

Cambushinnie 400kV Substation

Design & Access Statement

April 2025

Prepared for **Scottish and Southern Electricity Networks Transmission**

1. Introduction

- 1.1 This Design and Access Statement (DAS) has been prepared to support a planning application by Scottish Hydro Electric Transmission plc ("The Applicant"), operating and known as Scottish and Southern Electricity Networks Transmission ("SSEN Transmission"). The application seeks planning permission under Section 25 of the Town and Country Planning (Scotland) Act 1997 (as amended) to construct and operate electricity infrastructure and upgrade and extend the existing access tracks to enable the construction and operation of the Cambushinnie 400 Kilovolt (kV) substation, located approximately 680 m southwest of Braco village at its nearest point and approximately 400 m southwest of the existing Braco West Substation, within Perth and Kinross Council (PKC) local authority area, hereafter referred to as "the Proposed Development". In this DAS, the terms 'Applicant' and 'SSEN Transmission' are used interchangeably unless the context requires otherwise.
- 1.2 The Proposed Development is required as a result of the Scottish and UK Government's Net Zero climate change targets which require notable increases in renewable generation. As such, substantial investment in new transmission network infrastructure to transport renewable energy and reinforce the network is required and is a priority. National Grid ESO was clear that an integrated design for the electricity transmission network is needed to connect the new, large-scale renewable sources of energy. It is crucial that this investment, including the Proposed Development, is delivered in full along with the other elements of the transmission system reinforcement required. Failing to progress any part of this holistic design will lead to 2030 targets being missed.
- 1.3 The Proposed Development would be a key node on the NESO's Pathway to 2030 Holistic Network Design (HND), which identified the requirement to reinforce the onshore corridors between Beaully and Peterhead, Beaully and Spittal in Caithness, and an offshore subsea cable between Spittal and Peterhead as well as the need to upgrade the 275kV Beaully-Denny circuit. The Proposed Development is required to enable connections that would provide the capacity to take power from large-scale onshore and offshore renewable generation (mainly wind farms) to the northeast mainland of Scotland. From there, it could be transported to demand centres in England via a subsea cable. The projects identified for the Beaully-Denny Second Circuit 400kV Upgrade and new 400kV substations at Braco West and Fasnakyle include:
- > A new 400kV substation at Braco West, known as Cambushinnie;
 - > A new 400kV substation at Fasnakyle (near Beaully), known as Bingally;
 - > Modifications or extensions to other substations along the route, including Fort Augustus, Errochty, Kinardochy and Tummel; and
 - > Connections to existing substations would also be required as part of the upgrade.
- 1.4 The energy regulator, Ofgem, approved the need for the Proposed Development as part of its Accelerated Strategic Transmission Investment (ASTI) framework decision. The project, alongside several other major network upgrades planned in the north of Scotland, forms part of a Great Britain wide programme of works that are required to meet UK and Scottish

Government energy targets. There is a strong expectation from both Governments and Ofgem, that these projects would be delivered by 2030. Specifically, these projects are needed to deliver the Governments 2030 renewable targets as set within the British Energy Security Strategy (BESS) (April 2022).

1.5 SSEN Transmission has a licence obligation to invest in its existing assets to maintain network health and conditions, thereby improving operational flexibility and resilience.

1.6 A DAS is required to support the submission of a major planning application as set out in the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. A DAS has a role in conveying design principles which have determined the design and layout of the development proposed, taking account of specific site and locational circumstances.

2. The Site and Site Selection

Site Location and Setting

2.1 The Proposed Development would be located on land approximately 3.5 km west of Braco Village and approximately 400 m southwest of the existing Braco West Substation, with the Proposed Development Site (the Site) being situated along the existing 400 kV Beaully to Denny Overhead Line (OHL). The Red Line Boundary (RLB) includes the access road to the proposed substation and is shown on Figure 2.1.

