Skye Reinforcement Project: PLHRA of Compensation Areas

Peat Landslide Hazard and Risk Assessment (Annex D of Compensation Plan)

Scottish & Southern Electricity Networks (SSEN)

Prepared by:

SLR Consulting Limited

4/5 Lochside View, Edinburgh Park, Edinburgh, EH12 9DH

SLR Project No.: 428.04707.00020

27 July 2023

Revision: 01

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Scottish & Southern Electricity Networks (SSEN) (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

Table of Contents

Tables in Text

Figures

Annexes

1.0 Introduction

This Stage 1 Peat Landslide Hazard and Risk Assessment (PLHRA) has been prepared by SLR Consulting Ltd (SLR) and presents the results of a peat depth survey and peat landslide hazard analysis of the proposed Compensation Areas (The "Site"), as set out in the Skye Reinforcement Project Kinloch and Kyleakin Hills SAC Compensation Plan[1] (the 'Compensation Plan').

The Compensation Areas were initially identified in consultation with NatureScot and Forestry and Land Scotland (FLS) and are situated adjacent to the SAC. The request for a PLHRA of these areas was made by NatureScot[2], who state (p4):

"*For forest to bog restoration, the type of restoration technique required will depend on site topography, peat type, hydrology, peat depth, peat slide risk, as well as the tree species present, their age, Yield class, rooting depth, alongside the ability to extract timber and harvesting technique used/considered, and the presence or absence of peat forming vegetation. Again FLS will be able to advise further on this, but we recommend that information on these aspects are also collected for each of the areas being considered.*"

The purpose of this report is to present details of peat depth and peat slide risk within the compensation areas proposed within the Compensation Plan. The assessment has been completed using current peat landslide hazard risk guidance[3].

1.1 The Project Team

The assessment work has been undertaken by a team comprising experienced geologists with much experience in undertaking peat and geotechnical assessments for renewable energy and infrastructure developments. All of whom have had formal training (e.g. BSc, MSc, CEng and MEng) in geology, geotechnics and environmental engineering.

The team was led by Gordon Robb (BSc (Hons), MSc, MBA, C.WEM, FCIWEM) who has more than 30 years' consultancy experience and specialises in the assessment of soils, geology and water for renewable power projects in Scotland. Gordon has worked on over 100 wind farm projects and numerous electrical infrastructure projects. He is also a contributing author to Scottish Government guidance relating to the assessment of peat on wind farms.

1.2 Background

The importance of assessing the stability of peat deposits in relation to energy developments came to the fore as a result of peat failures during the construction of Derrybrien Windfarm in Ireland in 2003. Although no fatalities were associated with these failures, there was a significant environmental impact. Restoration works in high moorland areas can be associated with significant peat deposits (typically blanket bogs). There is a potential for peat instability to occur, particularly where deposits are in excess of 1m thick and where best practice is not followed. Peat instability is influenced by many factors, including, but not limited to, peat thickness, hill slope gradient, underlying geology and subsurface hydrology.

1.3 Site Location and Description

The Compensation Plan[1] includes three proposed Compensation Areas referred to as Compensation Area A, B and C. The locations of Compensation Area A and C are directly

1 MacArthur Green (July 2023) Skye Reinforcement Project. Kinloch and Kyleakin Hills SAC. Compensation Plan

2 Letter from NatureScot to Energy Consents Unit, dated 28 April 2023, ref.: CDM169934

3 Scottish Government (April 2017) Peat Landslide Hazard and Risk Assessment: Best Practice Guide for Proposed Electricity Generation Developments (Second Edition).

adjacent to each other and are located on forestry land between Broadford and Kyleakin. Compensation Area B is located further southeast of these areas, adjacent to Kyle Rhea.

Compensation Area A includes an area to the northwest of the Kinloch and Kyleakin Hills SAC / SSSI, where it is bordered by the SAC/SSSI on two sides. Area A is situated approximately 6.5km southeast of Broadford. This area borders FLS peatland restoration areas. The Compensation Plan confirms that this Area will be targeted for blanket bog and wet heath restoration habitats.

Compensation Area B is located directly adjacent to the SAC boundary in the east. Area B is situated approximately 5km to the southeast of Kyleakin, and directly west of Kyle Rhea. This area overlaps with some areas of habitat that are part of the Scottish Forest Alliance (SFA) native woodland restoration project, involving natural regeneration along river valleys to the coast. The Compensation Plan confirms that this Area will be developed for wet heath and dry heath restoration habitats.

Compensation Area C is situated directly north of the SAC boundary. This Area is located approximately 1km southwest of Kyleakin. There is no overlap with the SFA native woodland restoration project in this area. The Compensation Plan confirms that the principal focus of this Area will be western acidic oak woodland compensation.

The Site Location and Compensation Areas are shown in **Figure 1 – Site Location,** together with the boundary of the Kinloch and Kyleakin Hills SAC.

1.4 Scope and Objectives of Report

The purpose of this report is to identify those parts of the Site that are naturally susceptible to a higher risk of instability so that they can be avoided, or appropriate mitigation identified to safeguard against peat slide risk.

This has been achieved by:

- a desk-based review of available reports which include geological, hydrological and topographical information;
- peat depth survey undertaken by SLR in 2021 and 2022 in support of the Skye Reinforcement Project Environmental Impact Assessment Report (September 2022) and further probing in May 2023 targeted in the proposed compensation areas;
- geomorphological mapping to identify existing conditions influencing the potential for, or any evidence of, active, incipient or relict peat instability, including identification of the location and photographic record, as appropriate;
- reporting on evidence of any active, incipient or relict peat instability, and the potential risk of future instability, describing the likely causes and contributory factors;
- identification of potential controls to be used by the Restoration Contractor (and to be included in the detailed Restoration Plans) to minimise the risk of peat instability; and
- provide recommendations for further work or specific methodologies to suit the ground conditions to mitigate any unacceptable risk of potential peat instability.

1.5 Methodology

The risk assessment is based on ground models developed using a Geographical Information System (GIS). Numerical analysis was undertaken in which coefficients were allocated to each of the factors influencing peat stability and their impact on possible receptors. This approach was developed in accordance with the guidelines on PLHRA published by the Scottish Government[3] for the investigation, assessment, and reporting for wind farms in peat areas. The analysis and interpretation are based upon the results

obtained from this process as well as previous experience and the results of case studies elsewhere. Where deviations from this guidance have occurred, this is highlighted and explained in the text.

2.0 Desk Study

Desktop data was reviewed by SLR, including aerial photographs and Ordnance Survey (OS) 1:25,000 scale mapping which included a 5m Digital Terrain Model (DTM). The aerial photography consisted of ortho-rectified colour images; no stereoscopic aerial photographs were available.

The desk study methodology included a review of the following:

- Compensation Plans[1];
- available aerial photography;
- land use;
- historical and current geological maps and publications;
- hydrology and hydrogeology;
- peat stability issues in the surrounding area; and
- potential impact receptors.

This desktop assessment also included review of the following:

- NatureScot Environment map viewer[4];
- British Geological Survey (BGS) Geoindex mapping[5];
- NatureScot SiteLink[6];
- Scotland's Environment online viewer[7];
- Zetica UXO Risk Maps[8]; and
- current and historical Ordnance Survey maps.

2.1 Site Walkover

A site walkover survey was undertaken by SLR in April and May 2023 throughout Compensation Areas A and C. The walkover survey was used to identify ground conditions, site access and to scope the upcoming programme of peat depth probing. Area B was scoped out of assessment within the PLHRA and the rationale for this decision is detailed further in Section 4.

2.2 Topographical Surveys

All of the surveys were based on 5m DTM data which was used to determine slopes and to determine slope coefficient (score) factors at each peat probe hole location.

4 Scottish Natural Heritage (SNH), The James Hutton Institute and Scottish Government., (2016). available at: www.environment.scotland.gov.uk [Accessed 22 March 2022]

5 British Geological Survey (BGS) Online Viewer/Geoindex website, available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html ; http://www.bgs.ac.uk/geoindex / [Accessed 22 March 2022]

6 NatureScot SiteLink, available at: https://sitelink.nature.scot/about [Accessed 22 March 2022]

7 Scotlands Environment webmap, available at https://map.environment.gov.scot/sewebmap/, available at: https://magic.defra.gov.uk/ [Accessed 22 March 2022]

8 Zetica UXO (2022), available at: https://zeticauxo.com/downloads-and-resources/risk-maps/ [Accessed 22 March 2022]

2.3 Geology

2.3.1 Superficial Geology

The BGS Geoindex mapping indicates that superficial geology varies in each of the Compensation Areas. Superficial geology for the Site is shown in **Figure 2 – Superficial Geology.**

In Compensation Area A, there are areas in the centre, west and south where there is an absence of mapped superficial deposits. Till and morainic deposits, comprised of diamicton, sand and gravel, are predominantly located in the centre and east of this area. Localised areas of alluvium (comprised of clay, sand and gravel) are present alongside watercourses. In the central areas of the Site, there are localised areas of mapped peat present. The Carbon and Peatland 2016 map indicates the area is located within Class 5 peatland.

In Compensation Area B, most of the south, east and centre of the Site is mapped as till and morainic deposits. The remainder of the area in the north and west is absent from mapped superficial deposits. The Carbon and Peatland 2016 map indicates the area is located within Class 4 peatland.

In Compensation Area C, there are areas in the centre, north and east where there is an absence of mapped superficial deposits. Till and morainic deposits are mapped in areas of the centre, south and west. Raised marine deposits are mapped in the west, northwest and localised areas in the south. Areas of alluvium are adjacent watercourses in the south and there is a small area of peat in the centre of this area. The Carbon and Peatland 2016 map indicates the area is located within Class 5 peatland.

2.3.2 Bedrock Geology

Bedrock Geology for the Site is shown in **Figure 3 – Bedrock Geology**.

Compensation Areas A and C are underlain by the Neoproterozoic Applecross Formation which is comprised of red sandstones, pebble conglomerates and grey siltstones.

Compensation Area B is underlain by the Neoproterozoic Beinn Na Seamraig Formation which is comprised of sandstones and minor mudstones. In addition, the North Britain Paleogene Dyke Suite is present in localised areas with Felsite and Granophryics Granite present in the north and south and Microgabbro and basalt present in the centre of the area.

