APPENDIX 9.2 – OUTLINE PEAT MANAGEMENT PLAN (PMP)

Strathy Wood Wind Farm Grid Connection

Appendix 9.2: Stage 1 Outline Peat Management Plan

SSEN Transmission

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Basis of Report

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1.0 Introduction

1.1 General

SLR Consulting Ltd (SLR) was commissioned by ASH design+assessment on behalf of Scottish and Southern Electricity Networks (SSEN) Transmission to prepare a Stage 1 Outline Peat Management Plan (PMP) for the proposed Strathy Wood Wind Farm Grid Connection (the "Proposed Development").

The Proposed Development is located approximately 6.5 km south of Strathy, Sutherland in northern Scotland, see **Figure 9.2.1**.

The work has been undertaken by a team of Geotechnical Engineers and Geologists, with over 10 years' experience in undertaking peat assessments. The team was led by a Fellow of the Chartered Institution of Water and Environmental Management (CIWEM) and Chartered Water and Environment Manager, with more than 30 years' consultancy experience and specialising in the assessment of soils, geology and water for renewable power and infrastructure projects in Scotland.

1.2 Proposed Development

The Proposed Development would commence from a cable sealing end (CSE) compound in the vicinity of the Strathy Wood Substation. From the CSE compound, approximately 4.5 km of 132 kV double circuit OHL supported by steel lattice tower would head in a northerly direction where it would 'T' onto the existing Strathy North trident 'H' wood pole 132 kV OHL. Two trident 'H' wood poles would be constructed to complete the connection between the new 132 kV OHL supported by steel lattice towers and the existing Strathy North trident 'H' wood pole 132 kV OHL.

Full details of the Proposed Development are provided in **Volume 1, Chapter 3: The Proposed Development.**

1.3 Objectives

This Peat Management Plan (PMP) outlines the overall approach of minimising disruption to peatland, and it aims to ensure that all further opportunities to minimise peat disturbance and extraction would be taken during detailed design and construction of the development.

The PMP has been developed to demonstrate that peat has been afforded significant consideration during the routeing, alignment, design and construction phase of the Proposed Development, should consent be granted. Specifically it shows, with the benefit of site specific peat probing data, how areas of deeper peat have been avoided where technically feasible and how shallow deposits of peat and soils can be safeguarded and used to support the long-term habitat restoration and management proposals.

1.4 Role of the Peat Management Plan

The PMP is intended to be a working document to be used throughout the key stages of the design, construction, operation, decommissioning and re-instatement phases of the Proposed Development as part of an overall Construction Environmental Management Plan (CEMP). These stages are outlined below.

Stage 1: Environmental Impact Assessment (EIA)

This report forms the Outline PMP and is submitted as part of the EIA Report. From this initial report the PMP will be developed further into a Stage 2 Pre-Construction PMP.

Stage 2: Post Consent / Pre-Construction

The peat mass balance calculations may be further developed prior to the works commencing, following detailed ground investigation or further survey works required to inform detailed design, or that may be required under planning consent conditions.

Stage 3: Construction Stage

Actual peat volumes excavated during construction will be recorded against the overall predicted volumes. Within micrositing allowances, the alignment and design of tracks, tower foundation and associated construction methods will be reviewed to avoid/minimise peat disturbance as much as possible considering the more detailed information available once construction commences. A regular review and update of the peat mass balance table will be undertaken by the appointed Principal Contractor and monitored by the Environmental Clerk of Works (ECoW) on-site and made available to regulators as required.

1.5 Legislation and Guidance

The PMP has been compiled in accordance with the following legislation and best practice guidance:

- National Planning Framework for Scotland 4 (NPF4) (Scottish Government, February 2023)[1];
- Scottish Government, Scottish Natural Heritage, SEPA (2014) 'Peat Survey Guidance; Developments on Peatland: Site Surveys'[2];
- SEPA Regulatory Position Statement - Developments on Peat (Scottish Environment Protection Agency, 2010)[3];
- Good Practice during Windfarm Construction, (Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science and AEECoW, 2024)[4];
- Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste (Scottish Renewables and SEPA, 2012) [5];
- The Waste Management Licensing (Scotland) Regulations 2011[6];
- Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Government, January 2017) [7]; and
- Floating Roads on Peat - Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with reference to Wind Farm Developments in Scotland (Forestry Commission Scotland & Scottish Natural Heritage, 2010) [8].

1 Scottish Government (2023). https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2022/11/national-planning-framework-4-revised-draft/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4-revised-draft.pdf

2 Scottish Natural Heritage (SNH), SEPA, Scottish Government & James Hutton Institute. (2014)' Peat Survey Guidance; Developments on Peatland: Site Surveys'.

3 Scottish Environment Protection Agency. 2010. Regulatory Position Statement – Developments on Peat

4 Scottish Renewables, Scottish Natural Heritage, Scottish Environmental Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland, AEECoW (2019)., Good Practice During Wind Farm Construction. 4th Edition.

5 Scottish Renewables, Scottish Environment Protection Agency. 2012. Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste

6 Scottish Government 2011, The Waste Management Licensing (Scotland) Regulations 2011. https://www.legislation.gov.uk/sdsi/2011/9780111012147/contents

7 Peat Landslide Hazard and Risk Assessments (Scottish Government, April 2017)

8 Scottish Natural Heritage, Forestry Commission (August 2010). Floating Roads on Peat

Requirements of National Planning Policy 4

The intent of Policy 5 (Soils) of National Planning Policy 4 (NPF4)[1] is "*to protect carbon rich soils, restore peatlands and minimise the disturbance of soils from development*".

The Policy states [5(a)] that development proposals should only be supported if they are designed and constructed:

- *in accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and*
- *in a manner that protects soils from damage including from compaction and erosion, and that minimises soils sealing.*

Further [5(c)] confirms *that development proposals on peatland, carbon rich soils, and priority peatland will only be supported if they are:*

- *essential infrastructure and there is a specific locational need and no other suitable site;*
- *the generation of energy from renewable sources that optimises the contribution of the area to greenhouse gas emissions reductions targets;*
- *small-scale development directly linked to a rural business, farm or croft;*
- *supporting a fragile community in a rural or island area; or*
- *restoration of peatland habitats.*

And [5(d)] confirms *that where development on peatland, carbon-rich soils or priority peatland habitat is proposed, a detailed site specific assessment will be required to identify:*

- *the baseline depth, habitat condition quality and stability of carbon rich soils;*
- *the likely effects of the development on peatland, including on soil disturbance; and*
- *the likely net effects of the development on climate emissions and loss of carbon.*

Policy 5 also confirms that the site specific (above) assessment [5(d)] "*should inform careful project design and ensure, in accordance with relevant guidance and the mitigation hierarchy, that adverse impacts are first avoided and then minimised through best practice. A peat management plan will be required to demonstrate that this approach has been followed, alongside other appropriate plans required for restoring and/ or enhancing the site into a functioning peatland system capable of achieving carbon sequestration*".

This Stage 1 Outline PMP considers the protection and safeguarding of peat and seeks to fulfil the requirements of Policy 5(d) with further detail on peatland habitat and peatland restoration provided in **Appendix 7.8: Outline Habitat Management Plan**.

Mitigation Hierarchy

SEPA[3] has published guidance regarding the mitigation hierarchy for developments on peat which is summarised below:

- Prevention – avoiding generating excess peat during construction (e.g. by avoiding peat areas or by using construction methods that do not require excavation such as floating tracks);
- Re-use – use of peat produced on-site in restoration, provided that its use is fully justified and suitable;
- Recycling / Recovery / Treatment – modify peat produced on-site for use as fuel, or as a compost / soil conditioner, or dewater peat to improve its mechanical properties in support to re-use; and

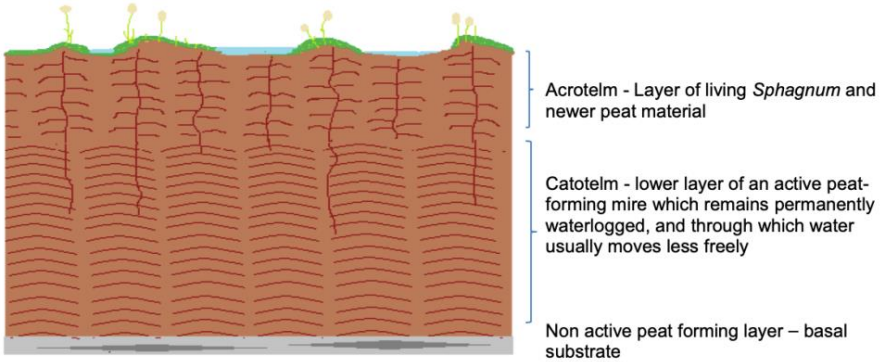
- Storage – applying the SEPA guidance, storage of peat up to a depth of 2 m is not classified as a waste and, however clarification should be sought from the waste regulator prior to re-use and care must be taken to ensure that it does not cause environmental pollution.