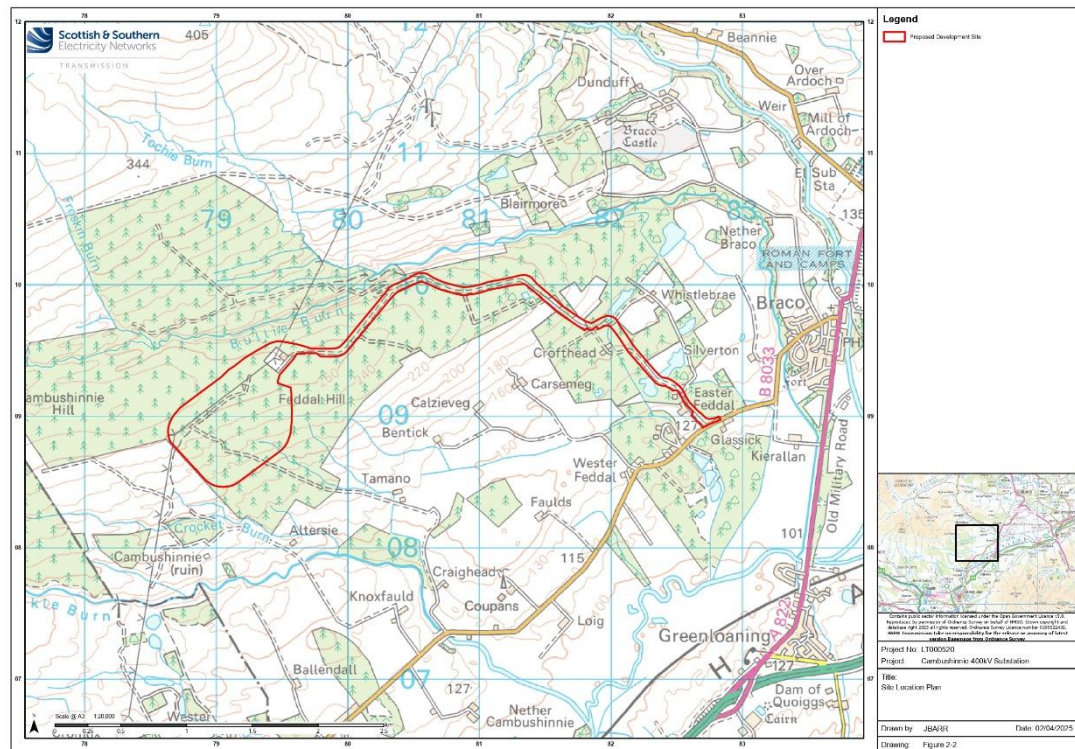
2.2 The Site comprises of recently felled and replanted commercial forestry covering the boundaries of Cambushinnie Hill and Feddal Hill. There is a stone access track present within the Proposed Development area as well as the existing Beaully to Denny Overhead Line (OHL). There are areas of existing commercial forestry and numerous watercourses surrounding the RLB. The most notable of these are the Muckle Burn to the south and the Bullie Burn to the north. The main Site area (which includes both the permanent and temporary development features) has an elevation ranging from approximately 200 metres (m) AOD at its lowest point in the southern end of the Site, rising to approximately 260 m in the northern area of the Site.

2.3 The land south of the Site is predominately for agricultural land use and livestock rearing. As such the wider local area contains farmhouses and agricultural buildings as well as a local road network consisting of small single lane roads. The nearest building to the proposed substation platform is Tamano Farm approximately 1.1 km to the southeast. The Braes of Doune Wind Farm is located approximately 5.8 km to the west. The Site is within the *Lowland Hills – Tayside* and *Broad Valley Lowlands – Tayside* Landscape Character Types which comprises a series of low ridges and hills between Strathallan and Strath Tay, separating the lowland valleys. There are no Core Paths within the Site.

2.4 There are three notable exceptions to the general character of the wider landscape. These are the aforementioned Braes of Doune Wind Farm, the existing Braco West Substation, and the existing Beaully Denny OHL.

2.5 The Proposed Development is located along an existing road network connecting to the B8033 and subsequently the A822. See Section 5 for further information on Site access.

