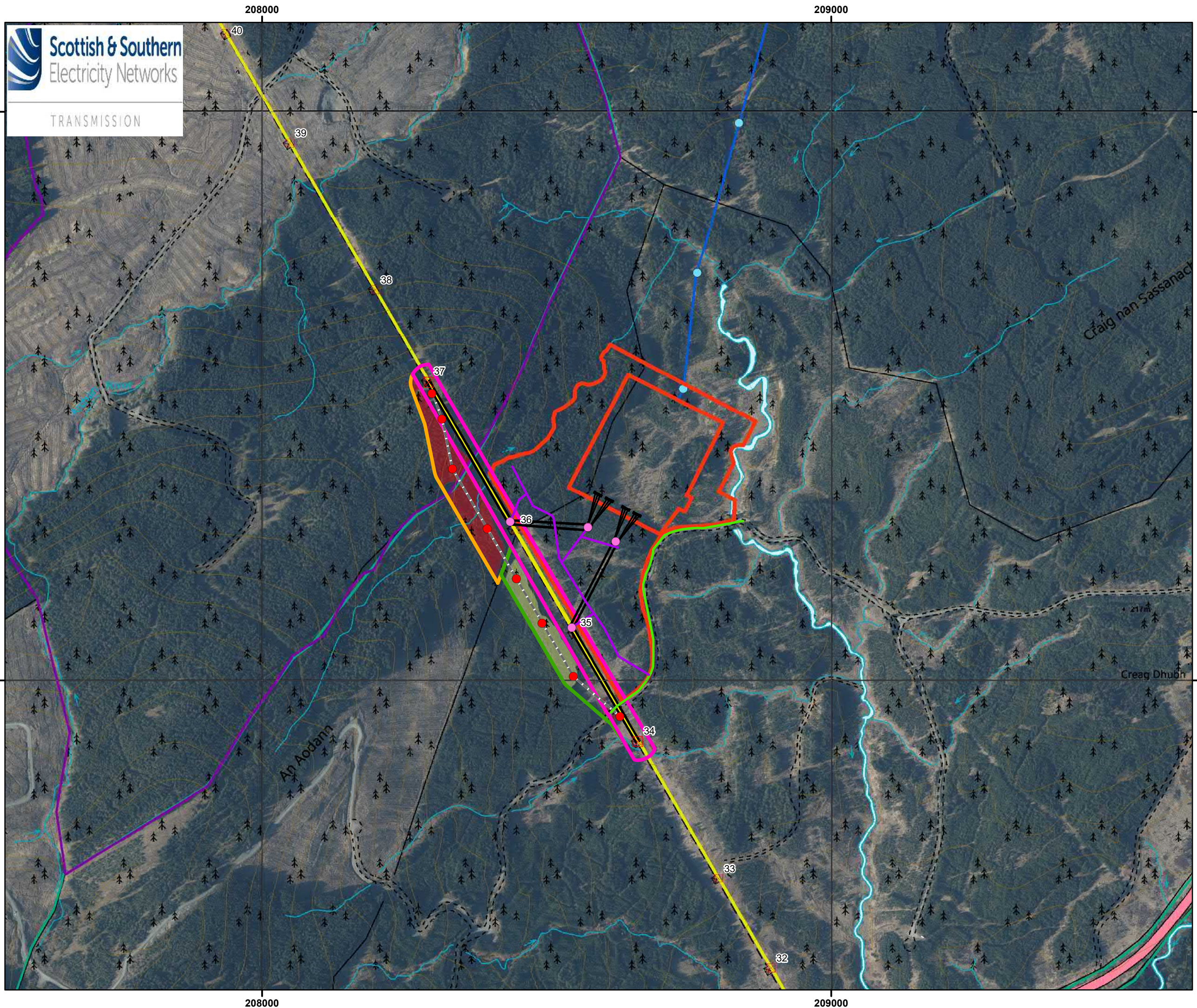
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Project No: LT000029
Project: Inveraray to Taynuilt (ITE/ITW)
Tie-In to Creag Dhuhb Substation

Title: Figure 1: Proposed Development

Drawn by: IF Date: 09/02/2023

Drawing: LT000029_39_WAY_010



LT000029
Inveraray to Taynuilt
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Appraisal & Mitigation of Forestry
Landscape Impacts

Figure 2

Tie-In to Creag Dhubh Substation-
Forestry Project Felling Aerial

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Legend

Property

Keppochan East

Keppochan

Proposed Development

Existing Towers

New Towers

Temporary Diversion Poles

Existing Inveraray to Taynuilt 132kV Connection

New Proposed Tie-In Connection

Temporary Diversion Route

Access Tracks - Existing Upgrade

Access Tracks - New Stone Perm

Existing Wayleave Corridor

Temporary Operational Corridor - 20m (1.16 Ha)