Definition of Peat

Peat is defined as a material consisting of the partially decomposed remains of plant material and organic matter preserved over a period in a waterlogged environment resulting in anaerobic conditions and is of depths >0.5 m.

Peat can be classed as two principal types, the acrotelm layer and the catotelm layer as shown on **Plate 1-1**.

Plate 1-1: Drawing of two layered Structure of Active Bog Peatlands above Non-Active Peat[9]



The acrotelm layer is found in the upper layer of peat where conditions are relatively dry and comprises living vegetation and partially decomposed plant material. Hydraulic conductivity in this layer tends to be higher in relation to distance from the water table. The thickness of the acrotelm layer varies depending on topography such as steepness of slope, peat hags, and hummocks. In particular, the acrotelm layer can be affected during periods of drought or as a consequence of drainage. Fibrous in texture, the acrotelm layer has some tensile strength and is generally considered to be stable for storage and re-use.

The catotelm layer is found under the acrotelm layer and comprises decayed plant material and organisms and is denser and with a very low hydraulic conductivity. The catotelm layer sits below the water table resulting in permanent anaerobic conditions. The catotelm layer is amorphous and has very low tensile strength making it less suitable for storage and re-use.

9 Bruneau, P.M.C & Johnson, S.M. 2014. Scotland's peatland - definitions & information resources. Scottish Natural Heritage Commissioned Report No 701.

2.0 Baseline Conditions

2.1 Topography

Based on the digital terrain model available from the BGS Geoindex[10], the topography across the Proposed Development is generally low-lying (40 to 135m AOD) with steep slopes rising towards the east and west. The majority of the Proposed Development is located on the eastern banks of the River Strathy (at approximately 40 to 80m AOD) with slope gradients increasing from west to east. The lowest elevations are situated at the northern extents of the Proposed Development adjacent to proposed Tower 19 (approximately 40m AOD). The south of the Proposed Development is situated at the highest elevation (approximately 135m AOD), particularly adjacent to the proposed Permanent Access Tracks at the existing Strathy North Wind Farm.

2.2 Peatland Classification

The Scottish Natural Heritage (now NatureScot), Carbon and Peatland Map 2016[11] indicates that approximately 460m and 1.7km of the proposed OHL route is located within an area of Class 1 and Class 2 peatland respectively. There are areas of Class 1 peat mapped in the northern extents of the Proposed Development, at proposed Towers 18 and 19, and in localised areas of the south of the Proposed Development. Class 2 peat is extensive along the Proposed Development route, with areas mapped in the northern extents and from Towers 5 to 14. Class 1 and Class 2 peatlands are considered nationally important carbon rich soils, deep peat and priority peatland habitats with high conservation and restoration value.

The remainder of the Proposed Development is mapped as Class 3 and Class 5 peat, with areas of Class 3 situated across the western extents of the Proposed Development from Towers 8 to 16 and Class 5 peat is mapped predominantly in the southern extents of the Proposed Development and localised areas of the north. Class 3 peatland is not considered priority peatland habitat, however, most of the soils are carbon-rich and areas of deep peat may be present. Class 5 peatland indicates no peatland habitat, but soils are carbon-rich and deep peat may be present.

Peat and peat soils surrounding the Proposed Development have been used intensively over the past century with plantation forestry to the west of the proposed grid connection and to the east sheep grazing, hill drainage and peat cutting. In addition, the east of the Proposed Development was subject to intense peat loss as a consequence of the 2019 Flow Country wildfire.

2.3 Hydrology

The Proposed Development is located entirely within the River Strathy surface water catchment. The River Strathy flows northwards within the southern and western extent of the Proposed Development before discharging to the sea at Strathy Bay, approximately 5km north of the Proposed Development. The Proposed Development crosses over the River Strathy at NGR NC 82401 56287 and at NGR NC 82793 56920.

The Proposed Development is drained by the following sub catchments of the River Strathy (from north to south):

10 BGS Online Viewer, available at [https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.133433804.376188765.1646739904-1030004651.1646739904]

11 NatureScot, Carbon and Peatland Map 2016, Available online at: map.environment.gov.scot/soil_maps/

- Bowside Burn sub catchment which drains a small area along the northeastern boundary of the Proposed Development. The burn flows generally westwards before discharging into the River Strathy immediately north of the Proposed Development;
- River Strathy – The Uair sub catchment. The Uair drains part of the southeastern extent of the Proposed Development and discharges into the River Strathy within the southeastern extent of the Proposed Development. No development is proposed within this sub catchment; and
- Allt nan Clach / River Strathy sub catchment. The Allt nan Clach is a tributary of the River Strathy which discharges into the River Strathy approximately 940m southwest of the Proposed Development.

2.4 Hydrogeology

Information from Scotland's environment map[12] indicates that the Proposed Development is underlain by the Moine Supergroup, with the northern extents at Bowside underlain by the Strathy Complex. These rocks are classified as low productivity aquifers whereby small amounts of groundwater are expected in near surface weathered zones and secondary fractures.

The Aquifer Productivity and Groundwater Vulnerability dataset classifies the underlying aquifer (superficial and bedrock) according to the predominant groundwater flow mechanism (fracture or intergranular) and the estimated groundwater productivity. The bedrock aquifer underneath the Proposed Development is considered a low productivity aquifer generally without groundwater except at shallow depths and with flow almost entirely through fractures and other discontinuities.

The peat and hummocky glacial superficial deposits within the study area are not considered a significant aquifer. The alluvial, river terrace and glaciofluvial deposits, where present, are considered highly productive aquifers with intergranular flow; groundwater within these deposits are likely to be in hydraulic conductivity with adjacent watercourses.

Groundwater vulnerability is divided into five classes (1 to 5) with 1 being least vulnerable and 5 being most vulnerable. The Proposed Development is shown to be underlain by groundwater vulnerability Classes 5 to 4b. The highest vulnerability is noted within the northwest where no or shallow superficial deposits are recorded. Groundwater is less vulnerable where overlain by superficial deposits.

2.5 Sensitive Receptors

Sites of Special Scientific Interest (SSSI)

The majority of the Proposed Development is situated within the West Halladale SSSI. The designation is for blanket bog, in addition to ecological interests including Black-throated divers and Common scoters.

Special Area of Conservation (SAC) Special Protection Area (SPA) and Ramsar

The majority of the Proposed Development is situated within the Caithness and Sutherland Peatlands SAC, SPA and Ramsar sites which are designated for the presence of features such as blanket bog, acid peat-stained lakes and ponds, wet heathland and mires and the breeding bird populations that they support.

12 Scotland's Environment Online Viewer. Available at [https://map.environment.gov.scot/sewebmap/]

Groundwater Dependent Terrestrial Ecosystems (GWDTE)

A National Vegetation Classification (NVC) habitat mapping exercise was conducted as part of the ecology baseline assessment, and this has been used to identify potential areas of Groundwater Dependent Terrestrial Ecosystems (GWDTEs) within the Proposed Development. The methodology and results of the NVC habitat mapping exercise are discussed in detail within **Chapter 7: Ecology** within Volume 1 of this EIA Report.

The potential GWDTE habitats are assessed in **Chapter 9: Soils Geology and Water** within Volume 1 of this EIA Report and are considered to be sustained by rainfall, surface water runoff and waterlogging of soils rather than by groundwater and have not been considered further within this assessment as a receptor.

3.0 Fieldwork

Peat depth surveys have been undertaken by SLR as detailed below:

- Phase 1 survey undertaken in November 2023.
- Phase 2 surveys undertaken in April and May 2024.

3.1 Methodology

The surveys carried out followed best practice guidance for developments on peatland[13,14]. Phase 1 peat probing resulted in probing on an approximate 100 m grid on initial assessment areas of the OHL route which was used in preliminary site layout designs. Phase 2 probing saw detailed probing undertaken across the Proposed Development layout, focussing on access tracks, tower / pole locations and other site infrastructure. The Phase 1 survey informed the site design such that areas of recorded peat could avoided where technically feasible.

Phase 2 probing was typically undertaken on linear infrastructure (permanent / temporary tracks) at 25 m to 50 m spacings with offset probing locations either side (approximately 10 m to 25 m). Infrastructure (towers and poles) was typically probed at 10 m grid spacings.

The proposed OHL and Tower 19 are in proximity to the existing Strathy North 132 kV trident 'H' wood pole OHL. In addition, the alignment between Tower 17 and Tower 19 intercepts an existing BT cable. Therefore, where the proposed OHL intercepts existing utility infrastructure, peat probes were undertaken at a safe offset distance as agreed with the SSEN Transmission. The detailed probing could not be undertaken in areas of the site with areas of dense or windblown forestry on the access track leading to Towers 2 to 4, where access was limited or where safe access could not be afforded.