Figure 2.1 Site Location Plan



Site Selection

- 2.6 Studies that informed the ESO's Pathway to 2030 Holistic Network Design, identified the need to upgrade the 275kV Beauldy-Denny circuit. As a result, and in conjunction with the requirements set out in 2.8 below, a search area of a 5 km radius surrounding the existing Braco West Substation commenced to find a suitable site to connect back into it, taking into account the local topography and physical constraints. After a site selection process as outlined below, it was determined that Site Option 2 would be the preferred Site.
- 2.7 A two-stage site selection process was undertaken to determine the location of the Proposed Development, following the Applicant's internal guidance. The objective of this process is:
- "To facilitate the design, consenting and operation of new substations in a manner that is technical, feasible and financially viable which causing, on balance, the least disturbance during construction and operation to the environment and the people who live, work and use it for recreation."*
- 2.8 SSN Transmission required the new substation to meet the following requirements:
- > Proximity to the existing Braco West Substation - set at 5 km for an effective search area, taking account of the local topographical and physical constraints;
 - > Proximity to the existing Beauldy-Denny OHL to minimise the amount of new OHL or cabling required to connect to the network;
 - > In areas which do not contain environmental designations and minimise impacts on local communities and environmental receptors;
 - > A large enough site to accommodate the initial estimated platform size of 380 m x 315 m, and;
 - > Additional capacity to accommodate future connections.

- 2.9 The outcome of the above requirements was the identification of six sites to be taken forward as part of Stage 1: Initial Screening Stage. The six sites were evaluated using a combination of site walkovers and desktop study to identify options to progress to Stage 2 analysis, overall, three out of the initial six sites were progressed. These three sites then underwent an environmental and technical constraint appraisal to determine the site to be the most technically feasible, economically viable and environmentally acceptable option. The identified sites are the following:
- > Site Option 1: located on a mixture of felled woodland and existing commercial forestry approximately 250 m southeast of the existing Braco West Substation and approximately 3.5 km west of Braco village.
 - > Site Option 2: located on existing commercial forestry approximately 300 m southwest of the existing Braco West Substation and approximately 3.9 km west of Braco village.
 - > Site Option 3: located on a mixture of felled woodland and existing commercial forestry approximately 400 m west of the existing Braco West Substation and 4.2 km west of Braco village.
- 2.10 The appraisal of these sites can be found in Chapter 2 of the EA report as well as in the Braco West Site Selection Consultation Document¹, which was produced by SSEN Transmission in August 2023. In summary it was determined that Site Option 2 was the best when relating to environmental constraints due to there being less potential protected habitat areas and surface water impacts.
- 2.11 Further detail regarding site selection is available in the Consultation Document¹ available on the SSEN Transmission website.

Stakeholder Engagement and Consultation

- 2.12 SSEN Transmission undertook initial public consultation on the site selection and the preferred Site, as well as direct engagement with statutory and non-statutory consultees, community councils, elected representatives, and landowners and occupiers. The consultation period was open from the 22nd of August until the 3rd of October 2023.
- 2.13 The purpose of the consultation period was for SSEN Transmission to gather feedback from the relevant stakeholders regarding the Site as well as any other potential considerations.
- 2.14 The Report on Consultation² published in February 2024 on the SSEN Transmission website summarises the feedback from the initial consultation. The overall outcome of the consultation confirmed the Site Option 2 as the preferred Site, however, local residents suggested that Site Option 3 would also be preferable as it is located further away and would be less visible. In response to this, Ground Investigations (GI) works were carried out in November 2023 at both Site Option 2 and 3 to understand the suitability of ground conditions. The results concluded that Site Option 3 would have substantial environmental and engineering constraints relating to the excavation of deep peat, unlike Site Option 2 which confirmed to have limited presence of widespread peat. Site Option 2 was therefore retained as the preferred Site due to this.
- 2.15 A Pre-Application Advice Request was submitted to PKC on the 23rd of November 2023 (Reference: 23/00023/PREAPM) with a written response from the council outlining the required reports / assessments if the Proposed Development was not considered EIA development. Subsequently, an EIA Screening Opinion was submitted to PKC in January