Temporary Operational Corridor - 32m (1.54 Ha)

Proposed Operational Corridor Felling

Mature Tree Crop Removal within Operational Corridor~ 1.59 ha

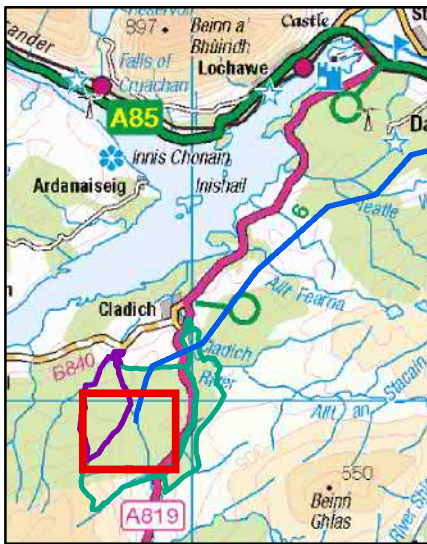
Young Tree Removal within Operational Corridor~0.8 ha

Adjacent Proposed Development

Creag Dhubh to Dalmally 275kV Connection

Creag Dhubh to Dalmally 275kV Connection

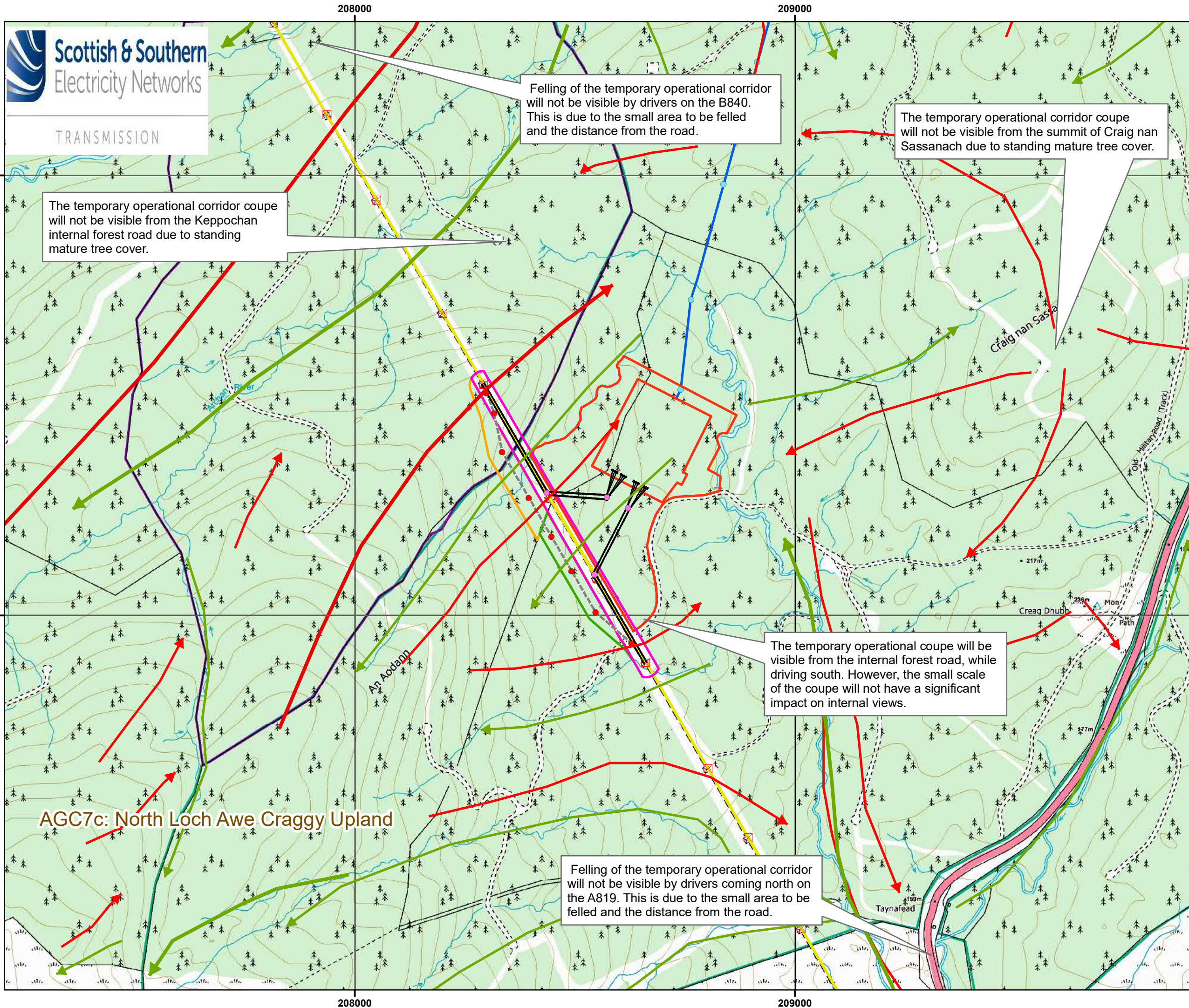
Creag Dhubh Power Station



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Landscape Impacts