The thickness of the peat was assessed using a graduated peat probe, approximately 6 mm diameter and capable of probing depths of up to 10 m. This was pushed vertically into the peat to refusal and the depth recorded, together with a unique location number and the co-ordinates from a handheld Global Positioning System instrument (GPS). The accuracy of the GPS was quoted as ±2 m, which was considered sufficiently accurate for this survey. All data was uploaded into a GIS database for incorporation into various drawings and analysis assessments.

Where the peat probing met refusal on a hard substrate, the 'feel' of the refusal can provide an insight into the nature of the substrate. An assessment of the substrate was made and recorded at each probe hole. The following criteria were used to assess material:

- Solid and abrupt refusal – rock;
- Solid but less abrupt refusal with grinding or crunching sound – sand or gravel or weathered rock;
- Rapid and firm refusal – clay; or
- Gradual refusal – dense peat or soft clay.

The relative stiffness of the peat was also assessed from the resistance to penetration of the probe and to the effort required to extract the probes (retrieval of the probe was often impossible for one person). In all instances refusal was met on obstructions allowing identification of subsurface geology.

13 Scottish Renewables & SEPA (2012) 'Developments on Peatland Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste'.

14 Scottish Natural Heritage (SNH), SEPA, Scottish Government & James Hutton Institute. (2014)' Peat Survey Guidance; Developments on Peatland: Site Surveys'.

3.2 Recorded Peat Depth

Peat is generally defined as a soil with a surface organic layer in excess of 0.5 m[15] Where the probing recorded less than 0.5 m thick, it is considered to be a peaty soil (or organo-mineral soil). Soils with a peaty organic horizon over mineral soil are often referred to as 'peaty soils'. These organo-mineral soils are extensive across the UK uplands, but do not meet recognised definitions of peat as they are either shallower than true peat or have a lower carbon density.

The peat was found to vary across the Proposed Development in terms of thickness and coverage. When viewed in conjunction with the peat depth figures, it is evident that the peat is encountered across the Proposed Development. Deeper peat was generally encountered in flatter, lower gradient areas of the Proposed Development.

A total of 3,129 peat probes were undertaken across all survey phases, with the results summarised in Table A and detailed within the peat depth interpolation figures (**Figure 9.2.3**, **Figure 9.2.4** and **Figure 9.2.5**). The interpolation was undertaken using the Inverse Distance Weighting (IDW) methodology.

Table A: Summary of Peat Probing Results

Peat Thickness (m)	**No. of Probes**	**Percentage (of total probes undertaken on-site)**
0 (no peat)	35	1.1
0.01 – 0.49 (peaty soil)	1772	56.6
0.50 – 0.99	727	23.2
1.00 – 1.49	282	9.0
1.50 – 1.99	169	5.4
2.00 – 2.49	72	2.3
2.50 – 2.99	42	1.3
3.00 – 3.49	12	0.4
3.50 – 3.99	14	0.4
> 4.00	4	0.1

3.3 Peat Condition

Peat and peat soils surrounding the Proposed Development have been used intensively over the past century, which, alongside the often steep slopes (shallow peat soils) has significantly degraded peat habitats in this area.

Peat is described using BS5930[16] and the Von Post classification[17]. Two peat samples were collected by SLR along the proposed OHL route, using a peat auger and used to inform interpretations of the peat condition and underlying substrate.

Based on interpretations from probing and peat core samples, the peat within the Proposed Development is predominantly fibrous to pseudo fibrous. Shallow peat deposits across the

15 Scottish Natural Heritage (SNH), SEPA, Scottish Government & James Hutton Institute. (2014)' Peat Survey Guidance; Developments on Peatland: Site Surveys'

16 BS 5930:2015+A1:2020, Code of practice for ground investigations

17 Von Post, L. and Grunland, E., (1926), 'Sodra Sveriges torvillganger 1' Sverges Geol. Unders. Avh., C335, 1-127.

Proposed Development are generally fibrous. Deeper peat deposits are generally characterised as pseudo-fibrous with rare amorphous peat encountered at depth.

Based on field descriptions at augering points, most of the shallow peat are classified as between H2 and H6 in the von Post classification, showing insignificant to moderate decomposition and indicating areas of enhanced surface degradation. Areas of deeper peat were classed as H7 and H8. This conforms with the highly modified nature and intensive land management practises found on peatlands within the Proposed Development. Peat core logs and photographs are presented within **Annex B**.

4.0 Potential Impacts on Peat During Construction

The initial construction phase for the Proposed Development will include soil and peat stripping and excavation activities associated with construction of the Proposed Development.

There are four main types of impact on peat which can occur during construction. These are:

- Loss of structural integrity and peat strength, due to stripping off or damaging the surface vegetation turf, excavation, handling and transporting peat (particularly wet, subsurface peat);
- Erosion and gullying, caused by exposure and desiccation of bare peat surfaces primarily caused by water erosion, due to surface runoff after rainfall;
- Contamination, caused by leaks, spillages or inappropriate laydown of materials; and
- Peat slide, caused by laying wet peat on top of wet peat, laying other heavy materials (including excavated mineral soil or other construction materials) on top of wet peat or by inappropriate stockpiling, such as attempting to create stockpiles of peat that are too high, without bunding, engineering or geotechnical support.

A range of methods and control measures are described below which are designed to prevent these impacts from occurring.

5.0 Peat Management and Mitigation

The Proposed Development design took account of a number of environmental and technical constraints. The design sought to avoid areas of thick peat where technically feasible, whilst taking into account other environmental and technical factors such as ecology, ornithology, archaeology, hydrology, topography and existing infrastructure. The Proposed Development has largely avoided areas where peat is >1 m and efforts have been made by iterative design to minimise the footprint of site infrastructure on peat >0.5 m as far as practicable. Where peat and peaty soils are to be excavated, re-used or reinstated, the following good practice applies.

5.1 Excavation

Excavated peat should be excavated as turves, including the acrotelm (surface vegetation) and a layer of adjoining catotelm (more humified peat) typically up to 0.5 m thick in total, or as blocks of catotelm; the acrotelm should not be separated from its underlying peat;

- the turves should be as large as possible to minimise desiccation during storage, though the practicalities of handling should be considered;
- the mixing of excavated peat with substrate materials to be avoided at all times; and
- consider timing of excavation activities to avoid very wet weather and avoid multiple handling to minimise the likelihood of excavated peat losing structural integrity.

If possible, extract intact full depth acrotelm layers from the top surface of the peat deposit. This technique will maintain connectivity between the surface vegetation and the partially decomposed upper layers of the catotelm.

5.2 Re-use

All excavated material (including peat and non-peat soils) from the installation of the towers and poles will be re-used for reinstatement immediately surrounding the towers.

It is anticipated that the volume of material excavated for the new permanent access track can be entirely reused for a variety of restoration purposes, including verge restoration to taper into the existing peatland by infilling depressions and levelling-out gradients as part of the cut and fill track construction process. As a result, based on a maximum width 6.5 m wide new permanent access track, the balance between excavation and re-use will be zero. Post construction, permanent access track will be restored to a width of 5 m.

There is also potential for excavated peat to be used for habitat and peat restoration on or locally to the Proposed Development, as set out in the Outline HMP (see **Appendix 7.8**). This potential re-use option has not been quantified but will provide an additional method to retain and beneficially re-use material.

5.3 Storage

The following good practice applies to the storage of peaty soils/peat:

- stripped materials should be carefully separated to keep peat and other type of soils apart;
- to minimise handling and haulage distances, excavated material should be stored local to the site of excavation or end point of restoration;
- peat turves should be stored in wet conditions or irrigated in order to prevent desiccation (once dried, peat will not rewet);

- stockpiling of peat should be in large volumes to minimise exposure to wind and sun (and desiccation), but with due consideration for slope stability, but should not exceed 1 m in height to maintain stability of stockpile;
- stockpiles should be isolated from watercourses or drains with appropriate bunding to minimise pollution risks;
- to be stored a minimum of 10 m from any watercourse.
- stores of non-turf (catotelm) peat should be bladed off to reduce the surface area and desiccation of the stored peat; and
- peat storage areas should be monitored during periods of very wet weather, or during snowmelt, to identify early signs of peat instability.