¹ Scottish & Southern Electricity Networks (2023) *Site Selection Consultation Document – Beaully – Denny 2nd Circuit Upgrade Braco West* [online] Available at: <https://www.ssen-transmission.co.uk/projects/project-map/cambushinnie-400kv-substation/> (Accessed 18/03/2025)

² Scottish & Southern Electricity Networks (2024) *Braco West Substation Report on Consultation* [online] Available at: <https://www.ssen-transmission.co.uk/projects/project-map/cambushinnie-400kv-substation/> (Accessed 18/03/2025)

2024, with a response in February 2024 (Reference: 23/02147/SCRN) stating that the Proposed Development does not qualify as an EIA development.

PAN and Pre-application Consultation (PAC)

- 2.16 A Pre-Application Notice (PAN) was submitted to PKC on the 9 February 2024 triggering the beginning of the statutory consultation period. The PAN provided the Council with an outline of the application details, dates of public events, publicity arrangements, and confirmation of the Site location.
- 2.17 Statutory pre-application consultation events were subsequently held on the 20 March 2024 and 12 June 2024.
- 2.18 The common themes of feedback from all the consultations were:
- > Design of the Proposed Development;
 - > Landscape and visual impacts;
 - > Trees and the environment; and
 - > Traffic volumes and transport assessments.
- 2.19 The Feedback was considered throughout the design of the development, and appropriate reports such as a landscape and visual assessment and cultural heritage assessment have been included in the Environmental Appraisal (EA) to determine any effects the Proposed Development would have on the existing land.
- 2.20 Further responses to the feedback can be found in the PAC report submitted along with this application.

3. The Proposed Development

- 3.1 The Proposed Development would comprise of a 400 kV outdoor Air Insulated Switchgear (AIS) to support the upgrade of the Beaully-Denny OHL to a 400 kV double circuit. At the existing Braco West 275 kV Substation, the existing 275 / 33 kV transformers and some 275 kV switchgear would be removed and replaced like-for-like, to facilitate a change in operational voltage for that substation to 132 / 33 kV.
- 3.2 The Proposed Development would include the construction of a new Sustainable Drainage System (SUDS) basin as well as extensions and upgrades to the existing access track (see Section 5).
- 3.3 The Proposed Development components are illustrated in Figure 3.1 and would comprise of the following:
- > Temporary construction compound (including a temporary borehole for welfare during construction, expected volume extracted of less than 10 m³ per day) and laydown area;
 - > Substation platform of approximately 410 m x 220 m with associated earthworks;
 - > Two 400 / 132 kV transformers, a new 400 kV double busbar and ancillary equipment;
 - > A new control building (approximately 24 m x 49 m) with a maximum height of 7 m above the finished surface level;
 - > Existing access track upgrades between the B8033 and existing Braco West Substation;
 - > Construction of new access track from the existing Braco West Substation to the Cambushinnie substation platform;
 - > Upgrades to the existing Cambushinnie Hill track;

- > Construction of new access track from the northwestern edge of the proposed Cambushinnie substation platform to the SuDS basin;
- > Permanent drainage systems;
- > One permanent borehole for Site water supply located on approach to the main access gate of the proposed substation (expected volume extracted of less than 10 m3 per day)
- > Landscaping and biodiversity enhancements; and
- > Palisade perimeter fence of maximum height of 4 m above the finished surface level.