2.4 Mining and Quarrying

BGS Geoindex indicates that there are no records of mines or quarries located within any of the Compensation Areas.

There are multiple pits and quarries located north of Compensation Areas A and C, alongside the A87.

2.5 Hydrogeology

Compensation Areas A and C are underlain by the Torridon Group, classed as a low productivity aquifer, comprised of sandstones and mudstones yielding small amounts of groundwater. Flow is predominantly through fractures and other discontinuities within the rocks.

Compensation Area B is underlain by the Sleat Group, classed as a low productivity aquifer, comprised of slightly metamorphosed sandstones and shaly mudstones which yield small amounts of groundwater.

All of the Compensation Areas are located within the Skye South Groundwater body (ID: 150675) in the Scotland River Basin District, with an overall status of ‘good’.

2.6 Geomorphology and Historic Land Slips

The site surveys, aerial photographs and DTM data were used to identify the major geomorphological features such as the breaks of slope and landslips. Where required these were inspected during site visits and more detailed assessment was undertaken.

The geomorphological features identified from desk-based review and site walkovers are detailed on **Figure 4 – Geomorphology.**

Aerial photography using Google Earth was reviewed using images from 2023 and dating back to 1984. Interpretation of available aerial photographs was undertaken to assess and identify evidence of historic peat instability. The photographs were examined using various techniques to highlight features of interest, such as:

- possible extension and/or compression features;
- areas of historic failure scars and debris;
- evidence of soil creep;
- areas with apparently poor drainage;
- areas with concentrations of surface drainage networks;
- steeply incised stream cuttings within peat deposits; and
- areas with peat drift recorded on steep slopes.

Tables 2-1 – 2-3, describe the geomorphology in each of the Compensation Areas.

Table 2-1: Compensation Area A Geomorphology

Compensation Area A	
Geomorphological Feature	**Comment**
Mapped Peat	Carbon and Peatland Map – Class 5.
Peat Haggs	No significant areas of peat hagging identified.
Forestry	Forestry and felled forestry present throughout majority of this area.
Bedrock	No significant bedrock exposures.
Topography	The area is situated on gentle hillsides and flatter expanses. Steep slopes are rare.
Drainage	There are several watercourses present, such as Allt a Choire Bhuidhe and Allt an Daraich, predominantly draining to the north.

Table 2-2: Compensation Area B Geomorphology

Compensation Area B	
Geomorphological Feature	**Geomorphological Feature**
Mapped Peat	Carbon and Peatland Map – Class 4.

Compensation Area B	
Peat Haggs	No significant areas of peat hagging identified.
Forestry	Forestry and felled forestry present throughout majority of this area.
Bedrock	There are frequent exposures of bedrock, particularly in the northeast of this area and directly north of Coire Buidhe.
Topography	The area is situated on steep slopes.
Drainage	There are several watercourses including: Allt a' Choire Bhuidhe and Allt Grainach rivers flowing generally eastwards and ultimately draining into the Kyle Rhea.

Table 2-3: Compensation Area C Geomorphology

Compensation Area C	
Geomorphological Feature	**Comment**
Mapped Peat	Carbon and Peatland Map – Class 5 .
Peat Haggs	No significant areas of peat hagging identified.
Forestry	Forestry and felled forestry present throughout majority of this area.
Bedrock	No significant bedrock exposures identified throughout the area.
Topography	The area is situated on gentle hillsides and flatter expanses. Occasional steeper slopes present.
Drainage	River Allt Anavig and its associated tributaries are present in the west of this area, draining to the north.

3.0 Peat Instability

This section reviews the nature of peat and how current and past activities can influence stability. The factors which are likely to influence the potential for peat instability are:

- significant peat depths over impermeable bedrock or minimal soil;
- the presence of slope gradients greater than 4° (approximately) and general topography;
- natural drainage paths;
- evidence of past failures, including soil creep;
- drainage features at the base of slopes which could lead to undercutting;
- forestry plantations and artificial drainage; and
- recent climate patterns.

It should be noted that peat instability is not a recent phenomenon and there is documentary evidence of peat landslides dating back over 500 years[9]. Many landslides that involve peat have no human interference that could be considered as a trigger, and this should be borne in mind when considering the susceptibility of a site to potential instability.

3.1 Background Information Regarding Peat

Peat is found in extensive areas in the upland and lowland regions of the UK and is defined as the partly decomposed plant remains that have accumulated in-situ, rather than being deposited by sedimentation. When peat forming plants die, they do not decay completely as their remains become waterlogged due to regular rainfall. The effect of water logging is to exclude air and hence limit the degree of decomposition. Consequently, instead of decaying to carbon dioxide and water, the partially decomposed material is incorporated into the underlying material and the peat 'grows' in-situ.

Peat is characterised by low density, high moisture content, high compressibility, and low shear strength, all of which are related to the degree of decomposition and hence residual plant fabric and structure. To some extent, it is this structure that affects the retention or expulsion of water in the system and differentiates one peat from another.

Lindsay[10] defined two main types of peat bog, raised bog and blanket bog, which are prevalent on the west coast of Europe along the Atlantic seaboard. In Britain, the dominant peatland is blanket bog which occurs on the gentle slopes of upland plateaux, ridges and benches and is predominantly supplied with water and nutrients in the form of precipitation. Blanket peat is usually considered to be hydrologically disconnected from the underlying mineral layer.

There are two distinct layers within a peat bog, the upper acrotelm and the lower catotelm. The acrotelm is the fibrous surface to the peat bog[11], typically less than 0.5m thick; which exists between the growing bog surface and the lowest position of the water table in dry summers. Below this are various stages of decomposition of the vegetation as it slowly becomes assimilated into the body of the peat.

For geotechnical purposes the degree of decomposition (humification) can be estimated in the field by applying the 'squeezing test' proposed by von Post and Grunland[12] (1926). The

9 Smith, L.T., (Ed) (1910), 'The literary of John Leland in or about the years 1535-1543.' Vol.5, Part IX. London: AF Bell and Sons.

10 Lindsay, R.A., (1995), 'Bogs: The ecology, classification and conservation of Ombrotrophic Mires.' Scottish Natural Heritage, Perth.

11 Ingram, H.A.P., (1978), 'Soil layers in mires: function and terminology'. Journal of Soil Science, 29, 224-227.

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

humification value ranges from H1 (no decomposition) to H10 (highly decomposed). The extended system set out by Hobbs[13] provides a means of correlating the types of peat with their physical, chemical and structural properties.

The relative position of the water table within the peat controls the balance between accumulation and decomposition and therefore its stability, hence artificial adjustment of the water table by drainage requires careful consideration.

3.2 Peat Shear Strength

In geotechnical terms, the shear strength of a soil is the physical characteristic that provides stability and coherence to a body of soil. For mineral soils such as clays or sands, such strength is variously given by an inter-particle friction value and cohesion. Depending on whether the mineral soil is predominantly cohesive (clay) or non-cohesive (sand) governs which of the components of strength control the behaviour of the soil.

For peat soils, where the major constituent is organic and there is likely to be little or no mineral component, the geotechnical definition of shear strength does not strictly apply. At present there is no real alternative method for defining the shear strength of peat, therefore the geotechnical definition is generally adopted, in the knowledge that it should be used with great caution.

As noted previously, the acrotelm or near surface peat comprises a tangle of fresh and slightly rotted roots and vegetable fibres. These roots and fibres impart a significant tensile shear strength capacity to the material which provides it with a significant load carrying capacity. The acrotelm is, in effect, a fibre reinforced soil.

In the more decomposed catotelm, the tensile shear strength is reduced as the roots and fibres become more rotted. However, the loss in strength due to decomposition is off-set to a limited degree, by a gain in strength due to the overburden pressure. In geotechnical engineering there is an established relationship for recently deposited soils, between the shear strength of a sample and the thickness of overburden above it.

Consequently, it is almost impossible to predict a shear strength profile in peat and attempts to measure the shear strength using normal geotechnical methods can be misleading. Typical values of shear strength from hand shear vanes would be in the range 10-60 kilopascal (kPa) although values over 100 kPa have been recorded in peat elsewhere. The higher strengths are almost certainly the influence of roots or other non-decomposed material. It is believed that the strength of peat should be quoted as a cohesion value as there are few, if any, discrete particles to give the material a significant frictional resistance. It should be noted, however, that any quotation of shear strength for peat should be treated with extreme caution.

3.2.1 Mechanisms that Contribute to Peat Instability

There is considerable observational information relating to debris and peat flows although the actual mechanisms involved in peat instability are not fully understood. The main influences on slope stability are geological, geotechnical, geomorphic, hydrological, topographic, climatic, agricultural and human influences such as drainage and construction activity. Peat is affected to a degree by changes in any of the above list and it is vital to appreciate that changes to the existing equilibrium may affect the level of slope stability during restoration if best practice is not followed.

Some of the contributory factors to peat instability are summarised below:

13 Hobbs, N.B., (1986), 'Mire morphology and the properties and behaviour of some British and foreign peats.' Quarterly Journal of Engineering Geology, London, 19, 7-80.

- The geographical limits which could be affected by potential instability are not confined to the artificial boundaries imposed by land ownership; landslip occurring above a site could affect the site and property down slope or downstream of the site for several kilometres;
- Agriculture and grazing have a substantial effect on peat areas, and this can be compounded in areas that have been managed to improve grazing. Grazing compacts the peat surface reducing the rainwater infiltration and the additional nutrients change the ecological balance of the original peat bog. Agricultural management can include surface drainage and periodic burning, both of which can leave the surface of the peat bare for a period of time resulting in temporary desiccation of the surface. Subsequent wetting of the peat and resumption of peat accumulation results in the former desiccated and possibly ash covered surface being incorporated into the body of the peat which introduces a weak discontinuity in the profile; this in turn becomes another unknown factor in the stability assessment.
- Forestry has a substantial effect on slope stability particularly in the early stages as the creation of a forest involves disruption of the natural equilibrium and drainage of the slopes and the installation of artificial drains by deep ploughing. The construction of access tracks further disrupts the drainage and concentrates groundwater flow into narrow, fast flowing erosive streams. The work by Winter *el al* [14] noted that forest tracks can act to retard or concentrate the down slope flow of water and thus aid its penetration into the slope below. Such a mechanism has been observed at a number of recent landslips that have affected the road network in Scotland.
- Natural Drainage – some of the precipitation falling onto a natural upland peat bog would be absorbed into the low permeability catotelm peat. However, most of the water would run-off as sheet flow through upper, high permeability acrotelm. Thus, the water is transmitted to the lower slopes in a reasonably controlled manner through a range of interconnections that operate at different scales and speed. Failure to understand this and to disrupt the transmission process for the groundwater could result in instability.
- Artificial Drainage - Where agricultural drainage has been used to improve the quality of the grazing or to promote forestry it reduces the overall volume of water entering the bog and transfers this water to the edges more rapidly. This can result in ditches and streams becoming enlarged, causing increased erosion and a greater silt burden in the stream water.