Figure 3

Tie-In to Creag Dhubb Substation-
Location and Context

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Legend

Property

- Keppochan East
- Keppochan

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

- Creag Dhubb to Dalmally 275kV Connection
- Creag Dhubb to Dalmally 275kV Connection
- Creag Dhubb Power Station

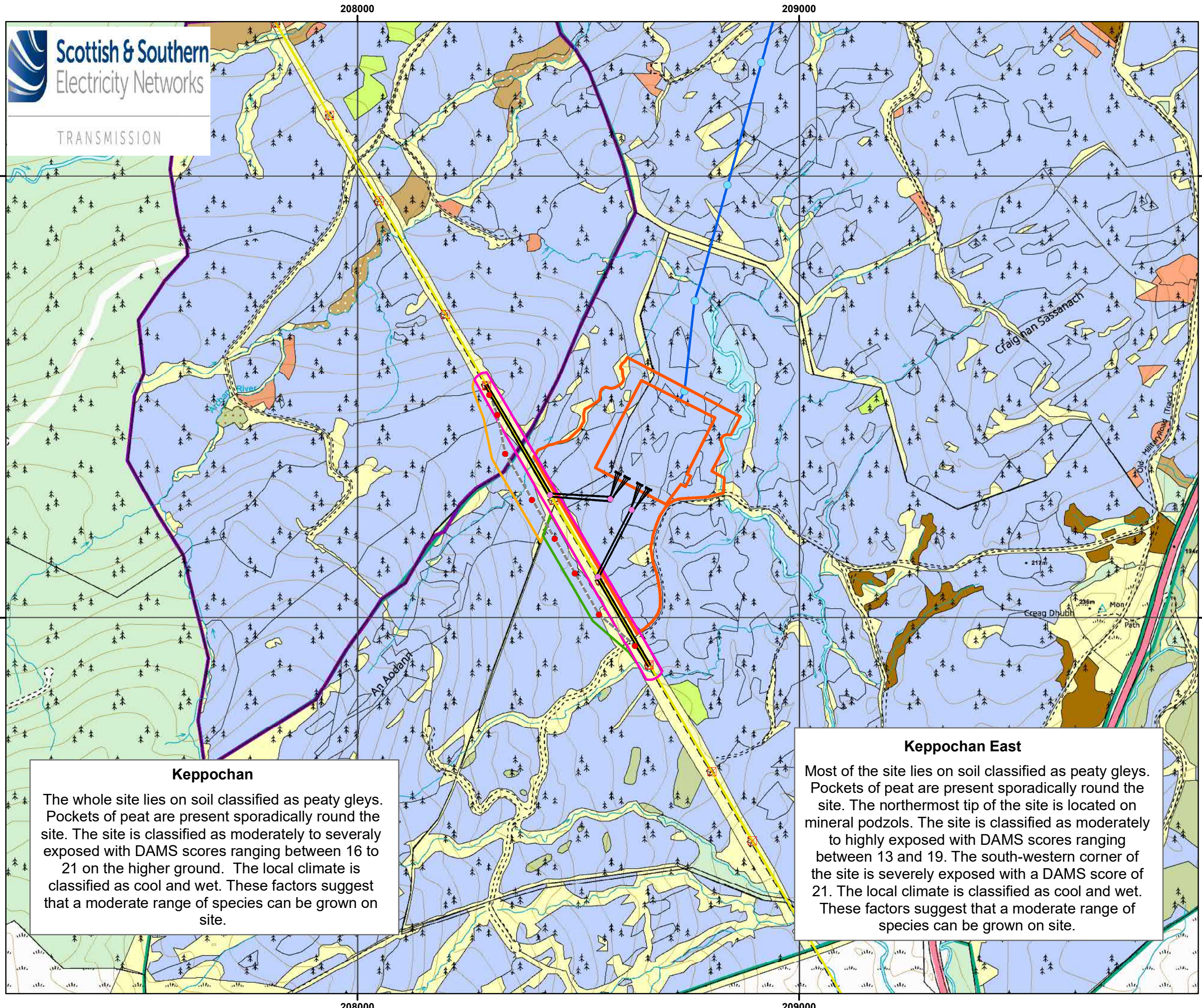
Landscape Analysis

- Ridges and Spurs
- Hollows and Gullies
- Core Path
- Landscape Character Type Boundary