3.4

In addition to the above, the following associated development, while not falling under the remit of the Proposed Development, is required:

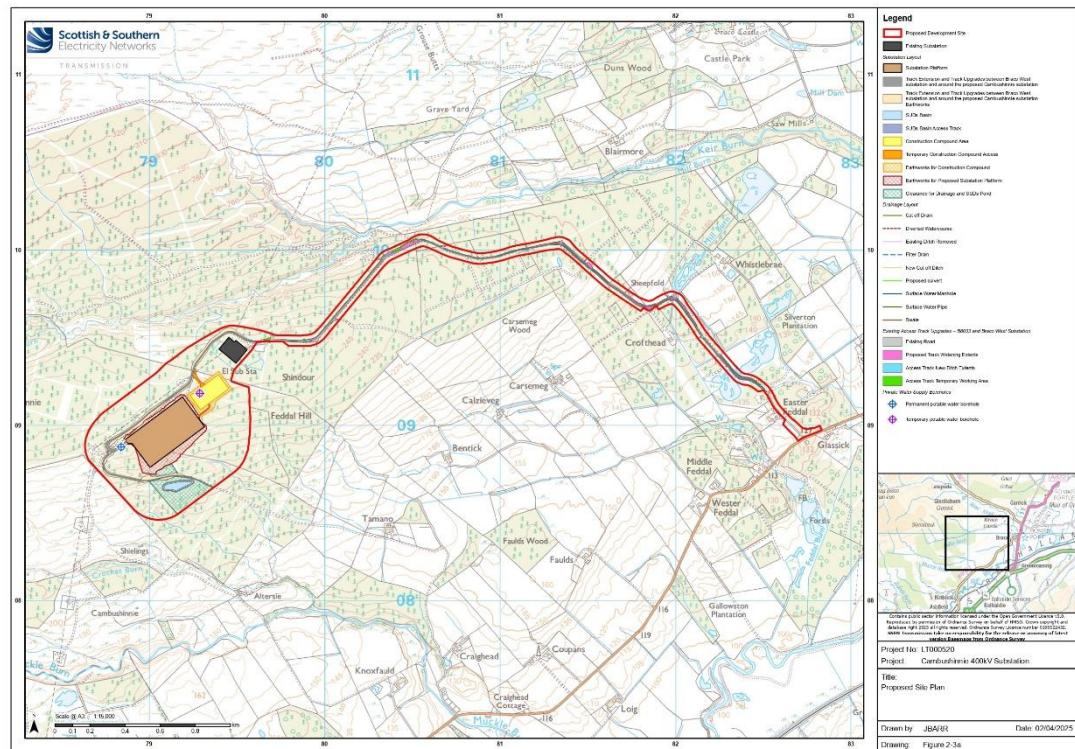
- > OHL tie-in from the Proposed Development to the existing Beaulieu Denny OHL – consent would be sought by the Applicant under section 37 of the Electricity Act;
- > An underground cable (UGC) linking the existing Braco West Substation to the proposed substation, for which The Applicant would exercise Permitted Development rights under the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (TCP GPDO) class 40(1)(a); and
- > A new haul road that bypasses the need to route construction traffic through Braco village, The Applicant would progress this under a separate planning application under the Town and Country Planning (Scotland) Act 1997. The construction of the haul road would connect the A822 and B8033 roads with the western extent of the haul road connecting the B8033 to the existing Braco West substation access track.

3.5

Permanent operational infrastructure would include the following:

- > Electricity substation;
- > Access – via the proposed existing access track upgrades as well as the public road network; and
- > Security fencing.

A more detailed description of the Proposed Development is contained in Chapter 2 of the Environmental Appraisal (EA) Report. See Figure 3.1 below for the Proposed Layout.



- > Land use and topography;
- > Screening opportunities; and,
- > Planning regulations.

4.4 The optimal design and orientation of development components with the lowest risk of impacts on potential sensitive receptors was chosen. The layout and design of the Proposed Development has sought to minimise the potential permanent effects.

4.5 Key design principles and objectives followed in the design evolution of the Proposed Development included:

- > Optimising the development 'footprint' within the Site to limit the area required for development, to minimise visual impact in the wider landscape and to utilise existing screening afforded by forestry and landform.
- > Minimise the disturbance or displacement of protected species.
- > Minimise need for land take with regard to reducing potential disturbance on the natural and human environment.
- > Minimise the potential impact on nearby sensitive human receptors during construction and operation.
- > Propose appropriate architectural form, colour and materials.
- > Maximise available land for additional planting and landscape forms to improve screening and provide habitat and biodiversity enhancement.
- > Take advantage of and minimise changes to the existing ground form and levels.