Any peaty soils/peat to be removed during construction would require a temporary storage area near to the construction works/area of re-use. Where peat cannot be transferred immediately to an appropriate restoration area, short term storage will be required. In this case, the following good practice applies:

- peat should be stored around the excavation perimeter at sufficient distance from the cut face to prevent overburden induced failure;
- local gullies, diffuse drainage lines (or very wet ground) and locally steep slopes should be avoided for peat storage;
- drying of stored peat should be avoided by irrigation or by seeding (although this is unlikely to be significant for peat materials stored less than 2 months);
- peat generated from permanent excavations should be transported directly to its allocated restoration location, to minimise the volume being stockpiled with the possibility of drying out;
- stores of catotelm peat should be bladed off to reduce their surface area and minimise desiccation;
- where transport cannot be undertaken immediately, stored peat should be irrigated to limit drying and stored on a geotextile mat to promote stability; and
- monitoring of large areas of peat storage during wet weather or snowmelt should be undertaken to identify any early signs of peat instability.

5.4 Transport

The following good practice applies to transport:

- movement of turves should be kept to a minimum once excavated, and therefore it is preferable to transport peat planned for translocation and reinstatement to its destination at the time of excavation; and
- if heavy goods vehicles (HGVs)/dump trucks that are used for transporting non-peat material are also to be used for peat materials, measures should be taken to minimise cross-contamination of peat soils with other materials.

5.5 Handling

Following refinement of the peat model, a detailed storage and handling plan should be prepared forming part of the detailed CEMP, including:

- best estimate excavation volume at each infrastructure location (including peat volumes split into area/volume of ‘acrotelm’ or ‘turf’, and volume of catotelm) which would be achieved by undertaking additional probing in line with current guidance;

- volume to be stored locally and volume to be transferred directly on excavation to restoration areas elsewhere (e.g. peat storage areas) in order to minimise handling;
- location and size of storage area relative to tower foundations and natural peat morphology / drainage features; and
- irrigation requirements and methods to minimise desiccation of excavated peat during short term storage.

These parameters are best determined post-consent, informed by detailed ground investigation with the micro-siting areas for each element of infrastructure.

5.6 Restoration

During restoration, the following best practice should be followed:

- carefully evaluate potential restoration sites, such as peat storage areas for their suitability, and agree that these sites are appropriate with the ECoW, landowners and relevant consultees;
- undertake restoration and revegetation or reseeding work as soon as practically possible;
- where required, consider exclusion of livestock from areas of the Proposed Development undergoing restoration, to minimise impacts on revegetation; and
- as far as reasonably practicable, restoration will be carried out concurrently with construction rather than at its conclusion.

5.7 Access Tracks

There is guidance[4,8] available to support access track design in peatlands. Guidance is generally focused on floating tracks and excavated tracks and is summarised below. Based on the avoidance of significant areas of thick peat with tracks all typically present on peat <1.0 m and only limited sections of track on localised areas of peat >1.0 m then the use of excavated tracks is proposed. Floating tracks may be considered on suitable length sections of access track where peat depths are >1 m, where detailed ground investigation confirms suitability.

Excavated tracks require complete excavation of soil/peat to a competent substrate. Excavated tracks will generally be undertaken where peat depths are less than 1 m. This peat/soil would require storage ahead of re-use elsewhere within Proposed Development. Good practice guidance relates mainly to drainage in association with excavated tracks:

- trackside ditches should capture surface water (within the acrotelm) before it reaches the road;
- interceptor drains should be shallow and flat bottomed (and preferably entirely within the acrotelm to limit drawdown of the water table);
- any stripped peat turves should be placed back in the invert and sides of the ditch to assist regeneration and prevent erosion to the peat and wash out that could occur; and
- culverts and cross drains should be installed under excavated tracks to maintain subsurface drainage pathways (such as natural soil pipes or flushes). Discharge from constructed drainage should allow for as much diffuse dispersion of clean (silt free) water as possible while minimising disturbance to existing peatland as far as possible. Silt mitigation measures will be incorporated into all constructed drainage as per the requirements of the CEMP.

Although excavation is normally undertaken in peat of minor thickness (< 1.0 m), there is a possibility of minor slippage from the cut face of the peat mass. Accordingly:

- free faces should be inspected for evidence of instability (cracking, bulging, excessive discharge of water or sudden cessation in discharge); and
- where significant depths of peat are to be stored adjacent to an excavation, stability analysis should be conducted to determine Factor of Safety (FoS) and an acceptable FoS adopted for loaded areas.

Regular routine monitoring should be scheduled post-construction to ensure that hydrological pathways and track integrity have been suitably maintained.

5.8 Monitoring and Inspection

There would be frequent, routine and regular inspections of peat in all stockpiles and temporary storage areas as part of the PMP audit process. Inspections would assess in situ peat physical conditions, integrity of containment and temporary drainage conditions, and they would seek to confirm that stockpile design and management was adequate to prevent erosion and peat slide. These inspections would take place weekly during stockpile creation and storage.

Should any problems be observed during regular visual inspections of peat stockpiles, this would invoke implementation of an appropriate corrective action which would be recorded and monitored for effectiveness. Types of corrective actions would include, but would not necessarily be limited to; modification of temporary drainage, additional or modified bunding, incorporating of sediment fencing if required, light re-grading to correct any areas of surface erosion, etc.

Regular, frequent inspections of peat conditions during construction and restoration phases of work would be carried out by the Engineer and ECoW as follows:

- peat surface, peat profile and peat consistency conditions would be carried out as part of ground investigations prior to the start of construction. This information would provide detailed information on the baseline conditions for each part of the infrastructure footprint;
- restored peat conditions would be inspected immediately after restoration to ensure that the methods detailed in the PMP had been correctly implemented and to inform any corrective actions should they be required;
- further monitoring to be undertaken where required to ensure restoration works have been correctly implemented; and
- the physical condition of peat would be retained as carefully as possible both at the peat storage and the peat restoration stages. This is particularly important for vegetation establishment.

6.0 Peat Balance Assessment

Table B provides an estimate of peat and peaty soil volumes to be excavated and re-used during the construction of the Proposed Development. The peat and peaty soil excavation and re-use volumes are detailed for each infrastructure element in **Annex A**. The excavated materials data from **Annex A** indicates that the areas of infrastructure within the Proposed Development are typically located in areas of peaty soils with very limited infrastructure present in areas of peat >0.5 m.

6.1 Excavated Volumes

Peat excavation volumes associated with the construction of the Proposed Development have been calculated using the results from the peat depth surveys and interpolation using the GIS package ArcGIS. Peat excavation volumes are detailed in Table B and **Annex A** and based on the following assumptions:

- Interpolation of peat depth was undertaken using the Inverse Distance Weighting (IDW) interpolation method.
- An acrotelm depth of 0.5 m across all infrastructure based on peat depth survey results.
- The peat volumes have been calculated based on the average peat depth across each item of infrastructure using the peat depth survey results.
- A working area is detailed in **Annex A** for each Tower and Pole which has been used to calculate excavated peat volumes.

The excavated volumes will comprise primarily acrotelmic peat and soils.

6.2 Reuse Volumes

The volume of peat to be reused at the Proposed Development is detailed in Table B and **Annex A** and based on the following assumptions:

- In appropriate locations around the infrastructure perimeter such as track verges, the edges of permanent structures a 2 m wide strip either side of the track at a thickness of about 0.8 m (turves and acrotelmic peat).
- Reinstatement of tower and pole working area excavations with re-instatement of peat and soils and in appropriate locations re-use of peat around the perimeter of tower working area excavations with a 1 m wide strip and with an average peat depth of 0.5 m to ensure integration with the adjacent habitat areas where possible which may comprise blanket bog.

6.3 Net Peat Balance

Table B provides an estimate of peat volumes to be excavated and reused during the construction of the infrastructure.

Table B: Peat Balance Assessment

Infrastructure	Volume of Peat Excavated (m^3)	Volume of Peat Reused and Reinstated (m^3)
Permanent Access Track	12875	10894
Temporary Access Track	6873	6873
Proposed CSE Compound*	0	0

Infrastructure	Volume of Peat Excavated (m^3)	Volume of Peat Reused and Reinstated (m^3)
Tower 1	2826	2926
Tower 2	465	565
Tower 3	1192	1292
Tower 4	1287	1427
Tower 5	1839	1979
Tower 6	1023	1123
Tower 7	845	945
Tower 8	1148	1148
Tower 9	1007	1107
Tower 10	1614	1714
Tower 11	802	902
Tower 12	1677	1677
Tower 13	857	957
Tower 14	1794	1894
Tower 15	1073	1173
Tower 16	1034	1134
Tower 17	3179	3279
Tower 18	1161	1261
Tower 19	3941	4081
Wood Pole 128A	152	252
Wood Pole 129A	150	250
Total	**48814**	**48853**

*Included within Tower 1 working area.

The total volume of peat predicted to be excavated of 48,814 m^3, does not exceed the intended total peat reuse volume of 48,853 m^3, therefore no excess peat is required to be disposed off-site as a consequence of the Proposed Development.