3.3 Peat Mass Stability

The principal surface indicator of peat slide potential is cracking of the peat land surface, and it is the identification of crack patterns in the field and the attendant causes of the cracking that is fundamental to a peat stability assessment.

Sites that have exhibited natural instability in the past are likely to be more susceptible to future instability during further changes to the hydrological regime during restoration works may further influence this, therefore it is important to identify such instability as part of the PLHRA.

14 Winter, M.R., Macgregor, F. and Shackman, L. (2005a), 'Scottish tracks networks landslide study' Trunk tracks: network management division, published report series. The Scottish Government.

3.3.1 Types of Failure

The result of instability in peat is the down-slope mass movement of the material; there are a number of definitions of peat instability which are used to characterise the type of failure. A brief description is given below:

- Bog Bursts or Bog Flows – the emergence of a fluid form of well humified, amorphous peat from the surface of a bog, followed by the settling of the residual peat, in-situ[15];
- Peat Slides – the failure of the peat at or below the peat/ substratum interface leading to translational sliding of detached blocks of surface vegetation together with the whole underlying peat stratum[15];
- Bog Slide – an intermediate form of instability where failure occurs on a surface within the peat mass with rafts of surface vegetation being carried by the movement of a mass of liquid peat.

3.3.1.1 Bog Bursts

Accounts of bog bursts are generally associated with very wet climates or areas which have received storm rainfall events. Bog bursts can be associated with particularly wet peat landscapes; therefore, it is possible to identify broad regions of a higher susceptibility to these failures. The constraints used to identify the areas of higher susceptibility to bog burst failure are given below:

- peat thickness in excess of 1.5m with no upper limit;
- shallow gradients, generally within the range of 2 to 10°, peat thicker than 1.5m is generally not observed on slopes steeper than 10°, also moisture content is generally reduced on steeper slopes due to drainage);
- ground which is annually waterlogged to within the upper 1m below ground level, (the groundwater level may rise above this but rarely falls below)[16];
- greater humification of the lower catotelm within the waterlogged ground; and
- lower surface tensile strength of the fibrous peat and vegetation.

The humified mass can be considered as analogous to a heavy liquid and the stability of this mass is maintained by the strength of the surface or acrotelm peat. Should the surface become weakened through erosion or desiccation or the construction of a surface drainage ditch for agricultural or forestry reasons or through turbary (peat cutting), failure is made more likely.

3.3.1.2 Peat Slides

Peat slides tend to be translational failures with a defined shear surface at or close to the interface with the substrate. The factors generally considered to influence susceptibility to peat slide failures are listed below:

- peat depth up to 2m;
- slope gradients between 5° and 15°;
- natural or artificial drainage cut into the surrounding peat landscape;
- greater humification of the lower catotelm within the waterlogged ground; and

15 Dykes, A.P and Kirk, K.J., (2001), 'Initiation of a multiple peat slide on Cuilcagh Mountain, Northern Ireland.' Earth Surface Processes and Landforms, 26, 395-408.

16 Crisp, D.T., Dawes, M. & Welch, D. (1964), 'A Pennine Peat Slide', The Geographical Journal, Vol 130, No4, pp519-524.

- lower surface tensile strength of the fibrous peat and vegetation.

It is noted that some of the factors causing instability are common to both bog bursts and peat slides.

The peat – substrate interface is the primary zone of failure and is enhanced by elevated water content at this boundary and softening or weathering of the lower mineral surface. For this reason, any investigation or probing should try to distinguish the nature of the lower mineral substrate.

3.3.1.3 Bog Slides

A bog slide is a variation on a peat slide where part of the peat mass is subject to movement, usually on an internal layer of material, which may be more prone to movement, such as an interface between the acrotelmic and catotelmic layer.

3.3.2 Natural Instability

The stability of a peat mass is maintained by a complex interrelationship of many factors, some of which may not be immediately obvious. Key factors include sloping rock head and proximity to a water body. Rainfall often acts as the trigger after the slope has already been conditioned to fail by natural processes.

It should also be remembered that peat bogs are growing environments and that there would come a time, on sloping ground, where the forces causing instability, the weight of the bog, can no longer be resisted by the internal strength of the peat and its interface with the underlying mineral surface. At this point, failure would occur.

The weight of the peat bog or any soils mantling steep hill slopes would be increased during periods of very heavy rain and it is common to see landslips occurring following extreme rain events. This may be a concern for future developments where one of the predicted effects of global warming will be a greater frequency of extreme weather, intense storms being one element.

4.0 Fieldwork Undertaken

Following a review of the desk study information for each of the Compensation Areas, it was concluded that Area B did not require a peat depth survey and further assessment due to the low likelihood of deep peat deposits in the steep forested areas. This was confirmed by:

- Previous peat depth surveys in the northeast of this area which consistently recorded peaty soil depths of less than 0.5m, indicating no peat present;
- Using aerial imagery, there are frequent exposures of bedrock across this area, particularly in the northeast of this area and directly north of Coire Buidhe. Frequent bedrock exposures are generally indicative of a presence of shallower soils and lack of deep peat;
- The presence of moderate to steep slopes across the area, with a maximum elevation of 430mAOD east of Beinn na Caillich. Peat is unlikely to accumulate on steeper slopes, therefore, there is a lower probability of peat formation;
- Due to the areas of widespread forestry on steep slopes, deep peat is unlikely to be present across this area; and
- Drainage is good throughout this area with various watercourses present, such as Allt a' Choire Bhuidhe and Allt Grainach rivers flowing generally eastwards and ultimately draining into the Kyle Rhea. Effective drainage reduces the probability and risk of waterlogging in this area.

From previous site investigations of Compensation Area B, there are several identified areas of relatively undisturbed blanket bog, predominantly on open ground to the east of Beinn na Caillich and south of Allt a Choire Bhuidhe. However, these habitats will not be managed or expanded due to their localised and fragmented nature and restrictions relating to unsuitable surrounding habitats that limit any potential expansion. The target habitats for creation following conifer plantation removal in Compensation Area B is not inclusive of forest to bog restoration works and no further assessment of Area B is required within the PLHRA.

Field surveys were completed in Compensation Areas A and C. An initial walkover of Areas A and C was conducted by SLR in April 2023. A fieldwork survey was conducted in May 2023, following best practice guidance for developments on peatland[17,18]. This involved peat probing to collect peat depth data and peat augering to identify peat type and condition.

Compensation Area A was peat probed on a 100m x 100m grid. Compensation Area C was peat probed using a combination of 100m x 100m grid and 50m x 50m grid. The 50 x 50m grid was situated towards an area north and west of Allt a Ghleannain and along Allt Anavig where habitats information indicated suitable locations for SAC woodland expansion and creation. Higher resolution probing was conducted here to confirm the amount of potentially plantable ground.

The fieldwork included the collection of 472 peat probes. The aim of the survey was to obtain an understanding of peat depths and their variation. A complete list of data from the peat probing exercise is included in **Annex A: Peat Slide Risk Data.**

Data collection characterised peat depth and provided preliminary information on balance of catotelmic and acrotelmic peat. The data has been used to support the production of peat depth mapping and to inform the production of this PLHRA report.

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

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

4.1 Peat Survey Methodology

The thickness of the peat was assessed using a graduated peat probe, approximately 6mm diameter and capable of probing a depth of more than 10m. 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 metres, which was considered sufficiently accurate for this survey. All data was uploaded into a GIS database for incorporation into various drawings and analysis assessments. Peat depth maps provided as **Figure 5 Peat Depth** and **Figure 6 Peat Depth >0.5m** were produced to show interpolated peat depths where peat probing was undertaken. The method of interpolation between peat probe points used was 'Inverse Distance Weighting' (IDW).

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. 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.

An assessment of the substrate was made and recorded at each probe hole.

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). Some areas, especially on slopes, were a little drier, resulting in the peat being stiffer and more difficult to fully penetrate. In all instances refusal was met on obstructions allowing identification of subsurface geology.

A Peat Auger was used to recover peat cores to allow visual assessment and characterise the peat as detailed in Section 4.3.

4.2 Peat Survey Results

The peat was found to vary in terms of thickness, surface slopes and apparent natural characteristics.

Peat thickness varies from zero to 3.7m. Accumulations of peat less than 0.5 m thick are too thin to be classified as true peat deposits and are often classified as organic soils, peat soils or peaty soils. The peat thickness was examined by review of the probe information from the investigation and is discussed below.

A total of 472 peat probes were undertaken, with the results summarised in Table 4-1. The peat thickness at each location was recorded and the data used to produce peat depth plans.

Table 4-1: Peat Probe Results

Peat Thickness (m)	No. of Probes	Percentage (of total probes advanced)
0 (no peat)	40	8.5
0.01 – 0.49 (peaty soil)	264	55.9
0.50 – 0.99	86	18.2

Peat Thickness (m)	No. of Probes	Percentage (of total probes advanced)
1.00 – 1.49	37	7.8
1.50 – 1.99	29	6.1
2.00 – 2.49	8	1.7
2.50 – 2.99	4	0.8
3.00 – 3.49	1	0.2
3.50 – 3.99	3	0.6
> 4.0	0	0.0

4.3 Peat Condition

The geomorphology of the peat varies between some flat expanses of thick peat with high moisture content and smaller areas of thinner drier deposits blanketing the flanks of the hills.