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Figure 4

Tie-In to Creag Dhubb Substation-
Current Tree Cover

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Legend

Property

- Keppochan East
- Keppochan

Current Species

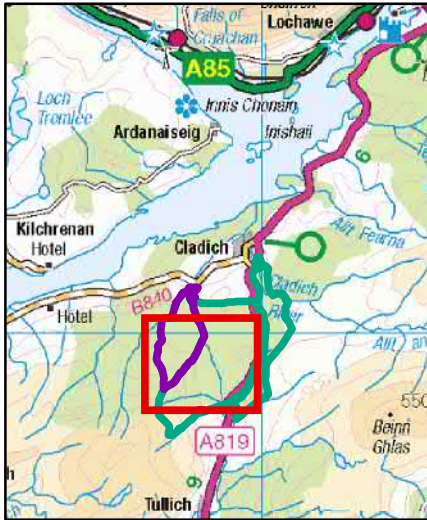
- Sitka Spruce
- Norway Spruce
- Douglas Fir
- Lodgepole Pine
- Japanese Larch
- Mixed Conifers
- Mixed Broadleaves
- Native Mixed Broadleaves
- Open Ground
- Other Land
- Unplanted

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

- Creag Dhubb to Dalmailly 275kV Connection
- Creag Dhubb to Dalmailly 275kV Connection
- Creag Dhubb Power Station



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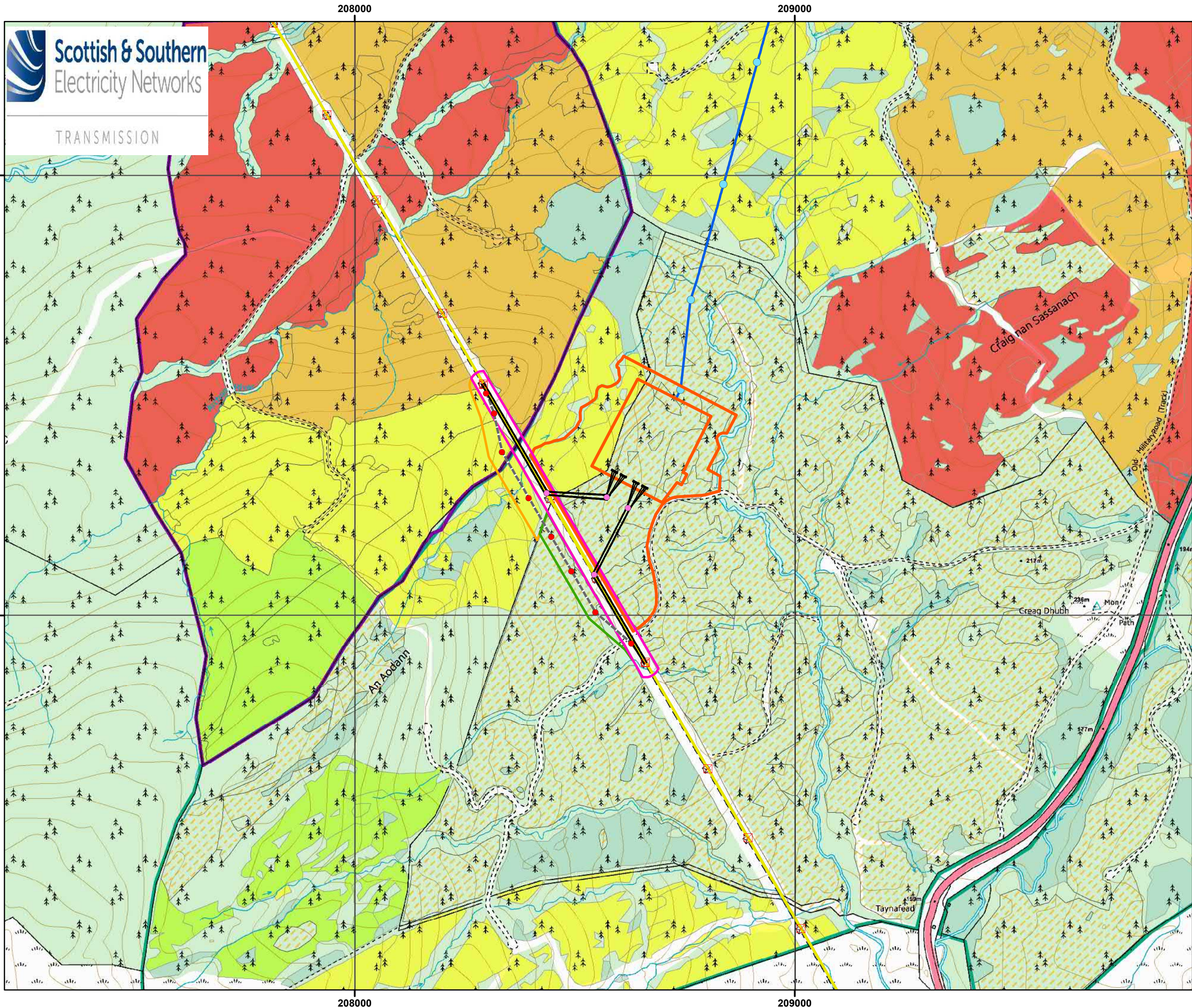
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Keppochan