Sensitive Receptors

4.6 The layout and design of the Proposed Development has been strongly influenced by the potential impacts on sensitive receptors and features within the surrounding environment. This information has been embedded into the iterative design process to minimise the potential for permanent effects. Potential sensitive receptors within the study area are those where physical or perceptual effects may result as a consequence of the Proposed Development. These receptors can be defined from the following measures:

- > Physical Features: perceptible physical features (e.g. topographic features; woodland, hedgerows, field enclosure) which could be lost or altered through the introduction of the Proposed Development.
- > Landscape:
 - Landscape Character Types (LCTs) which display both physical and perceptual characteristics which could be affected by the Proposed Development.
 - Designated Landscape Areas: Areas of landscape which are principally designated for their scenic quality or rarity and considered of particularly increased value. Often defined by a number of key characteristics and / or special qualities informed by the underlying character of the landscape, consideration is given to how these may be affected and how the designated area may be altered by the Proposed Development.
- > Ecology:
 - Direct and indirect effects during construction and operation on protected and notable species as a result of loss or fragmentation of habitats, specifically pine marten, red squirrel, water vole, brown hare, hedgehog, amphibians and reptiles; this could be via lighting, noise, pollution or visual disturbance.

- > Noise impact on residential receptors during construction and operation of the Proposed Development. Construction and operational noise arising as a result of the Proposed Development has been assessed within a Study Area of approximately 2 km from the Site. If the noise criteria can be met at the closest NSRs, then any property at a greater distance would also meet the criteria as noise would reduce to a smaller value at a greater distance.

Design Considerations

- 4.7 The substation design has evolved through a series of iterations, to optimise electrical, civil engineering, and environmental features. The design aims to minimise significant environmental impacts of the Proposed Development through embedded mitigation, considering site topography, slope, drainage, existing land uses, and vegetation. Figure 3.1 above illustrates the Proposed Development design.
- 4.8 The visual impacts of the Proposed Development have been considered throughout the design of the development and the colour for the control building has been selected to be sympathetic to the existing background. Chapter 4 (Landscape Character and Visual) of the EA Report provides further detail on visual impacts.
- 4.9 Landscape design has been designed to help better integrate the Proposed Development into the landscape. The proposed landscape design, illustrated in Figures 4.1 and 4.2, includes retaining / reinstating existing vegetation, woodland planting, wet woodland / scrub planting, and peatland seeding with dwarf shrub planting. The design incorporates proposed earth mounding to support one of the three peatland restoration areas as well as a compensatory open water habitat. Native woodland planting has been proposed to provide screening and landscape integration. On-site forestry planting includes 4.46 ha of woodland, 0.23 ha of wet woodland, 1.39 ha of dwarf shrub.
- 4.10 The Proposed Development would have a SUDS basin incorporated into the design to manage surface water runoff from the Site, as well as extensions and upgrades to the existing access track. The basin would be located to the south of the substation platform along the proposed new access track. A drainage assessment will be submitted as part of the planning application.
- 4.11 Where new proposed OHL's are shown, no landscaping bunds or vegetation of considerable height would be included. This is to ensure that the minimum safety standards for clearances beneath OHL are maintained and to ensure that mature vegetation does not pose a safety risk should trees fall.
- 4.12 Any unnecessary earthworks have been avoided so there is a considerable extent of land that would remain unworked within the Red Line Boundary. Construction operations would be contained within recently felled plantation adjacent to the existing Braco West Substation or associated with the proposed existing access track upgrades. The infrastructure has been designed to be as tightly configured as possible, while maintaining the required separation, to minimise the extent of the earthworks.
- 4.13 Stone and earthworks materials for the construction of the Proposed Development would be a combination of site won, through cutting of the existing surface to construct the platform and locally imported materials. Site won materials would be prioritised over imported materials to reduce the impact on local roads and the environment.
- 4.14 The proposed planting and reinstatement works would be designed to create a variety of natural habitats, with the intention to improve the biodiversity of the Site. Chapter 4 of the EA Report illustrates how the Proposed Development would sit within the landscape, having a negligible adverse and minor adverse effect on landscape characters and a no change / neutral to minor adverse effect on visual amenity with established mitigation planting measures.