The shear strength of the peat was assessed from inspection of natural exposures and found to be in the range very soft to firm (<10-45 kPa).

Based on interpretation from probing and peat auger samples, the extensive areas of deeper peat within the flatter areas becomes predominantly amorphous with depth. There are some localised deposits of shallow peat that generally comprise fibrous to pseudo-fibrous layers.

Based on field descriptions at augering points, most of the deeper peat present in the flatter areas of the site would be classified between H9 to H10 in the von Post classification, with a high level of decomposition recorded. Some of the locations have shallower peat classified as H5 to H8 of moderate to very strong decomposition.

Peat Core logs 1 to 9, with associated location coordinates and photographs, are presented within Annex B.

4.4 Substrate

From the evidence of the probing and sampling, the substrate falls into one of two principal categories:

- Granular (sand and/or gravel/weathered rock), of glacial origin and occasionally interbedded with silty sands;
- Rock, no rock samples were recovered from the probe locations although where exposed, the rock is seen to be metamorphic rocks; and

Limited cohesive horizons were interpreted by the probing, however evidence from the site walkover did not visually identify cohesive soils.

5.0 Slope Stability/Ground Conditions

The stability of slopes is dependent upon the shear strength of the soil to resist the disturbing forces due to the weight of the soil, the effects of the groundwater and other disturbing influencing forces.

The level of stability of a slope is normally assessed by reference to the factor of safety, which is expressed, numerically, as the degree of confidence that exists, for a given set of conditions, against a particular failure mechanism occurring. It is commonly expressed as the ratio of the load or action which would cause failure against the actual load or actions likely to be applied during service. This is readily determined for some types of analysis (e.g., limit equilibrium slope stability analyses).

5.1 Shear Strength

The strength of the peat in the upper acrotelm is significantly influenced by the root and fibres that are abundant in this layer. There are many influences on the stability of the peat and observing or measuring high shear strength should not be used to assume a high degree of stability.

5.2 Stability Risk Assessment

It is apparent that the stability of peat is complex and the numerous inter-relationships that affect the stability are not fully understood.

The problem with a quantitative assessment is that it requires a numerical input, and the analysis cannot account for the unquantifiable input required for a comprehensive peat stability assessment. For this reason, a purely quantitative assessment should only be considered as a guide and that a qualitative assessment of stability should be used to provide the final recommendations.

A stability risk assessment was undertaken to evaluate the risk of instability occurring associated with the locations of electrical distribution infrastructure and proposed access tracks.

6.0 Peat Landslide Hazard and Risk Assessment

A preliminary peat risk assessment has been undertaken. Following the peat probing site visit, the potential for a peat slide occurring was initially assessed as low. This was based on the fact that:

- The areas of more extensive peat and deep peat identified across the Compensation Areas were mostly localised to areas with lower gradients; and
- Moderate average slope gradients (<8°) across the Compensation Areas.

The Compensation Areas have areas of forestry that have been cleared and areas of existing forestry plantation which are scheduled for felling.

There were no areas of peat instability identified during the survey work and no infrastructure is proposed for construction within the compensation areas, however, the proposed restoration activities may influence the peat stability and this assessment has been undertaken to identify potential risk areas and any mitigation or further investigation and / or assessment required.

The Compensation Area restoration and enhancement activities will comprise the following for each area and are based on the details provided in the Compensation Plan[1].

Compensation Area A: Removal of conifer forestry to promote bog and wet heath restoration within areas to the south and east immediately adjacent to the FLS peatland restoration areas. The forest to bog restoration is proposed to be undertaken in accordance with current guidance and is detailed within Section 5.1 of the Compensation Plan[1].

Restoration techniques used are dependent on factors such as site topography, hydrology, tree species, age of trees, peat depths, peat type and condition, and ultimately the peat slide risk which this report is investigating. For Compensation Area A, it is likely that a mix of the following restoration activities will occur:

- Harvesting and tree removal. Trees and associated wood debris should be removed if possible, and chipping and mulching techniques should be adopted as an alternative, in accordance with SEPA guidance[19] and FLS operational specifications. The following techniques for harvesting and tree removal would be suitable for Area A:
  - Mechanical Felling
  - Mechanical Tree Shearing
  - Mechanical Fibre Relocation
  - Fibre Recovery
  - Mechanical Mulching
- Peatland Re-wetting Methods. This is likely to take place once tree removal operations are complete to allow for the assessment of the condition of Site with respect to slopes, drainage and wetter areas. The following techniques for peatland re-wetting methods may be adopted for Area A:
  - Stump / Root Plate Mulching
  - Ground Smoothing

19 SEPA (2014). Use of Trees Cleared to Facilitate Development on Afforested Land. Land Use Planning System SEPA Guidance Note LUPS-GU27, Version 1, 09 April 2014. Joint guidance from SEPA, SNH and FCS.

- Blanket bog and wet heath restoration to favourable condition status (zero common standards monitoring failures). The following techniques may be adopted:
    - Ridge-Furrow Reprofiling
    - Furrow Blocking
    - Drain Blocking
    - Hagg Reprofiling

Compensation Area C: Restore, create and enhance Western Acidic Oak Woodland to favourable condition (zero common standards monitoring failures) and restoration of National Vegetation Classification (NVC) communities. This is limited to:

- Developing a detailed woodland creation and expansion plan in consultation with FLS and NatureScot over a number of years to help target NVC communities;
- Removal of conifers, rhododendrons and other exotic and invasive species from areas of exiting broadleaved woodland;
- Deer population management to allow for woodland establishment in accordance with site condition monitoring targets. Deer fencing may also be required until trees and understorey are suitably established;
- Removal and management of bracken with ongoing control where it is encroaching on woodland restoration and creation areas;

As indicated above there were no signs of peat instability recorded during the site walkover and peat probing surveys suggesting the current forestry and peatland restoration management practices are not resulting in peat instability. The proposed forest to bog restoration activities in Compensation Area A will involve blanket bog/ wet heath restoration. This will involve removal of all conifers to promote the recovery of the blanket bog and wet heath habitat and peatland re-wetting.

The peatland re-wetting of forestry related features and drainage outlined above are targeted at raising the water levels to maximise re-wetting of the peat and peaty soils. If these restoration activities are not undertaken in accordance with good practice the activities may increase the likelihood of an increase in pore water pressure and increase in potential loadings in the peat and at the peat / substrate interface which may potentially increase the risk of peat instability. This may occur if the local topographic gradient and local hydrological regime are not maintained in the restoration and surrounding hydrologically linked areas.

To further quantify this initial assessment, analysis of the terrain utilising GIS has been undertaken to analyse slopes and gradients, as shown on **Figure 7 Slope** and **Figure 8 Peat Slide Risk.**

The site-specific slope data has been combined with site specific peat depth data and using Scottish Government Guidance for the assessment of the risk of instability in peat, an assessment of peat slide risk has been completed.

Key factors which may influence the stability of the peat deposits have been identified leading to an assessment of the RISK of instability. The potential impact of any instability, the HAZARD, was then considered for identified potential receptors. Scores were attributed to the key factors that have the greatest influence on peat stability. Risk scores were determined, which, when combined with an assessment of vulnerability of potential targets, were developed into an assessment of the hazard.

To differentiate between risk and hazard, the following nomenclature has been adopted in Table 6-1.

Table 6-1: Risk versus Hazard

RISK	HAZARD
Negligible	Insignificant
Low	Significant
Medium	Substantial
High	Serious

This section outlines the approach taken and the scores allocated for various factors relevant to peat stability.

At this stage in the development of the Compensation Plan[1], the objective is to determine the peat areas that would have an effect on the restoration and to set out the mitigation that should be adopted and incorporated into method statement for the restoration activities.

The level of slope is normally assessed by reference to the factor of safety, which is expressed, numerically, as the degree of confidence that exists, for a given set of conditions, against a particular failure mechanism occurring. It is commonly expressed as the ratio of the load or action which would cause failure against the actual load or actions likely to be applied during service. This is readily determined for some types of analysis (e.g., limit equilibrium slope stability analyses).

The natural moisture content and undrained shear strength of the peat are important; however, it is generally accepted that where present, the peat would be saturated and have a very low strength. It is believed to be unrealistic to rely on specific values of shear strength to maintain stability when back analysis of failed slopes indicates that there is often a significant discrepancy between measured strength in peat and stability. Shear strength has been assumed to be constant and worst case, throughout this assessment. It has also been assumed, as a worst case, that the groundwater level is coincident with the ground surface.

The key factors identified as being critical to stability and the development of a risk rating system are:

- A – Slope gradient;
- B – Peat thickness and ground conditions;
- C – Substrate type; and
- D – Historic instability.

The risk scores are multiplied together to generate a risk rating which is a measure of the likelihood of peat instability. Each are discussed below.

6.1 Slope Gradients

The slope gradients were assessed by reference to the mapping and particularly the DTM which was used to generate a gradient map shown on **Figure 7 Slope**, from which the gradient at each probe location could be determined and input into the risk rating spread sheet provided in **Annex A**. The gradient quoted at each location was based on the average gradient over a 5m grid.

Table 6-2: Coefficients for Slope Gradients

Slope Angle (°)	Slope Angle Coefficients
Slope <2^0	1
>2^0 Slope <4^0	2
>4^0 Slope <8^0	4
>8^0 Slope <12^0	6
>12° Slope	8

Coefficients for slope gradient have been assigned to ensure the potential for both peat slides (gradients of 4-15^0) and bog slides (gradients of 2-10^0) are addressed.

By simple inspection it is clear that steeper slopes pose a greater risk of instability than shallow gradients. Therefore, a graduated gradient scale from 0^0 to >12^0 (the practical maximum gradient on which peat is commonly observed) has been applied.

It is evident from the slope plan (**Figure 7**) that Compensation Area A is typically located on areas with moderate gradients (4-8°) in the southern and eastern areas with steeper gradients >8° present in the northern area. Compensation Area C is typically located on very steep gradients >12° on the southern and eastern flank with shallow gradients <4 ° on the western extents.