The whole site lies on soil classified as peaty gleys. Pockets of peat are present sporadically round the site. The site is classified as moderately to severely exposed with DAMS scores ranging between 16 to 21 on the higher ground. The local climate is classified as cool and wet. These factors suggest that a moderate range of species can be grown on site.

Keppochan East

Most of the site lies on soil classified as peaty gleys. Pockets of peat are present sporadically round the site. The northernmost tip of the site is located on mineral podzols. The site is classified as moderately to highly exposed with DAMS scores ranging between 13 and 19. The south-western corner of the site is severely exposed with a DAMS score of 21. The local climate is classified as cool and wet. These factors suggest that a moderate range of species can be grown on site.



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Appraisal & Mitigation of Forestry
Landscape Impacts

Figure 5

Tie-In to Creag Dhùbh Substation-
LTFP Proposed Felling

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Legend

Property

- Keppochan East
- Keppochan

Keppochan

- Phase 1: 2016-2020
- Phase 2: 2021-2025
- Phase 3: 2026-2030
- Phase 4: 2031-2035
- Long Term Retention

Keppochan East

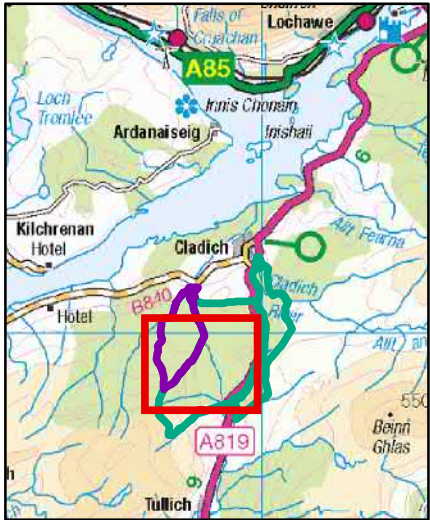
- Phase 1: 2015-2019
- Phase 2: 2020-2024
- Phase 3: 2025-2029
- Phase 4: 2030-2034
- Beyond Plan Period
- Long-term Retention