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PLANT SCHEDULES

Standard Planting Mix

Scientific Name	Common Name	Size	Plant Type	Height (m)	Spacing (m)	Quantity	Rate
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%

Wood Shrub Planting Mix

Scientific Name	Common Name	Size	Plant Type	Height (m)	Spacing (m)	Quantity	Rate
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%
<i>Salix viminalis</i>	Willow	2m x 1m	Shrub	2.0	1.0	1,000	100%

Legend

- Proposed Development Site
- Existing vegetation to be retained and/or reinstated
- Proposed Woodland Planting
- Proposed Wet Woodland Planting
- Proposed Wetland Seeding with Sweet Slime Planting
- Proposed Wetland Seeding
- Proposed Wet Meadow Seeding
- Proposed Wetland Restoration Area
- Drainage/Silted basin
- Compensatory Open Water Habitat

Existing vegetation to be retained as far as possible. Areas affected by construction to be reinstated and seeded with suitable postulated grass seed mix

Existing Substation

Proposed woodland planting to provide screening and landscape integration

Proposed Substation

Proposed earth bunding to support postulated restoration

Compensatory open water habitat

SuDS Basin

PLANT AND SEEDLING SCHEDULES

Postulated Seeding with Sweet Slime Planting

Scientific Name	Common Name	Planting Method	Seeding Rate (kg/ha)	Rate
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%

Postulated Seeding Mix

Scientific Name	Common Name	Planting Method	Seeding Rate (kg/ha)	Rate
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%
<i>Salix viminalis</i>	Willow	Hand sown	100	100%

Wood Shrub Planting Mix

Scientific Name</

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Legend

- Proposed Development Site
- Existing vegetation to be retained and/or reinstated
- Proposed Woodland Planting
- Proposed Wet Woodland Planting
- Proposed Wetland Seeding with Dwarf Shrub Planting
- Proposed Peatland Seeding
- Proposed Wet Meadow Seeding
- Proposed Peatland Restoration Area
- Drainage/ SUDs basin
- Compensatory Open Water Habitat

SHEET 2a

Existing access track to be upgraded (dual widening and additional drainage)

Existing vegetation to be retained as far as possible. Areas affected by construction to be reinstated and seeded with suitable peatland/ grass seed mix.

Sheet 2a Sheet 1

Sheet 2a Sheet 2b

Sheet 2a Sheet 2b

SHEET 2b

Existing access track to be upgraded (dual widening and additional drainage)

Existing vegetation to be retained as far as possible. Areas affected by construction to be reinstated and seeded with suitable peatland/ grass seed mix.

Sheet 2a Sheet 2b

Sheet 2a Sheet 2b

Project Info: Caithness 400kV Substation

Title: Landscape and Habitat Restoration Plan Sheets 2a and 2b

Drawn by: JOEVEIRY **Date:** 20/03/20

Designed by: JAMES B.

4.15

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The substation platform would be a flat, rectangular area accommodating the electrical and built infrastructure, by approximately 410 m x 220 m with associated earthworks. The platform would be surrounded by a 4 m palisade perimeter fence.

- 4.16 See drawings in the planning application for detail on the substation and converter station floorplans, elevations and designs.