7.0 Waste Classification

This section of the Stage 1 Outline PMP includes the method for dealing with peat which could potentially be classified as waste (only if the above volumes estimate significant quantities of catotelm peat, which cannot be re-used).

Annex C outlines where those materials that are likely to be generated on-site, fall within the Waste Management Licensing (Scotland) Regulations 2011.

Based on the results presented in this document, it has been concluded that all of the materials to be excavated on-site would fall within the non-waste classification and would be re-used on-site. Based on a detailed probing exercise and visual inspection of the peat, it is predominantly fibrous peat which would be suitable to be re-used on-site. Typically, the peat was found to be fibrous and fairly dry within the top metre before becoming slightly more pseudo-fibrous with depth.

8.0 Conclusion

This Stage 1 Outline PMP presents a pre-construction assessment of the expected peat extraction and reuse volumes associated with the works phase of the construction of the Proposed Development. The PMP also provides the guiding principles which would be applied during the construction of the Proposed Development. Peat depth surveys have shown that there are localised peat deposits across the Proposed Development.

Through a process of continued design refinement (focused on minimising peat excavation volumes) and adoption of best practice working methods, the Proposed Development has been shown to achieve an overall peat balance. Thus, all excavated material will be required for reuse as part of the works and no surplus peat would be generated.

The figures detailed within this report are to be considered indicative at this stage. The total peat volumes are based on a series of assumptions for the layout of the Proposed Development and the results of several phases of peat probing. Such parameters can still vary over small scale areas and therefore topographic changes in the bedrock profile could impact the total accuracy of the volume calculations.

The calculations presented here would be updated and expanded upon as part of detailed design works, taking account of pre-construction site investigations and micro-siting, to confirm actual quantities of arising peat. A detailed, construction phase PMP would be developed, and maintenance by updating this plan in conjunction with a Geotechnical Risk Register. The implementation of the detailed PMP would ensure a robust commitment to excavating, storing and reinstating peat in a manner that follows best practice and ensures the protection of peat throughout the construction and post-construction phases.

Figures

Strathy Wood Wind Farm Grid Connection

Appendix 9.2: Stage 1 Outline Peat Management Plan

SSEN Transmission

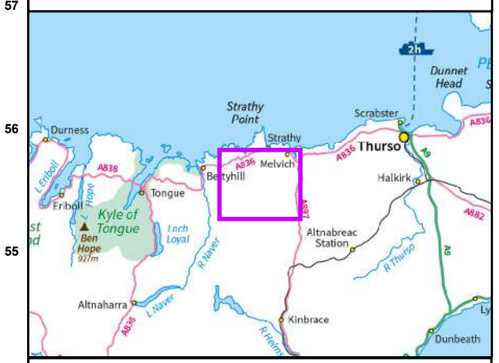
SLR Project No.: 428.013137.00001

Scottish & Southern Electricity Networks

TRANSMISSION

Legend

Proposed Overhead Line (OHL) Alignment



Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.1 - Site Location
Drawn by:	AA
Date:	02/09/2024
Drawing:	428.013137.00001.00029.0

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Scale @ A3: 1:50,000

0 500 1,000 2,000 m

Scottish & Southern Electricity Networks
TRANSMISSION

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)

Map 2

Map 1

19 MP, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, Réidhean a' Bhainne, 6, 5, 4, 3, 2, 1, Gantry, Anchor Blocks

Bowside, Bowside Burn, Hut Circles, Loch nam Breac Beag, Loch nam Breac Mòr, Dubh-chlais, Old Shielings, Dallangwell, Power Station, Cnoc na Dubh-chlaise, Allt na Dubh-chlaise, Sheepfold, Waterfall, Uidh nan Con Luatha, Beinn Ruadh, Shepherd's Pile (Cairn), Cairn, A' Chailleach, Cnoc Coilltean, Allt nan Sac, Strathy North Wind Farm, Allt an Fhithich, River Strathy, Am Bodach, Allt Réidhean a' Bhainne, Loch nam Bò Uidhre, Caol-loch, Loch an Fheoir, Allt Loch Meala, Allt Dhòmuill Ghuinne, Strathy Forest

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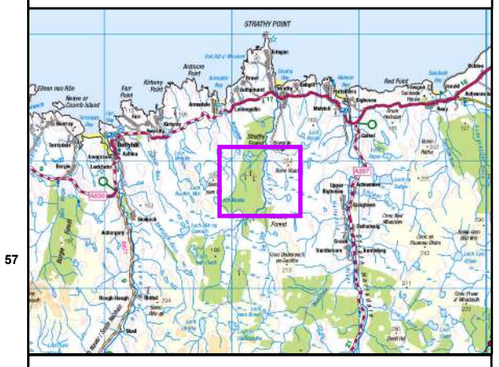

Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.2 - Site Layout - Overview
Drawn by:	AA
Date:	06/09/2024
Drawing:	428.013137.00001.00030.1

Scottish & Southern Electricity Networks
TRANSMISSION

Strathy North Wind Farm
Am Bodach
Brarathy
Strathy Forest
River Strathy
Allt an Fhithich
Allt Rèidhean a' Bhainne
Rèidhean-a-bhainne
Hut Circle
Strathy Lodge
Anchor Blocks
Gantry
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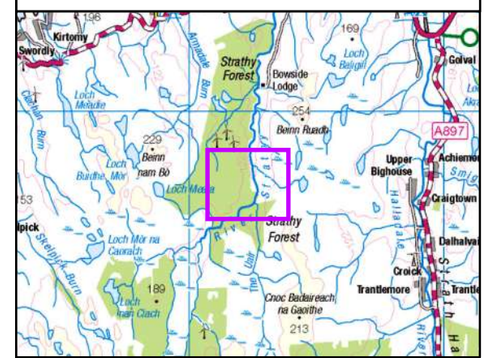
Scale @ A3: 1:10,000
0 100 200 400 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)

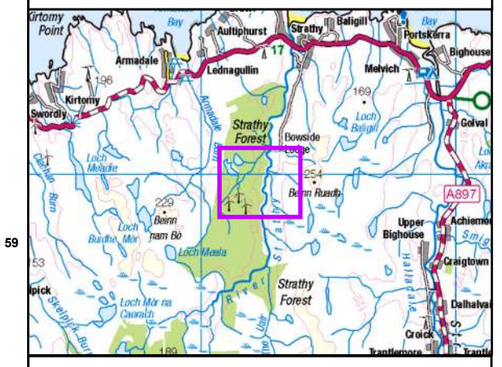


Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.2 - Site Layout - Map 1
Drawn by:	AA
Date:	06/09/2024
Drawing:	428.013137.00001.00030.1

Scottish & Southern Electricity Networks
TRANSMISSION

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.2 - Site Layout - Map 2

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00030.1

Scale @ A3: 1:10,000
0 100 200 400 m

Scottish & Southern Electricity Networks
TRANSMISSION

Map 2

Map 1

Gantry

Anchor Blocks

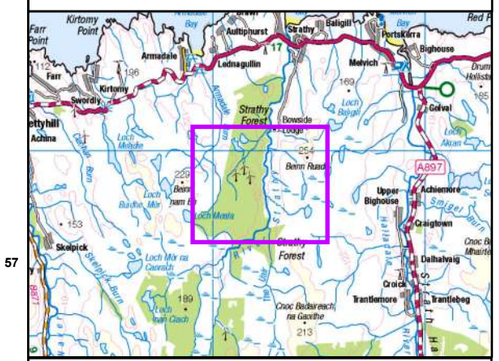
Scale @ A3: 1:20,000
0 200 400 800 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559
Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:
Peat Management Plan
Figure 9.2.3 - Peat Depth - Overview

Drawn by: AA Date: 02/09/2024

Drawing: 428.013137.00001.00031.1

Scottish & Southern Electricity Networks
TRANSMISSION

Strathy North Wind Farm
Am Bodach
Brarathy
River Strathy
Allt an Fhithich
Allt Rèidhean a' Bhainne
Strathy Forest

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Anchor Blocks
Gantry

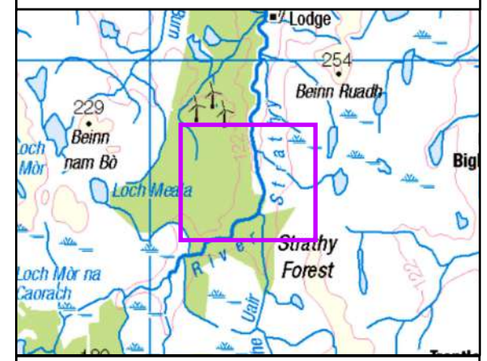
Scale @ A3: 1:10,000
0 100 200 400 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Peat Probe Location