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

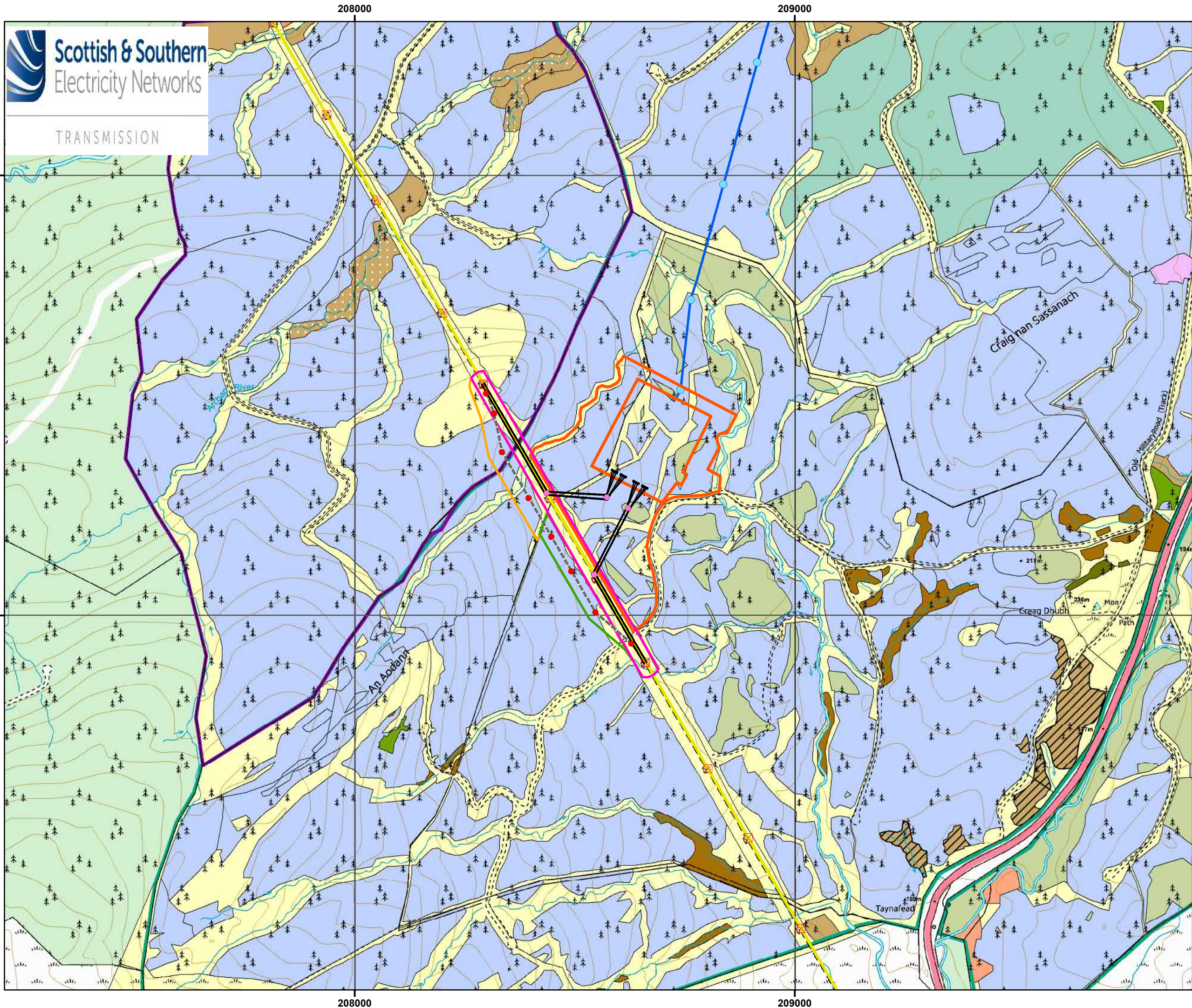
- Creag Dhùbh to Dalnally 275kV Connection
- Creag Dhùbh to Dalnally 275kV Connection
- Creag Dhùbh Power Station



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TRANSMISSION

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Landscape Impacts

Figure 6

Tie-In to Creag Dhubh Substation-
LTFP Proposed Layout of Crops

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Legend

Property

- Keppochan East
- Keppochan

LTFP Restock Species

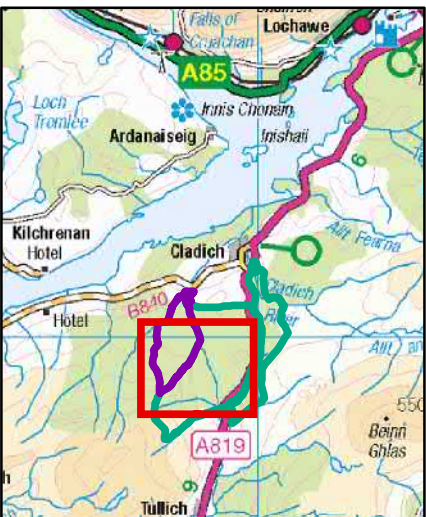
- Sitka Spruce
- Scots Pine
- Larch
- Noble Fir
- Other Conifers
- Mixed Conifers
- Mixed Broadleaves
- Native Mixed Broadleaves
- Open Ground
- Quarry
- Unplanted
- Natural Regeneration of Mixed Broadleaves