Building Design and Form

- 4.17 As an AIS substation, the majority of the electrical plant and machinery on the platform would be placed outside on the substation platform. On the substation platform, the Proposed Development would also contain an olive-green steel-framed and cladded control building to house equipment for monitoring, controlling, and protecting electrical systems. This single storey building would have the approximate dimensions of 24 m x 49 m, with a maximum height of 7 m above the finished surface level. SSEN Transmission would use this facility to manage the substation's maintenance and operation.
- 4.18 AIS and busbars would be installed, at a maximum height of 13 m, to support the upgrade of the Beaulay-Denny OHL to a 400 kV double circuit. The existing 275 / 33 kV transformers and some 275 kV switchgear at the existing Braco West Substation would be removed and replaced, to facilitate a change in operational voltage for that substation to 132 / 33 kV. This activity is anticipated to be undertaken under the Applicant's permitted development rights.

Temporary Construction Compound and Welfare Area

- 4.19 A temporary construction compound and welfare area is required as per the Health and Safety legislation and the CDM Regulations for welfare facilities on Site. The Principal Contractor (PC) would be responsible for the design and construction of hardstanding areas. If deemed necessary, a geo-textile layer would also be included within the design to facilitate effective stone removal upon the compound's dismantling.
- 4.20 The PC would provide a plan showing the location of the compound area. This compound area would provide adequate space for the facilities listed below.
- 4.21 Facilities to be provided in the temporary Site compound would typically include the following:
- > Site office, of portacabin type construction;
 - > First aid facilities;
 - > Employee and visitor parking;
 - > Potable water supply;
 - > Bunded fuel storage area;
 - > Water tanker;
 - > Laydown area; and
 - > Toilets.
- 4.22 These temporary facilities would be removed on completion of the construction phase and the areas would be reinstated to comply with the proposed Site layout plan and landscaping plan.

5. Access

- 5.1 A DAS is a single document combining the Design Statement which addresses the design of the development and an Access Statement which demonstrates observance of the equal opportunities' requirements. The Statement should explain and justify the accessibility of the Proposed Development. Accessibility to major infrastructure is fundamentally different by

virtue of health and safety and operational regulations, than to that of a public or commercial building. The following section provides an overview of how the Site has been designed to facilitate access for maintenance and operation only, and to ensure that the Site is secure from intruders. Thereafter a summary discussion on the design of Site access (externally and internally) follows to complete the design approach discussion and demonstrate that accessibility has been considered relative to specific infrastructure requirements.

- 5.2 For safety reasons, once the Proposed Development is operational, only authorised personnel would be allowed to access the Site for maintenance and inspection purposes only. It is assumed this would be required at regular intervals (monthly) however this would be dependent on specific operational requirements. Maintenance on the bays is likely to be required annually in some form and this would require presence on Site for the duration of one week.
- 5.3 Given the nature of the Proposed Development, once operational access to the Site would be limited to authorised persons only and access by members of the public would not be permitted. As required by regulation, the Site has been designed to ensure security from all unauthorised persons including the use of palisade fencing around the platform. The wider Site would be surrounded by a post and wire perimeter fence. Further measures of installing sensor activated lighting would also be carried out to ensure that the Site access is adequately lit when required.
- 5.4 Vehicle access to the Site would be via the existing Braco West Substation access road. The construction traffic route is proposed to be A9, A822 and the proposed haul road. The existing access track would require upgrades and extensions, the details of these can be seen in Figure 2-3b, Appendix A of the EA Report.
- 5.5 The track extension and upgrades required from the Braco West Substation around the proposed Cambushinnie substation to the SUDS basin would be approximately 2.2 km in length. The works would consist of the following:
- > Section A: Construction of new access track between the Braco West Substation and the Site accommodation area access.
 - > Section B: Upgrades to the Cambushinnie Hill track including widening to accommodate the required swept path for abnormal loads and resurfacing of the existing track.
 - > Section C: Construction of new access track between the northwestern edge of the proposed Cambushinnie substation platform and the SUDS basin.
- 5.6 Figure 5.1 provides clarity on the proposed access tracks to the substation with the proposed works outlined. The on-site access track layout has been designed to connect the various Proposed Development elements.
- 5.7 The Proposed Development would require two transformers to be transported to the Site, which would be classified as Abnormal Indivisible Loads (AIL). As such, a specialist heavy haulage contractor would be appointed for the transport of the AIL and all relevant studies and approvals would be made.