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No:	LT559
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Title:	Peat Management Plan Figure 9.2.3 - Peat Depth - Map 1
Drawn by:	AA
Date:	02/09/2024
Drawing:	428.013137.00001.00031.1

Scottish & Southern Electricity Networks
TRANSMISSION

81 82 83

61 60 59

Loch nam Breac Beag
Loch nam Breac Mòr
Dubh-chlais
FB
Bowside
Bowside Burn
Hut Circle
MP
Dallangwell
Power Station
Allt na Dubh-chlaise
Cnoc na Dubh-chlaise
Waterfall
Cairn
A' Chailleach
Scale @ A3: 1:10,000
0 100 200 400 m

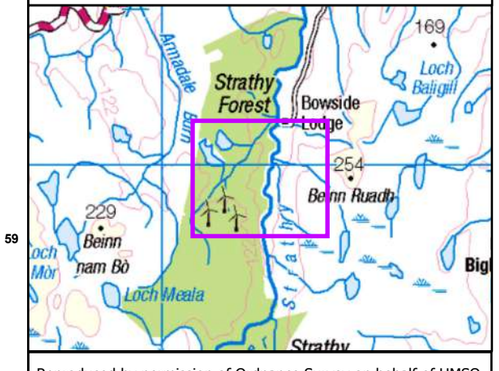
19 18 17 16 15 14 13 12 11

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)
- Peat Probe Location

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.3 - Peat Depth - Map 2
Drawn by:	AA
Date:	02/09/2024
Drawing:	428.013137.00001.00031.1

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TRANSMISSION

Map 2

Map 1

Gantry

Anchor Blocks

Scale @ A3: 1:20,000

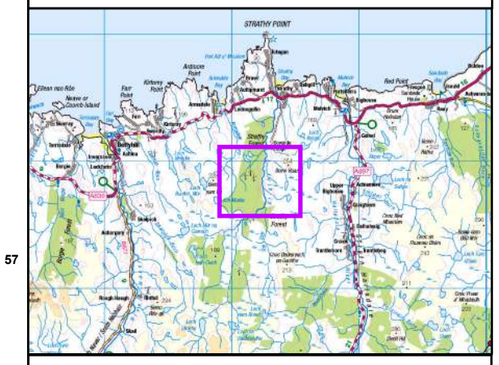
0 200 400 800 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)

Peat Depth (m)

- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.4 - Peat Depth > 0.5m - Overview

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00032.1

Scottish & Southern Electricity Networks
TRANSMISSION

Strathy North Wind Farm
River Strathy
Allt an Fhithich
Am Bodach
Brarathy
Allt Rèidhean a' Bhainne
Strathy Forest
Anchor Blocks
Gantry
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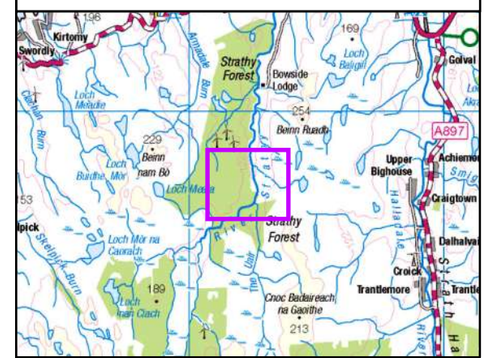
Scale @ A3: 1:10,000
0 100 200 400 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Peat Probe Location

Peat Depth (m)

- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.4 - Peat Depth > 0.5m - Map 1
Drawn by:	AA
Date:	06/09/2024
Drawing:	428.013137.00001.00032.1

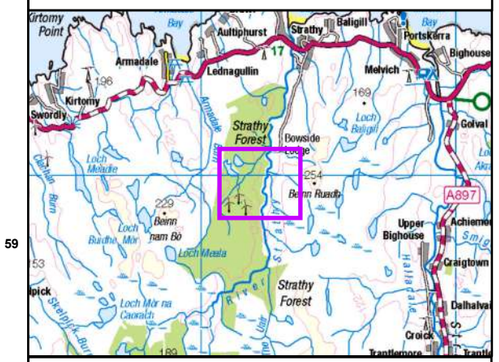
Scottish & Southern Electricity Networks
TRANSMISSION

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)
- Peat Probe Location

Peat Depth (m)

- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title: Peat Management Plan
Figure 9.2.4 - Peat Depth > 0.5m - Map 2

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00032.1

Scale @ A3: 1:10,000
0 100 200 400 m

Scottish & Southern Electricity Networks
TRANSMISSION

Map 1
Map 2
Map 3
Map 4
Map 5
Map 6
Map 7

1 2 3 4 5 6 7 8 10 11 12 13 14 15 16 17 18 19

Anchor Blocks
Gantry

Scale @ A3: 1:20,000
0 200 400 800 m

Legend

- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3

Project No: LT559
Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:
Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Overview

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1

Scottish & Southern Electricity Networks
TRANSMISSION

Strathy Forest

82

Wind Turbine

Wind Turbine

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Scale @ A3: 1:3,000

0 25 50 100 m

82

Legend

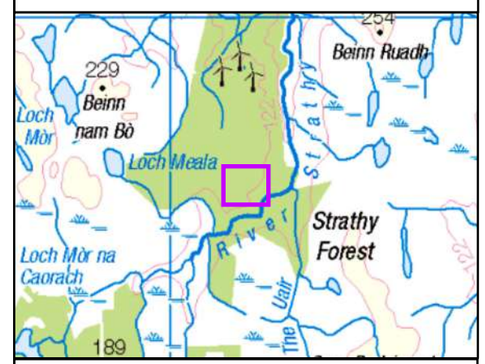
- New Permanent Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Map 1

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1

82

Scottish & Southern Electricity Networks
TRANSMISSION

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Scale @ A3: 1:3,000
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Legend

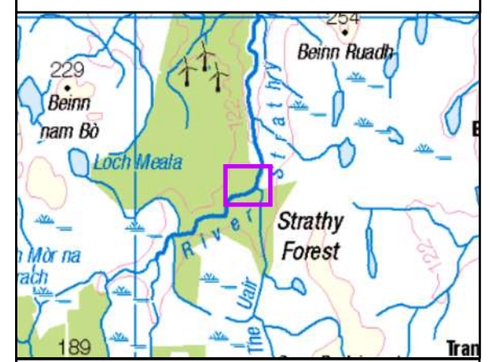
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- Proposed Sealing End Compound
- New Permanent Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

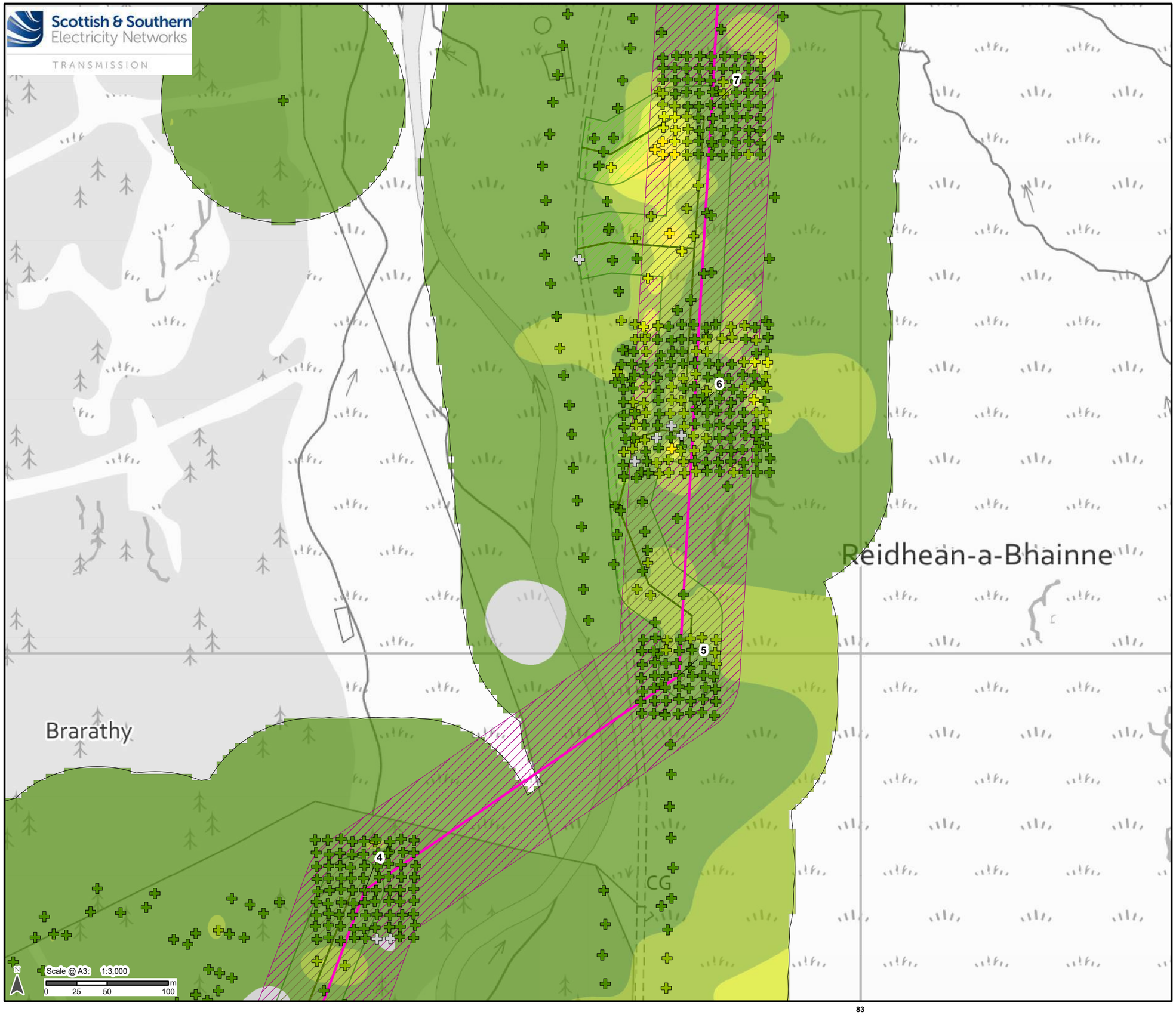
Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Map 2