6.2 Peat Thickness and Ground Conditions

The ground conditions were assessed by using peat depths recorded during peat probing. Thin peat was classed as being 0.5m to 1.5m thick, with deposits in excess of this being classed as thick. The thickness ranges used are intended to reflect the risk of instability associated with both peat slides (in thin peat) and bog slides. Where the probing recorded peat less than 0.5m thick, this has been considered to be an organic soil rather than peat. Table 6-3 gives the coefficients applied to the various ground conditions.

In addition to peat thickness, the presence of existing landslip debris or indicators of meta-stable conditions such as tension cracks or slumping in the peat suggest the material is likely to become even less stable should the existing ground conditions change. Where evidence of historical slips, collapses, creep or flows is seen, a separate coefficient is applied.

Table 6-3: Coefficients for Peat Thickness and Ground Conditions

Ground Conditions	Ground Condition Coefficients
Peaty or organic soil (<0.5 m)	1
Thin Peat (0.5 – 1.5 m)	2
Thick Peat (>1.5 m)	3*
Slips /collapses / creep / flows	8

***Note that thicker peat generally occurs in areas of shallow gradients and records indicate that thick peat does not generally occur on the steeper gradients.**

6.3 Substrate Type

As noted above, most failures in thin peat layers occur at the interface with the underlying substrate; the nature of the substrate has a very large influence on the probable level of stability.

Where sand and/or gravel (derived from glacial till) form the substrate, the effective strength of the interface can be considered to be good with comparatively high friction values. Under these conditions, failure is likely to occur in a zone within the peat, just above the interface. Further factors are necessary to cause a failure of this nature (increased pore pressures within the peat) and occurrence of such events is rare.

Where clay forms the interface, there is likely to be a significant zone of softening in the clay (due to saturation at low normal stresses, poor or non-existent vertical drainage and the effect of organic acids), resulting in either very low undrained shear strength or low effective shear strength parameters. The result is that potential shearing could occur either in the peat, on the interface or in the clay; all three possibilities have been documented in the past.

A rock substrate provides a high strength stratum, however, the rock surface can be smooth, and, depending on the dip orientation of the strata, it can provide a very weak interface. For these reasons, at this stage, a rock interface has been given the same risk rating as clay.

Table 6-4: Coefficients for Substrate

Substrate Conditions	Substrate Coefficients
Granular	1
Cohesive	2
Rock	2
Not proven	3
Slip material (Existing materials)	5

If the overall thickness of the peat had not been proven, the risk associated with the significant thickness and the unknown substrate would have been given a high rating to accommodate the unknown factors. The depth of peat, has, however, been proven at all locations as part of this study.

6.4 Risk Rating

The probability of a peat landslide rating coefficient (score) was derived by multiplying the coefficients for the four key factors (with historic instability as 1) identified in the above sections together to produce a risk rating which is a measure of the likelihood of peat instability, and this enables potential areas of concern to be highlighted.

For the stability risk assessment, the following Probability of a Peat Landslide classes were applied as shown in Table 6-5**.**

Table 6-5: Probability of Peat Landslide

Risk Rating Coefficient	Potential Stability Risk (Pre-Mitigation)	Action
<5	Negligible	No mitigation action required.
5 - <15	Low	As for negligible condition plus development of a site-specific construction and management plan for peat areas.
15 - <31	Medium	As for Low condition plus may require mitigation to improve site conditions.

Risk Rating Coefficient	Potential Stability Risk (Pre-Mitigation)	Action
31-50	High	Unacceptable level of risk, the area should be avoided. If unavoidable, detailed investigation and quantitative assessment required to determine stability and sensitivity to minor changes in strength and groundwater regime combined with long term monitoring.
>51	Very High	Unacceptable level of risk, the area should be avoided.

The rating system outlined above differs slightly from that proposed in the Scottish Government Guidance[3] the system adopted here incorporates three inputs compared to two in the guidance, with the potential impact of substrate added in this section.

6.5 Hazard Score Development

A further assessment of the medium and high risk locations has been undertaken. It should be noted that the impact assessment is primarily concerned with impacts that affect the environment, ecology, public or infrastructure associated with the restoration areas, both on-site and potentially off-site. These assessments do not consider the detailed ecological impact of construction induced peat instability; however, the sensitive on-site receptors are the watercourses and thus the inferred ecological and environmental issues are addressed. The proposed mitigation measures in Section 7.0 would limit the potential for any slope failures into watercourses and drainage features hence limit such impacts.

In order to address this effect, it is not considered appropriate to assess the effect at every potential receptor location; but rather to assess the effect a particular infrastructure feature (track, tower/pole etc.) would have on the structures or features surrounding it. By adopting such an approach, the assessment of infrastructure features where a risk ranking of ‘negligible’ or ‘low’ (assessed in the stability risk assessments described above) is discounted from further assessment.

6.6 Receptor Ranking

Now the infrastructure features with a ‘medium’ or higher risk rating for instability have been identified it is necessary to identify potential impact receptors. These are nearby structures or features that may be affected by peat movements caused during or following the restoration works.

Generally, only receptors immediately down gradient of the restoration areas could be affected by peat instability therefore the first phase of feature ranking requires topographic ridges and valleys to be identified. From this, receptors at risk from particular infrastructure features can be identified. However, should instability occur on a steep slope, there is the risk of the back scarp of the instability migrating up-slope, there-by affecting areas previously considered not to be at risk.

Following identification of receptors at risk, these are ranked according to their size and sensitivity. Table 6-6 presents the coefficients placed on particular receptor types. Watercourses are deemed significant receptors potentially at risk from peat slides.

Table 6-6: Coefficients for Impact Receptor Ranking

Nature of Feature	Feature Coefficient
Non-critical infrastructure (minor/private roads, tracks)	1

Nature of Feature	Feature Coefficient
Watercourses and critical infrastructure (pipelines, motorways, dwellings and business properties etc.)	3
Sub-Community (settlement 1-10 residents)	6
Community (settlement of >10 residents)	8

6.7 Receptor Proximity

The proximity of an impact receptor is also critical in assessing the likely level of disruption it may suffer following an instability event. Based on this, two further coefficients – distance from infrastructure feature and relative elevation differences between the infrastructure feature and impact receptor are applied in deriving an impact ranking. Table 6-7 and Table 6-8 present the coefficients derived for distance and elevation of impact receptors.

Table 6-7: Coefficient for Impact Feature Distance

Distance from Coefficient Feature	Distance Coefficient
> 1km	1
100m – <1km	2
10 – <100m	3
0 – <10m	4

Table 6-8: Coefficient for Impact Feature Elevation

Relative Elevation of Feature	Elevation Coefficient
0 -<10m	1
10 – <50m	2
50 – <100m	3
> 100m	4

6.8 Impact Rating

The impact rating coefficient (score) is derived by multiplying the receptor ranking coefficient (score) by the distance coefficient (score) and the elevation coefficient (score) for each impact receptor associated with a particular infrastructure feature.

Based on distance to impact receptors, in this instance we have identified watercourses as the most sensitive receptors. Watercourses are typically the closest receptor and they are at risk of not only direct impact from a peat slide but potentially the watercourse creates a pathway to impact other receptors indirectly, either ecological or potential water users downstream. Based on Table 6-6 the watercourses would have an impact receptor coefficient (score) of 3 and then considering the distance to the receptor and the relative elevation differences on-site of receptors, a potential impact can be derived.

6.9 Hazard Ranking

The Scottish Government Guidance[3] recommends that the hazard ranking is assessed using the following formula:

1. **Hazard Ranking = Hazard x Exposure**

This philosophy can be applied to the assessment carried out so far in the following approach:

2. **Hazard Ranking = Risk Rating x Impact Rating**

In order to achieve a meaningful and manageable result from the hazard ranking, the results of the Risk Rating and Impact Rating have been normalised to a standard numerical scale as shown in Table 6-9.

Table 6-9: Rating Normalisation

Risk Rating		Impact Rating	
Current Scale	Normalised Scale	Current Scale	Normalised Scale
Negligible <5	1	Very Low <10	1
Low 5 - <15	2	Low 11 - 20	2
Medium 15 - 30	3	High 21 - 30	3
High 31 - 50	4	Very High 31-50	4
Very High >51	5	Extremely High >51	5

The method of assessing probability of landslide, adverse consequence and hazard we have used incorporates additional critical elements such as the substrate interface and coefficients for the receptor position, distance and elevation and as such is considered to be more rigorous than the assessment scheme proposed by the Scottish Government[3].The ultimate Hazard Ranking scale does equate to the Scottish Government[3] scale, with hazard rankings divided over four zones, as illustrated in Table 6-10.

Table 6-10: Hazard Ranking

Hazard Ranking	Hazard Ranking Zone	Action
1-4	Insignificant	No mitigation action required although slide management and monitoring shall be employed. Slide management shall include the development of a Site specific construction plan for peat areas.
5 - 10	Significant	As for Insignificant condition plus further investigation to refine the assessment combined with detailed quantitative risk assessment to determine appropriate mitigation through relocation or re-design.
11 - 16	Substantial	Consideration of avoiding project development in these areas should be made unless hazard mitigation can be put in place without significant environmental effect.
17-25	Serious	Unacceptable level of hazard; development within the area should be avoided.

6.10 Results

The main activities which have the potential to impact on the peat resource are the forest to bog restoration as detailed above in Section 6.

The stability risk assessment, see Annex A, has demonstrated that the majority of the Compensation Areas A and C lie within an area of negligible to low risk (90% of probe locations) with regards to peat stability. 10% of probe locations have identified a medium or

high risk of peat instability. Therefore 10 medium risk and 5 high risk sites have been identified and are discussed in the following section.

The stability risk assessment results presented in Table 6-11 shows the calculated hazard ranking associated with every location where there is a stability risk of medium or above. The particular mitigation measures to reduce the risk of instability occurring are dependent upon location and the type of proposed structure. Proposed mitigation measures and actions already undertaken to reduce the risk of peat instability occurring are also identified in Table 6-11, together with the associated, revised hazard ranking. A more detailed discussion of the possible mitigation measures is presented in Section 7.0.

6.11 Hazard Rated Locations

Figures 8 Peat Slide Risk, provides details of the level of peat slide risk for Compensation Areas A and C. However, in order to ensure best practise is employed, there would be a need for monitoring during restoration and post restoration. This is discussed further in Section 7.0.