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

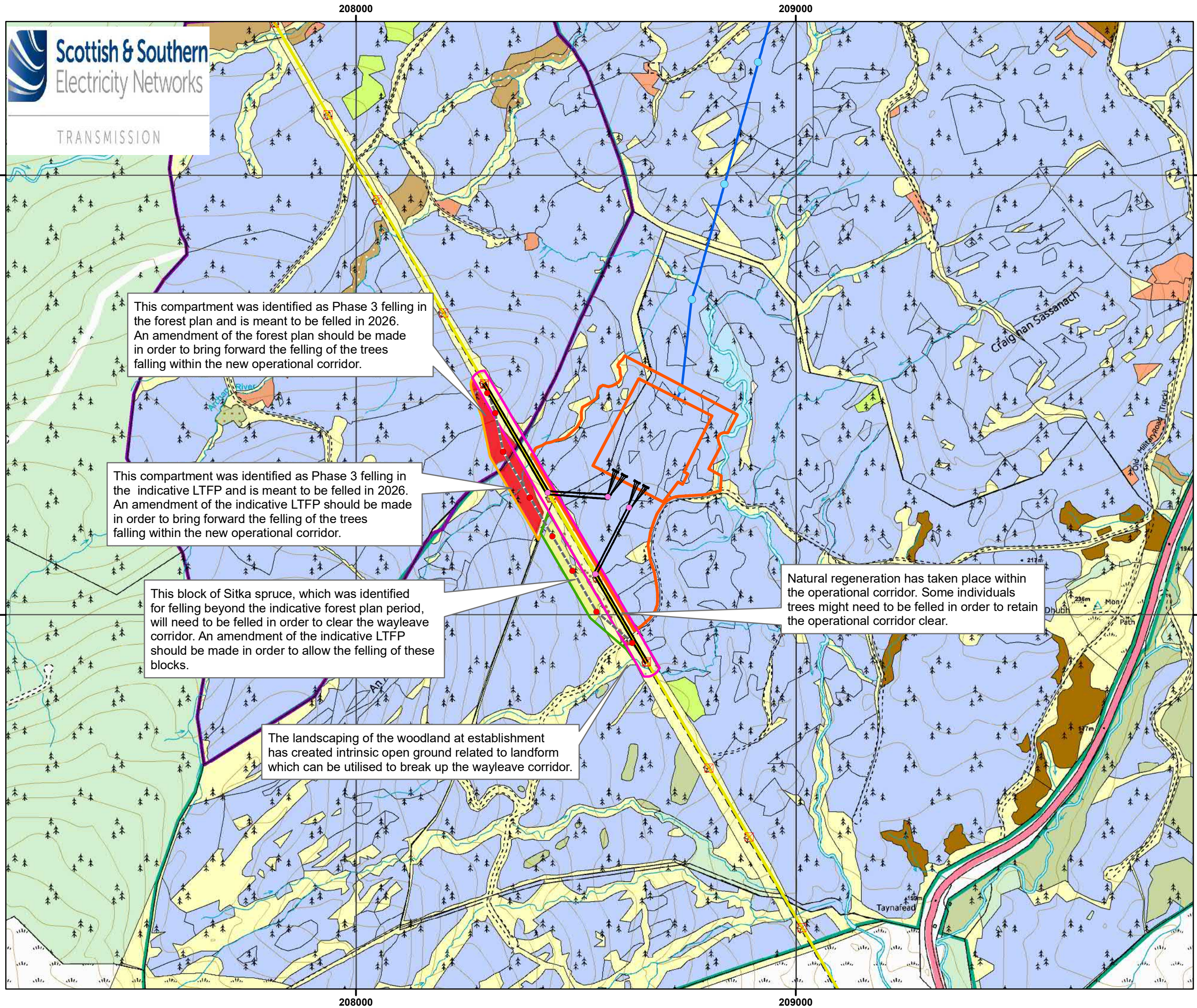
- Creag Dhubh to Dalmailly 275kV Connection
- Creag Dhubh to Dalmailly 275kV Connection
- Creag Dhubh Power Station



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Appraisal & Mitigation of Forestry
Landscape Impacts

Figure 7

Tie-In to Creag Dhùbh Substation-
Proposed Development Felling

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Legend

Property

- Keppochan East
- Keppochan

Current Species

- Sitka Spruce
- Norway Spruce
- Douglas Fir
- Lodgepole Pine
- Japanese Larch
- Mixed Conifers
- Mixed Broadleaves
- Native Mixed Broadleaves
- Open Ground
- Other Land
- Unplanted

Proposed Operational Corridor Felling

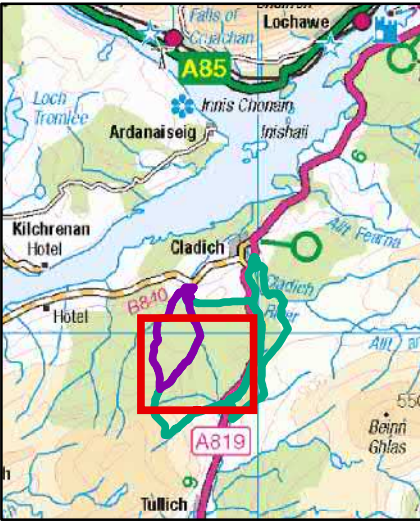
- Mature Tree Crop Removal within Operational Corridor- 1.59 ha
- Young Tree Removal within Operational Corridor-0.8 ha

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

- Creag Dhùbh to Dalmailly 275kV Connection
- Creag Dhùbh to Dalmailly 275kV Connection
- Creag Dhùbh Power Station