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1



Legend

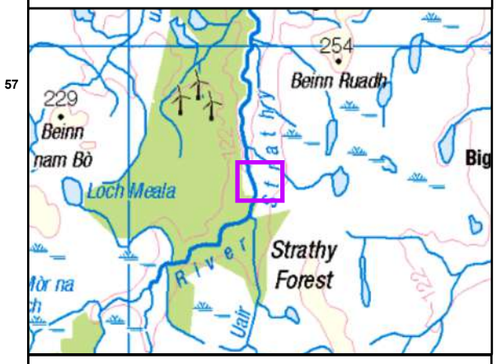
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Map 3

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1

83

58

58

10

9

8

Hut Circle

N

Scale @ A3: 1:3,000

0 25 50 100 m

83

Scottish & Southern Electricity Networks

TRANSMISSION

Legend

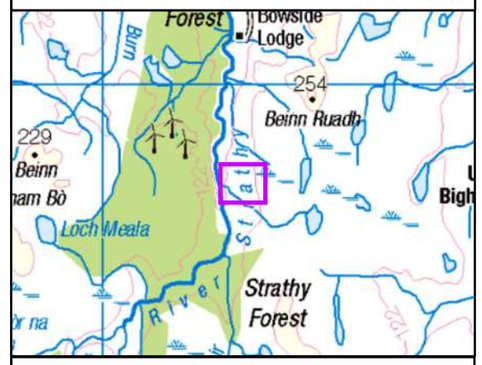
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- New Temporary Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Map 4

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1

Scottish & Southern Electricity Networks
TRANSMISSION

83

59

59

13

12

11

61m

Strathy

N

Scale @ A3: 1:3,000

0 25 50 100 m

83

Legend

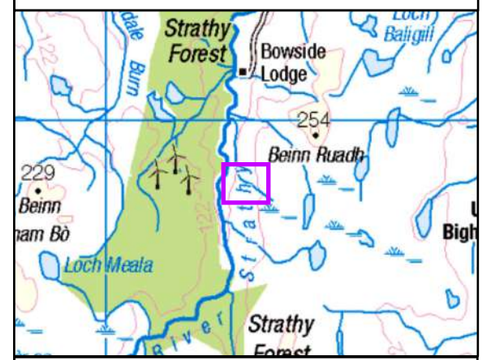
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- New Temporary Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- > 3

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No: LT559

Project: Strathy Wood Wind Farm Grid Connection - EIA Report

Title:

Peat Management Plan
Figure 9.2.5 - Peat Depth Detailed - Map 5

Drawn by: AA Date: 06/09/2024

Drawing: 428.013137.00001.00033.1

83

Scottish & Southern Electricity Networks
TRANSMISSION

Ford
FB
Track
Allt Coir-Iteil
16
15
14

N
Scale @ A3: 1:3,000
0 25 50 100 m

83

Legend

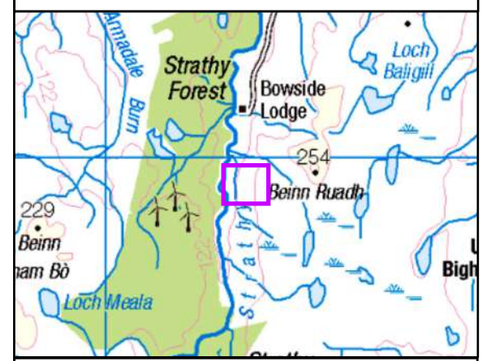
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Limit of Deviation (OHL)
- New Temporary Access Track
- Limit of Deviation (Access Track)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5

Peat Depth (m)

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2



Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.5 - Peat Depth Detailed - Map 6
Drawn by:	AA
Date:	06/09/2024
Drawing:	428.013137.00001.00033.1

Scottish & Southern Electricity Networks
TRANSMISSION

83

19

18

17

Livestock Pen

Waterfall

60

Scale @ A3: 1:3,000
N
0 25 50 100 m

83

Legend

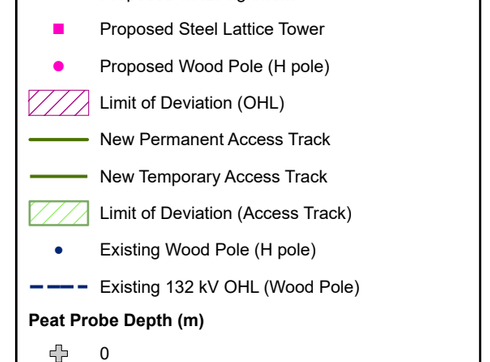
- Proposed OHL Alignment
- Proposed Steel Lattice Tower
- Proposed Wood Pole (H pole)
- Limit of Deviation (OHL)
- New Permanent Access Track
- New Temporary Access Track
- Limit of Deviation (Access Track)
- Existing Wood Pole (H pole)
- Existing 132 kV OHL (Wood Pole)

Peat Probe Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3

Peat Depth (m)

- 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- > 3



Project No:	LT559
Project:	Strathy Wood Wind Farm Grid Connection - EIA Report
Title:	Peat Management Plan Figure 9.2.5 - Peat Depth Detailed - Map 7
Drawn by:	AA
Date:	06/09/2024
Drawing:	428.013137.00001.00033.1

Annex A Excavated Materials Calculations

Strathy Wood Wind Farm Grid Connection

Appendix 9.2: Stage 1 Outline Peat Management Plan

SSEN Transmission

SLR Project No.: 428.013137.00001

Infrastructure	Length (m)	Width (m)	Area (m^2)	Average Depth (m)	Number	Total Excavated Volume Acrotelm Peat (m^3)	Total Excavated Volume Catotelm Peat (m^3)	Total Excavated Volume (m^3)	Length (m)	Width (m)	Area (m^2)	Average Depth (m)	Number	Total Re-use Volume Acrotelm Peat (m^3)	Total Re-use Volume Catotelm Peat (m^3)	Total Re-use Volume (m^3)	Notes
Permanent Access Track - Construction width 6.5m Operation Width 5m.	2476	6.5	16094	0.80	1	8047	4828	12875	2476	5.5	13618	0.80	1	6809	4085	10894	Re-instate to 5m post construction. Re-use 2m either side of the track to an average depth of 0.8m to tie into adjacent peatland.
Temporary Access Track	2749	5	13745	0.50	1	6873		6873	2749	5	13745	0.50	1	6873		6873	Fully reinstated
Proposed Sealing Compound	40	30	1200	1.10	0	0	0	0	40	30	1200	1.10	0	0	0	0	Included within Tower 1 working area footprint.
Tower 1	50	50	2500	1.13	1	1250	1576	2826	50	50	2500	1.13	1	1350	1576	2926	
Tower 2	50	50	2500	0.19	1	465		465	50	50	2500	0.19	1	565		565	
Tower 3	50	50	2500	0.48	1	1192		1192	50	50	2500	0.48	1	1292		1292	
Tower 4	70	70	4900	0.26	1	1287		1287	70	70	4900	0.26	1	1427		1427	
Tower 5	70	70	4900	0.38	1	1839		1839	70	70	4900	0.38	1	1979		1979	
Tower 6	50	50	2500	0.41	1	1023		1023	50	50	2500	0.41	1	1123		1123	
Tower 7	50	50	2500	0.34	1	845		845	50	50	2500	0.34	1	945		945	
Tower 8	50	50	2500	0.46	1	1148		1148	50	50	2500	0.46	1	1148		1148	
Tower 9	50	50	2500	0.40	1	1007		1007	50	50	2500	0.40	1	1107		1107	
Tower 10	50	50	2500	0.65	1	1250	364	1614	50	50	2500	0.65	1	1350	364	1714	
Tower 11	50	50	2500	0.32	1	802		802	50	50	2500	0.32	1	902		902	
Tower 12	50	50	2500	0.67	1	1250	427	1677	50	50	2500	0.67	1	1250	427	1677	
Tower 13	50	50	2500	0.34	1	857		857	50	50	2500	0.34	1	957		957	
Tower 14	50	50	2500	0.72	1	1250	544	1794	50	50	2500	0.72	1	1894		1894	
Tower 15	50	50	2500	0.43	1	1073		1073	50	50	2500	0.43	1	1173		1173	
Tower 16	50	50	2500	0.41	1	1034		1034	50	50	2500	0.41	1	1134		1134	
Tower 17	50	50	2500	1.27	1	1250	1929	3179	50	50	2500	1.27	1	1350	1929	3279	
Tower 18	50	50	2500	0.46	1	1161		1161	50	50	2500	0.46	1	1261		1261	
Tower 19	70	70	4900	0.80	1	2450	1491	3941	70	70	4900	0.80	1	2590	1491	4081	
Wood Pole 128A	20	20	400	0.38	1	152		152	20	20	400	0.38	1	252		252	
Wood Pole 129A	20	20	400	0.37	1	150		150	20	20	400	0.37	1	250		250	
Totals								**48814**								**48853**	