The assessment carried out in Table 6-11 was completed as described in the sections above.

Although the potential hazards identified in Table 6-11 can be mitigated to ‘insignificant’ it is believed that hazards should be subject to further on-going monitoring during restoration. Further details of best practice and mitigation are described in Section 7.0.

Table 6-11: Stability and Hazard Risk Ranking Assessment

Location No.	Compensation Area	Grid Coordinates		Risk Rating	Impact Rating	Hazard Ranking	Mitigation	Revised Hazard Ranking
1	A	170917	822949	High	Low	Significant	Model impacted by localised thick peat (max 3.61m) and very steep slope (<16°) in this location. Area located in the western area of Compensation Area A, outwith the southern and eastern areas proposed for forest to bog restoration. No restoration other than forestry operations (removal of conifers) likely in this area.	Insignificant
2	A	171779	823177	Medium	Very Low	Insignificant	Model impacted by area of thick peat (max 3.82m) and steep slope (<10°) in this location. Based on extents of peat and the thickness of peat, as well as the proximity to the existing restoration scheme to the south and east, it is located within an area likely to be suitable for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in potential loadings. Monitoring of peat stability should be included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	Insignificant
3	A	171961	823227	Medium	Low	Significant	Model impacted by localised thin peat (max 1.37m) and moderate slope (<8°). Based on extents of peat and the thickness of peat as well as the proximity to the existing restoration scheme to the south and east it is located within an area likely to be suitable for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in potential loadings. Monitoring of peat stability should be included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	Insignificant

Location No.	Compensation Area	Grid Coordinates		Risk Rating	Impact Rating	Hazard Ranking	Mitigation	Revised Hazard Ranking
4	A	172025	823423	High	Low	Significant	Model impacted by localised thick peat (max 1.9m) and moderate slope (<7°). Based on extents of peat and the thickness of peat as well as the proximity to the existing restoration scheme to the south and east it is located within an area likely to be suitable for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in potential loadings. Monitoring of peat stability should be included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	Insignificant
5	A	172674	823725	Medium	Low	Significant	Model impacted by localised thick peat (max 1.91m) and steep slope (<10°). Based on extents of peat and the thickness of peat as well as the proximity to the existing restoration scheme to the south and east it is located within an area likely to be suitable for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in potential loadings. Monitoring of peat stability should be included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	Insignificant
6	A	173212	823981	Medium	Low	Significant	Model impacted by localised thick peat (max 1.8m) and steep slope (<11°). Based on extents of peat and the thickness of peat as well as the proximity to the existing restoration scheme to the south and east it is located within an area likely to be suitable for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic	Insignificant

Location No.	Compensation Area	Grid Coordinates		Risk Rating	Impact Rating	Hazard Ranking	Mitigation	Revised Hazard Ranking
							gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in potential loadings. Monitoring of peat stability should be included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	
7	A	173161	824368	Medium	Low	Significant	Model impacted by localised peaty soils (max 0.22m) and very steep slope (<16°). No peat present and only peaty soils all <0.5m.	Insignificant
8	A	174028	824401	Medium	Low	Significant	Model impacted by localised thin peat (max 0.68 m) and very steep slope (<14°). Based on peat depth and proximity to existing restoration scheme to the south and east likely in an area for blanket bog/ wet heath restoration. If the proposed blanket bog restoration activities comprise peatland re-wetting of anthropogenic features and drainage (ground smoothing, furrow blocking and drain blocking using peat dams and pile dams) then the works should ensure that the natural topographic gradients and hydrological regime are re-instated to mitigate against potential increases in pore water pressure and increase in loadings. Monitoring of peat stability included within the annual programme of ongoing management of the blanket bog and wet heath Compensation Area A Restoration.	Insignificant
9	A	173723	824541	Medium	Low	Significant	Model impacted by very localised thin peat (max 0.56m) and very steep slope (<13°) which will mitigate risk of a peat slide.	Insignificant
10	C	173633	825011	Medium	Low	Significant	Model impacted by localised thick peat (max 1.64m) and very steep slope (<15°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant
11	C	174022	825105	High	Low	Significant	Model impacted by localised thin peat (max 1m) and very steep slope (<27°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant
12	C	174228	825176	High	Low	Significant	Model impacted by localised thin peat (max 1.04m) and very steep slope (<23°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant
13	C	174358	825179	Medium	Low	Significant	Model impacted by localised peaty soils (max 0.32m) and very steep slope (<25°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant

Location No.	Compensation Area	Grid Coordinates		Risk Rating	Impact Rating	Hazard Ranking	Mitigation	Revised Hazard Ranking
14	C	174530	825205	High	Low	Significant	Model impacted by localised thick peat (max 3.7m) and very steep slope (<21°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant
15	C	174644	825228	Medium	Low	Significant	Model impacted by localised thick peat (max 2.7m) and very steep slope (<16°). No development other than forestry operations (removal of conifers) likely in this area.	Insignificant

7.0 Restoration Activity and Peat Management

The PLHRA has highlighted a number of discrete areas within Compensation Area A and C which have a medium to high risk of peat instability. However, it is considered that risks of peat instability associated with the restoration works can be managed and mitigated through best practice and through ongoing monitoring as detailed within the Compensation Plan[1].

The proposed restoration activities would comprise Forest to Bog restoration techniques as detailed within the Compensation Plan[1]. There has been no evidence of peat instability within the proposed Compensation Areas which indicates that the current FLS operational methodologies implemented for harvesting/tree removal are adversely impacting peat stability.

Specific measures proposed to minimise the likelihood of inducing peat landslide and the potential effects from peat slide, and on peat as a resource, are described below.

- All works to be undertaken in accordance with current best practice on Peatland Restoration[20] and in accordance with the Compensation Plan[1].
- Disturbance to natural drainage systems / flow paths may increase potential for peat instability. Therefore, the restoration works should be undertaken to ensure no adverse loading is placed on areas of marginal peat stability with the restoration works ensuring that the natural topographic gradients and flows are re-instated to mitigate against potential increases in pore water pressure and increase in loadings.
- If any areas of peat instability are identified during the restoration works or monitoring phase then re-assessment of the area and proposed restoration works should be undertaken under the direction of an environmental advisor and geotechnical engineer (as necessary).
- Raise Health and Safety awareness of the peat environment at the proposed restoration areas by incorporating in the site induction. Include peat slide risk assessment information (e.g., peat instability indicators, best practice and emergency procedures) in toolbox talks with relevant operatives e.g., plant drivers.

[20] https://www.nature.scot/doc/peatland-action-technical-compendium

8.0 Conclusion

The report has highlighted the complicated inter-relationship between the aspects that have an effect on the stability of peat when considering the likely future restoration works.

It was concluded that Compensation Area B did not require assessment due to the low likelihood of deep peat deposits in the steep forested areas and the absence of suitable extensive blanket bog habitat requiring forest to bog restoration.

The restoration works proposed for Compensation Area C are unlikely to pose risks of instability with works limited to removal of conifers, (most of which has already been undertaken) and other species to allow the natural restoration. No evidence of instability has been recorded within this area and the absence of future restoration works involving excavation into areas of peat and works which would impact the hydrological regime in areas of peat and are not considered to increase the risks of peat instability.

The restoration works proposed for Compensation Area A do involve works which have potential to influence the hydrological regime in areas of peat which have been assessed as having potential risk of instability. However, by adopting current best practice and ongoing monitoring as detailed in Section 7.0 the risks of the restoration works increasing the risk of instability are considered to be low.

Figures

Figures

Skye Reinforcement Project: PLHRA of Compensation Areas

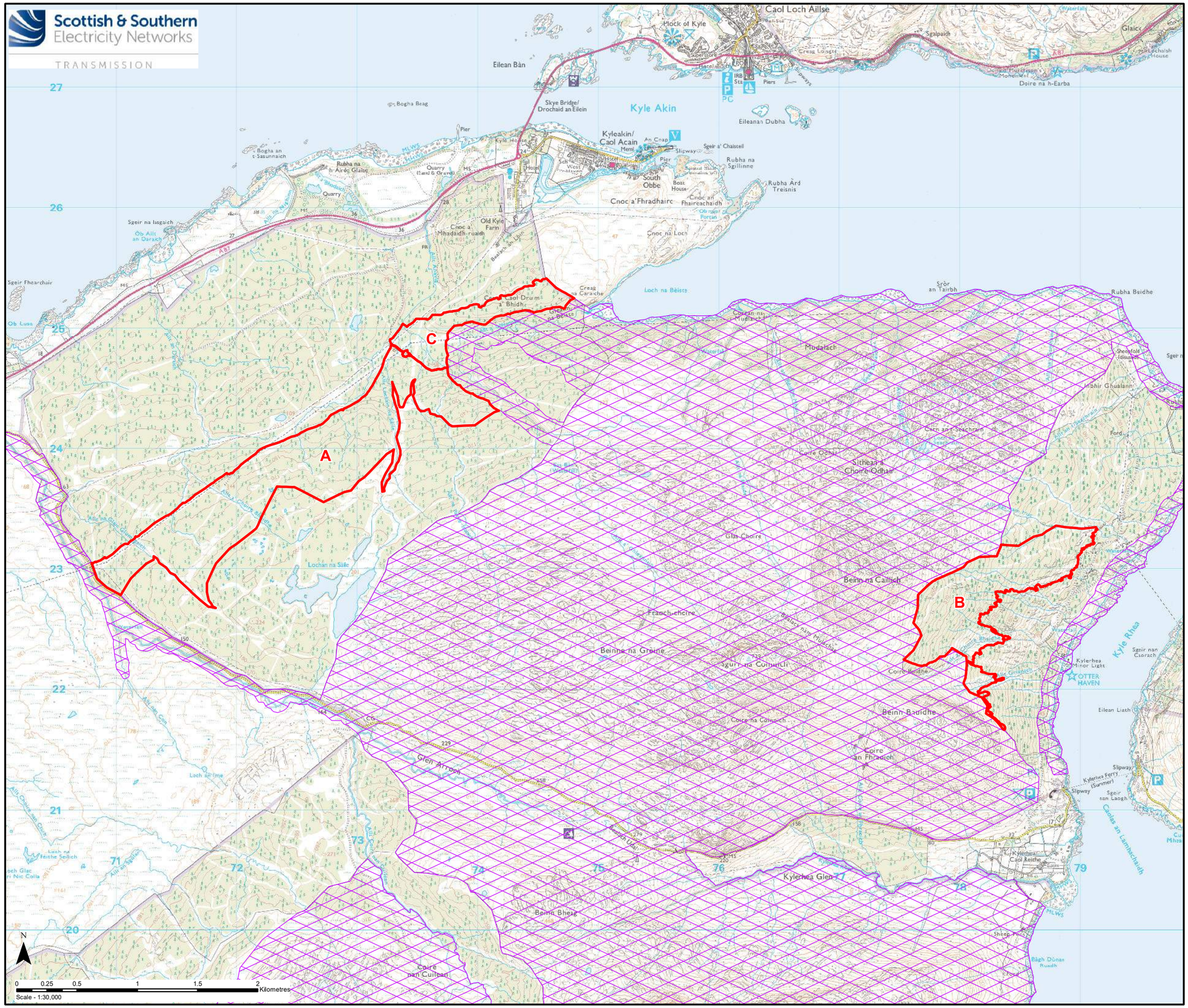
Peat Landslide Hazard and Risk Assessment (Annex D of Compensation Plan)