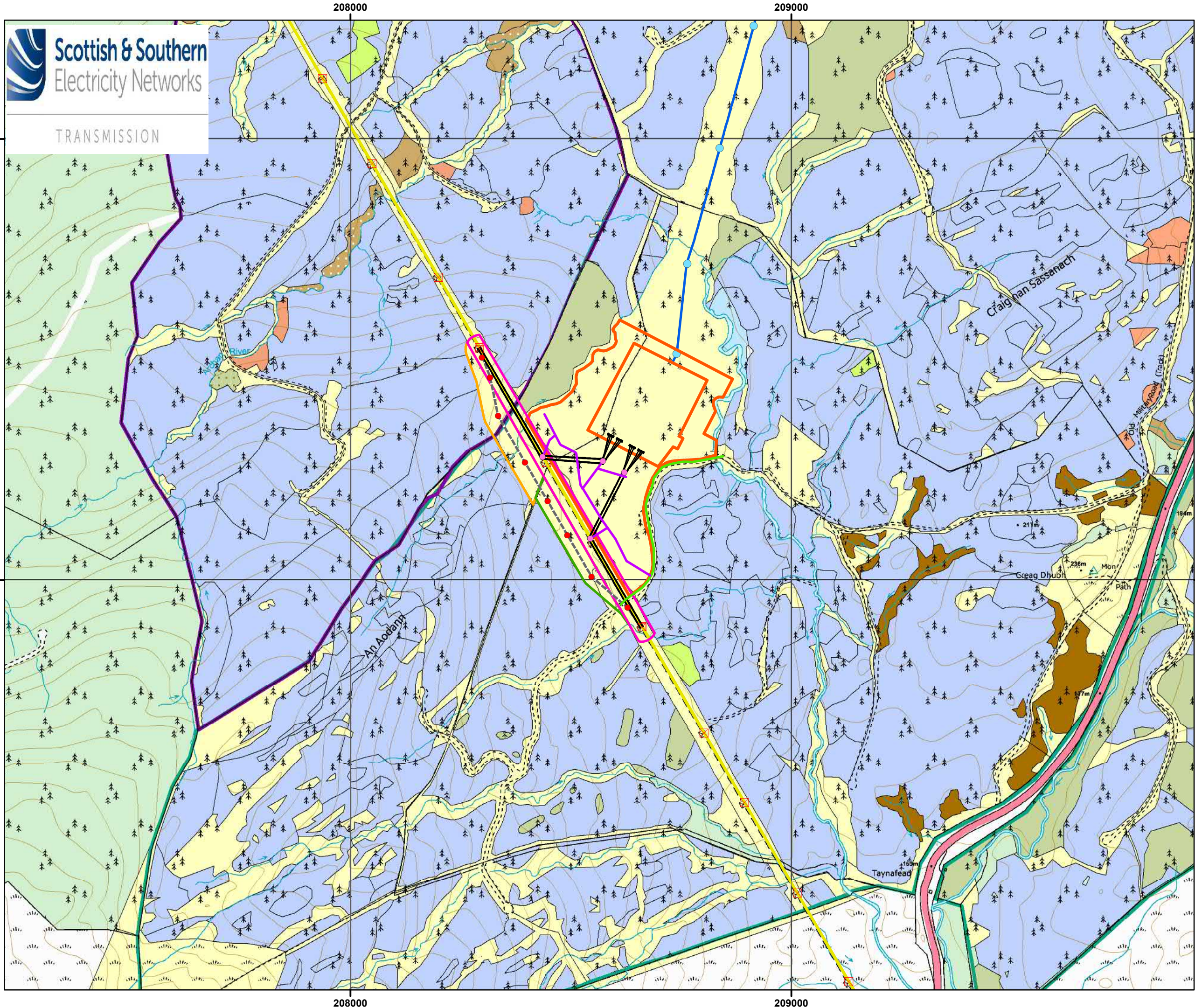


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Legend

Property

- Keppochan East
- Keppochan

Current Species

- Sitka Spruce
- Norway Spruce
- Douglas Fir
- Lodgepole Pine
- Japanese Larch
- Mixed Conifers
- Mixed Broadleaves
- Native Mixed Broadleaves
- Open Ground
- Other Land
- Unplanted

Proposed Development

- Existing Towers
- New Towers
- Temporary Diversion Poles
- Existing Inveraray to Taynuilt 132kV Connection
- New Proposed Tie-In Connection
- Temporary Diversion Route
- Access Tracks - Existing Upgrade
- Access Tracks - New Stone Perm
- Existing Wayleave Corridor
- Temporary Operational Corridor - 20m (1.16 Ha)
- Temporary Operational Corridor - 32m (1.54 Ha)

Adjacent Proposed Development

- Creag Dhubh to Dalmally 275kV Connection
- Creag Dhubh to Dalmally 275kV Connection
- Creag Dhubh Power Station