Total Excavated Volume Acrotelm Peat (m^3)	37655
Total Excavated Volume Catotelm Peat (m^3)	11159
Total Excavated Volume Peat (m^3)	**48814**
Total Re-use Volume Acrotelm Peat (m^3)	38981
Total Re-use Volume Catotelm Peat (m^3)	9873
Total Re-use Volume of Peat (m^3)	48853
Net Balance (m^3)	**-39**

Annex B Peat Coring Data

Strathy Wood Wind Farm Grid Connection

Appendix 9.2: Stage 1 Outline Peat Management Plan

SSEN Transmission

SLR Project No.: 428.013137.00001

PC01
0 – 0.9m

PC02
0 – 1.0m

SLR

Floor 2
4 Redheughs Rigg
South Gyle
Edinburgh
EH12 9DQ

Tel: 0131 335 6830
Fax: 0131 335 6831
Web: www.slrconsulting.com

STRATHY WOOD WIND FARM GRID CONNECTION

Scottish & Southern Electricity Networks
TRANSMISSION

Project No.: 428.013137.00001

Photograph Date: November 2023

PC02
1.0 – 2.0m

PC02
2.0 – 3.0m

SLR

Floor 2
4 Redheughs Rigg
South Gyle
Edinburgh
EH12 9DQ

Tel: 0131 335 6830
Fax: 0131 335 6831
Web: www.slrconsulting.com

STRATHY WOOD WIND FARM GRID CONNECTION

Scottish & Southern Electricity Networks
TRANSMISSION

Project No.: 428.013137.00001

Photograph Date: November 2023

Annex C Waste Classification

Strathy Wood Wind Farm Grid Connection

Appendix 9.2: Stage 1 Outline Peat Management Plan

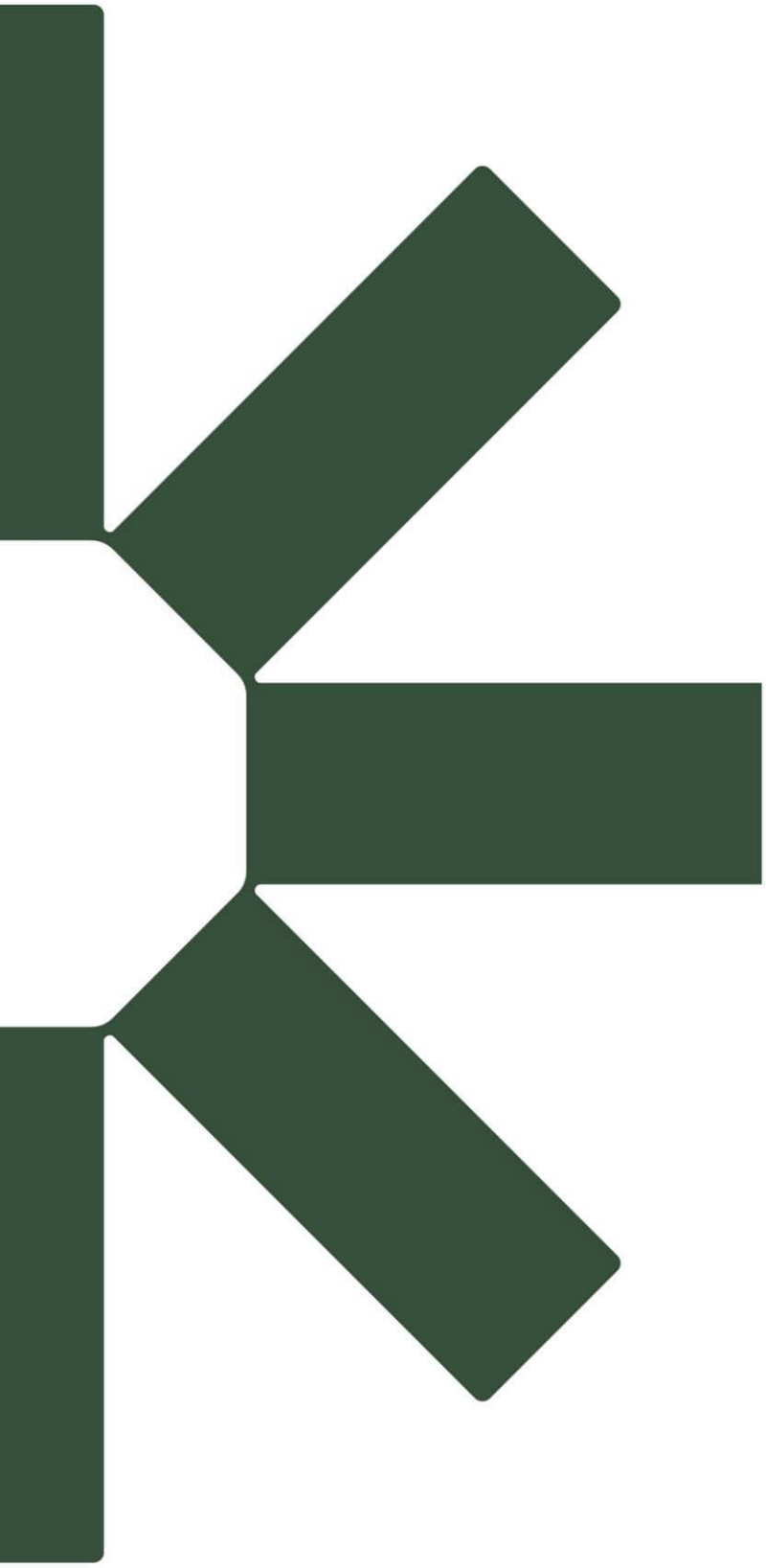
SSEN Transmission

SLR Project No.: 428.013137.00001

Excavated Materials – Assessment of Suitability

Excavated Material	Indicative Volume % of total excavated soils	Is there a suitable use for material	Is the Material required for use on Site	Material Classified as Waste	Re-use Potential	Re-use on Site
Turf and Acrotelmic Peat An estimated acrotelm depth of 0.5 m based on peat survey results.	77	Yes	Yes	Not classified as waste	Yes	Will be re-used in reinstatement of access track verges, cut and fill verges, road verges, side slopes and check drains. Re-instatement of tower working area excavations.
Catotelmic peat	23	Yes	Yes	Not classified as waste	Yes	Will be re-used in reinstatement of access track verges, cut and fill verges, road verges, side slopes and check drains. Re-instatement of tower working area excavations.
Amorphous Catotelm Peat (amorphous material unable to stand unsupported when stockpiled >1m)	0	Potentially	Potentially*	Potentially if not required as justifiable restoration of habitat management works	Limited	If peat does not require treatment prior to re-use it can be used on-site providing adequate justification and method statements are provided and approved by SEPA. If it is unsuitable for use without treatment then it may be regarded as a waste. However every attempt to avoid this type of peat has been incorporated into the design.

*Such uses for this type of material are limited, however there may be justification for use in the base of peat restoration areas to maintain waterlogged conditions and prevent desiccation of restored area and in some habitat management works such as gully or ditch blocking where saturated peat is required to mimic mire type habitats and encourage establishment of sphagnum.



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