Scottish & Southern Electricity Networks (SSEN)

SLR Project No.: 428.04707.00020

27 July 2023

Scottish & Southern Electricity Networks
TRANSMISSION



Key

- Compensation Area
- Kinloch and Kyleakin Hills Special Area of Conservation (SAC)

Project No: LT91

Project: Skye Reinforcement Project:
PLHRA of Compensation Areas

Title: Figure 1
Site Location

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0162.0

Scottish & Southern Electricity Networks
TRANSMISSION

A
B
C

N

0 0.25 0.5 1 1.5 2 Kilometres
Scale - 1:30,000

Key

Compensation Area

Superficial Geology within Study Area

- Alluvium - Clay, Silt, Sand And Gravel
- Marine Beach Deposits - Gravel, Sand And Silt
- Raised Marine Deposits Of Holocene Age - Gravel, Sand And Silt
- Raised Marine Deposits, Late Devensian, 1 - Gravel, Sand And Silt
- Raised Marine Deposits, Late Devensian, 2 - Gravel, Sand And Silt
- River Terrace Deposits (Undifferentiated) - Gravel, Sand, Silt And Clay
- Till And Morainic Deposits (Undifferentiated) - Diamicton, Sand And Gravel
- Bedrock At Or Near Surface

Project No: LT91

Project: Skye Reinforcement Project: PLHRA of Compensation Areas

Title: Figure 2 Superficial Geology

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0163.0

Scottish & Southern Electricity Networks
TRANSMISSION

A
B
C

N

0 0.25 0.5 1 1.5 2 Kilometres
Scale - 1:30,000

Key

Compensation Area

Bedrock Geology within Study Area

Palaeogene

- North Britain Palaeogene Dyke Suite Microgabbro and Basalt
- North Britain Palaeogene Dyke Suite Peridotite
- North Britain Palaeogene Dyke Suite Felsite and Granophyric Granite

Period Not Defined

- Lower Morar Psammite Formation Psammite
- Applecross Formation
- Kinloch Formation
- Beinn Na Seamraig Formation
- Lewisian Complex
- Loch Na Dal Formation

Project No: LT91

Project: Skye Reinforcement Project: PLHRA of Compensation Areas

Title: Figure 3
Bedrock Geology

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0164.0

Scottish & Southern Electricity Networks
TRANSMISSION

Key

- Compensation Area
- Watercourse
- Waterbody
- Woodland

Project No: LT91

Project: Skye Reinforcement Project: PLHRA of Compensation Areas

Title: Figure 4
Geomorphology

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0165.0

Scottish & Southern Electricity Networks
TRANSMISSION

Key

- Compensation Area
- \+ 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

A

C

N

0 0.125 0.25 0.5 0.75 1 Kilometres

Scale - 1:15,000

Project No: LT91

Project: Skye Reinforcement Project:
PLHRA of Compensation Areas

Title: Figure 5
Peat Depth

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0166.0

Scottish & Southern Electricity Networks
TRANSMISSION

Key

- Compensation Area
- \+ Peat Probe Location

Peat Depth (m)

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

C

A

Scale - 1:15,000

0 0.125 0.25 0.5 0.75 1 Kilometres

N

Project No: LT91

Project: Skye Reinforcement Project:
PLHRA of Compensation Areas

Title: Figure 6
Peat Depth > 0.5m

Drawn by: AA Date: 26/07/2023

Drawing: 04707.00020.0167.0

Scottish & Southern Electricity Networks
TRANSMISSION

A
B
C

Key

Compensation Area

Slope (Degrees)

- 0 - 2
- 2 - 4
- 4 - 8
- 8 - 12
- >12

N

0 0.25 0.5 1 1.5 2 Kilometres

Scale - 1:30,000

Project No:	LT91
Project:	Skye Reinforcement Project: PLHRA of Compensation Areas
Title:	Figure 7 Slope
Drawn by:	AA
Date:	26/07/2023
Drawing:	04707.00020.0168.0

Scottish & Southern Electricity Networks
TRANSMISSION

Key

- Compensation Area
- **Peat Slide Risk**
  - High
  - Medium
  - Low
  - Negligible
- Identified Slide Risk Area
- Direction of Slide

Project No:	LT91
Project:	Skye Reinforcement Project: PLHRA of Compensation Areas
Title:	Figure 8 Peat Slide Risk
Drawn by:	AA
Date:	26/07/2023
Drawing:	04707.00020.0169.0

N

0 0.125 0.25 0.5 0.75 1 Kilometres
Scale - 1:15,000

Annex A Peat Slide Risk Data

Skye Reinforcement Project: PLHRA of Compensation Areas

Peat Landslide Hazard and Risk Assessment (Annex D of Compensation Plan)

Scottish & Southern Electricity Networks (SSEN)

SLR Project No.: 428.04707.00020

27 July 2023

ID	SOURCE	X	Y	Depth	Surface	Substrate	Slope	Peat Coefficient	Peat Coefficient	Slope Coefficient	Substrate Coefficient	Risk Coefficient	Potential Instability
3406	Point	173525.5511	824707.2057	0.2	SOIL	GRANULAR	5.639964	Peaty Soil	1	4	1	4	Negligible
3407	Point	173513.3545	824648.7521	0.3	SOIL	GRANULAR	7.625593	Peaty Soil	1	4	1	4	Negligible
3408	Point	173492.9109	824601.5382	0.1	SOIL	GRANULAR	8.924663	Peaty Soil	1	6	1	6	Low
3409	Point	173478.8363	824563.8271	0.1	SOIL	GRANULAR	9.359631	Peaty Soil	1	6	1	6	Low
3416	Point	173514.0747	824362.5588	0.1	SOIL	GRANULAR	6.829538	Peaty Soil	1	4	1	4	Negligible
3417	Point	173557.0421	824357.769	0.1	SOIL	GRANULAR	4.545544	Peaty Soil	1	4	1	4	Negligible
3418	Point	173607.9215	824337.4823	0.3	SOIL	GRANULAR	4.194556	Peaty Soil	1	4	1	4	Negligible
3419	Point	173628.1726	824302.7104	0.1	SOIL	GRANULAR	5.405618	Peaty Soil	1	4	1	4	Negligible
3420	Point	173666.7398	824287.5665	0.2	SOIL	GRANULAR	6.683754	Peaty Soil	1	4	1	4	Negligible
3421	Point	173628.9545	824319.3183	0.2	SOIL	GRANULAR	5.013552	Peaty Soil	1	4	1	4	Negligible
3422	Point	173684.608	824311.8675	0.4	PEAT	GRANULAR	7.006965	Peaty Soil	1	4	1	4	Negligible
3423	Point	173715.7713	824328.7413	0.3	SOIL	GRANULAR	9.068154	Peaty Soil	1	6	1	6	Low
3424	Point	173750.3751	824329.4353	0.2	SOIL	GRANULAR	10.394526	Peaty Soil	1	6	1	6	Low
3425	Point	173781.9474	824322.6735	0.3	SOIL	GRANULAR	10.56903	Peaty Soil	1	6	1	6	Low
3426	Point	173800.5334	824325.2348	0.2	SOIL	GRANULAR	10.085265	Peaty Soil	1	6	1	6	Low
3427	Point	173851.2464	824321.854	0.3	SOIL	GRANULAR	7.844146	Peaty Soil	1	4	1	4	Negligible
3428	Point	173862.6911	824304.8333	0.1	SOIL	GRANULAR	6.553849	Peaty Soil	1	4	1	4	Negligible
3429	Point	173883.8378	824333.7886	0.3	SOIL	GRANULAR	7.772682	Peaty Soil	1	4	1	4	Negligible
3430	Point	173917.9527	824338.4155	0.6	PEAT	GRANULAR	8.717449	Thin Peat	2	6	1	12	Low
3431	Point	173952.6992	824330.7363	0.8	PEAT	GRANULAR	9.817299	Thin Peat	2	6	1	12	Low
3432	Point	173998.0563	824323.5883	0.8	PEAT	GRANULAR	11.123024	Thin Peat	2	6	1	12	Low
3433	Point	174035.2841	824315.2153	0.5	PEAT	GRANULAR	10.166277	Peaty Soil	1	6	1	6	Low
3434	Point	174070.0099	824329.1064	1	PEAT	GRANULAR	10.133446	Thin Peat	2	6	1	12	Low
3435	Point	174103.6533	824323.3486	0.2	SOIL	GRANULAR	9.258769	Peaty Soil	1	6	1	6	Low
3436	Point	174139.8863	824326.1873	0.6	PEAT	GRANULAR	9.440256	Thin Peat	2	6	1	12	Low
3522	Point	173655.7396	824643.3078	0.1	SOIL	GRANULAR	12.892665	Peaty Soil	1	8	1	8	Low
3523	Point	173698.3235	824669.9633	0.1	SOIL	GRANULAR	9.371469	Peaty Soil	1	6	1	6	Low
3524	Point	173720.6629	824716.8875	0.2	SOIL	GRANULAR	5.795697	Peaty Soil	1	4	1	4	Negligible
3661	Point	173261.666	824768.6598	0.2	SOIL	GRANULAR	4.056727	Peaty Soil	1	4	1	4	Negligible
3662	Point	173227.3336	824719.0381	0.1	SOIL	GRANULAR	5.319209	Peaty Soil	1	4	1	4	Negligible
3663	Point	173223.7247	824657.004	0.1	SOIL	GRANULAR	5.020161	Peaty Soil	1	4	1	4	Negligible
3664	Point	173174.6832	824586.9606	0.1	SOIL	GRANULAR	4.451592	Peaty Soil	1	4	1	4	Negligible
3665	Point	173157.5985	824543.1801	0.1	SOIL	GRANULAR	6.374815	Peaty Soil	1	4	1	4	Negligible
3666	Point	173131.5816	824499.8186	0.1	SOIL	GRANULAR	8.852707	Peaty Soil	1	6	1	6	Low
3667	Point	173104.4806	824459.7092	0.1	SOIL	GRANULAR	11.157186	Peaty Soil	1	6	1	6	Low
3668	Point	173063.2872	824427.1881	0.1	SOIL	GRANULAR	13.102765	Peaty Soil	1	8	1	8	Low
3669	Point	173082.7999	824399.0031	0.2	SOIL	GRANULAR	15.744196	Peaty Soil	1	8	1	8	Low
3670	Point	173017.0734	824390.2215	0	ROCK	ROCK	14.420205	No Peat	0	8	2	0	None
3671	Point	173052.4468	824385.9946	0.1	SOIL	GRANULAR	16.289936	Peaty Soil	1	8	1	8	Low
3672	Point	172980.9287	824368.9801	0.1	SOIL	GRANULAR	13.985597	Peaty Soil	1	8	1	8	Low
3673	Point	172942.1714	824347.8836	0.1	SOIL	GRANULAR	12.934777	Peaty Soil	1	8	1	8	Low
3674	Point	173130.4975	824375.1543	0.1	SOIL	ROCK	14.927224	Peaty Soil	1	8	2	16	Medium
3675	Point	173137.0018	824338.297	0.1	SOIL	ROCK	14.548504	Peaty Soil	1	8	2	16	Medium
3676	Point	173074.1276	824351.3054	0.2	SOIL	GRANULAR	16.449127	Peaty Soil	1	8	1	8	Low
3677	Point	172904.9823	824327.8162	0.2	SOIL	GRANULAR	12.801139	Peaty Soil	1	8	1	8	Low
3678	Point	172861.7237	824307.3415	0.1	SOIL	GRANULAR	11.116858	Peaty Soil	1	6	1	6	Low
3679	Point	172817.2107	824265.6665	0.2	SOIL	GRANULAR	10.126629	Peaty Soil	1	6	1	6	Low
3680	Point	172780.3535	824217.9689	0.1	SOIL	GRANULAR	9.921699	Peaty Soil	1	6	1	6	Low
3681	Point	172769.2653	824248.3148	0.1	SOIL	GRANULAR	9.104793	Peaty Soil	1	6	1	6	Low
3682	Point	172724.3785	824203.9457	0.2	SOIL	GRANULAR	8.949642	Peaty Soil	1	6	1	6	Low
3683	Point	172753.2525	824184.3637	0.3	SOIL	GRANULAR	9.909053	Peaty Soil	1	6	1	6	Low
3684	Point	172665.7854	824175.9555	0.1	SOIL	GRANULAR	7.752946	Peaty Soil	1	4	1	4	Negligible
3685	Point	172598.545	824151.9783	0.2	SOIL	GRANULAR	7.098795	Peaty Soil	1	4	1	4	Negligible
3686	Point	172545.901	824125.8911	0.1	SOIL	GRANULAR	7.646189	Peaty Soil	1	4	1	4	Negligible
3687	Point	172505.2277	824103.0452	0.1	SOIL	GRANULAR	8.725197	Peaty Soil	1	6	1	6	Low
3688	Point	172452.4345	824087.008	0.1	SOIL	GRANULAR	9.327108	Peaty Soil	1	6	1	6	Low
3689	Point	172432.4384	824079.0064	0	ROCK	ROCK	9.904518	No Peat	0	6	2	0	None
3690	Point	172450.8061	824053.1952	0.1	SOIL	GRANULAR	11.005914	Peaty Soil	1	6	1	6	Low
3691	Point	172405.2765	824033.6825	0.2	SOIL	GRANULAR	12.541245	Peaty Soil	1	8	1	8	Low
3692	Point	172361.9151	824009.8337	0.1	SOIL	GRANULAR	14.044597	Peaty Soil	1	8	1	8	Low
3693	Point	172329.3939	823970.8083	0.1	SOIL	GRANULAR	14.235026	Peaty Soil	1	8	1	8	Low
3694	Point	172299.0409	824009.8337	0.1	SOIL	ROCK	13.200059	Peaty Soil	1	8	2	16	Medium
3695	Point	172251.9314	824010.0013	0.1	SOIL	GRANULAR	11.143623	Peaty Soil	1	6	1	6	Low
3696	Point	172190.8253	823978.6241	0.1	SOIL	GRANULAR	10.533098	Peaty Soil	1	6	1	6	Low
3697	Point	172163.2423	823933	0.2	SOIL	GRANULAR	10.954605	Peaty Soil	1	6	1	6	Low
3698	Point	172123.1349	823912.0743	0.2	SOIL	GRANULAR	10.901706	Peaty Soil	1	6	1	6	Low
3699	Point	172069.2373	823881.8105	0.1	SOIL	GRANULAR	10.895558	Peaty Soil	1	6	1	6	Low
3700	Point	172041.2786	823857.5186	0.2	SOIL	GRANULAR	10.642928	Peaty Soil	1	6	1	6	Low
3701	Point	172045.5357	823829.2438	0.4	PEAT	GRANULAR	10.442634	Peaty Soil	1	6	1	6	Low
3702	Point	172061.23	823804.8306	0.2	SOIL	GRANULAR	10.523603	Peaty Soil	1	6	1	6	Low
3703	Point	172024.6101	823792.6239	0.2	SOIL	GRANULAR	10.063997	Peaty Soil	1	6	1	6	Low
3704	Point	171994.9655	823797.8554	0.2	SOIL	GRANULAR	9.691179	Peaty Soil	1	6	1	6	Low
3705	Point	171970.5523	823780.4173	0.1	SOIL	GRANULAR	9.083765	Peaty Soil	1	6	1	6	Low
3706	Point	171951.2688	823754.1188	0.1	SOIL	ROCK	8.01378	Peaty Soil	1	6	2	12	Low
3707	Point	171923.628	823706.5674	0.9	PEAT	GRANULAR	6.452174	Thin Peat	2	4	1	8	Low
3708	Point	171901.4517	823679.3517	0.6	PEAT	GRANULAR	5.535946	Thin Peat	2	4	1	8	Low
3709	Point	171897.7516	823649.0633	0.7	PEAT	GRANULAR	5.704112	Thin Peat	2	4	1	8	Low
3710	Point	171862.4366	823674.0455	0.2	SOIL	GRANULAR	3.849561	Peaty Soil	1	2	1	2	Negligible
3711	Point	171866.2349	823626.0859	0.1	SOIL	GRANULAR	5.658891	Peaty Soil	1	4	1	4	Negligible
3712	Point	171868.0743	823604.7864	0.9	PEAT	GRANULAR	6.26069	Thin Peat	2	4	1	8	Low
3713	Point	171867.668	823651.376	0.2	SOIL	GRANULAR	4.812619	Peaty Soil	1	4	1	4	Negligible
3714	Point	171851.7408	823573.899	0.9	PEAT	GRANULAR	6.85676	Thin Peat	2	4	1	8	Low
3715	Point	171819.7135	823601.6777	0.8	PEAT	GRANULAR	5.58369	Thin Peat	2	4	1	8	Low
3716	Point	171830.0603	823528.4338	0.3	SOIL	GRANULAR	6.056763	Peaty Soil	1	4	1	4	Negligible
3717	Point	171805.9303	823542.2339	0.6	PEAT	GRANULAR	5.769289	Thin Peat	2	4	1	8	Low
3718	Point	171775.0369	823555.8527	1	PEAT	GRANULAR	5.177158	Thin Peat	2	4	1	8	Low
3719	Point	171760.8044	823575.4245	0.4	PEAT	GRANULAR	4.764671	Peaty Soil	1	4	1	4	Negligible
3720	Point	171743.1477	823596.8603	0.2	SOIL	GRANULAR	4.230083	Peaty Soil	1	4	1	4	Negligible
3721	Point	171708.4843	823588.0046	0.7	PEAT	GRANULAR	3.869874	Thin Peat	2	2	1	4	Negligible
3722	Point	171683.2734	823562.4463	1.6	PEAT	GRANULAR	3.56908	Thick Peat	3	2	1	6	Low
3723	Point	171710.7259	823532.7975	0.6	PEAT	GRANULAR	3.954618	Thin Peat	2	2	1	4	Negligible
3724	Point	171656.7531	823535.1015	1.1	PEAT	GRANULAR	3.619392	Thin Peat	2	2	1	4	Negligible
3725	Point	171678.7818	823507.1	0.9	PEAT	GRANULAR	3.8005	Thin Peat	2	2	1	4	Negligible
3726	Point	171675.5718	823469.3467	1.1	PEAT	GRANULAR	3.982853	Thin Peat	2	2	1	4	Negligible
3727	Point	171650.0616	823452.9163	1.7	PEAT	GRANULAR	3.644369	Thick Peat	3	2	1	6	Low
3728	Point	171626.8132	823471.6888	1.5	PEAT	GRANULAR	3.391514	Thin Peat	2	2	1	4	Negligible
3729	Point	171594.771	823490.0213	1.1	PEAT	ROCK	3.212623	Thin Peat	2	2	2	8	Low
3730	Point	171572.2677	823475.0974	0.1	SOIL	ROCK	2.85873	Peaty Soil	1	2	2	4	Negligible
3731	Point	171563.563	823467.2147	0.1	SOIL	GRANULAR	2.649278	Peaty Soil	1	2	1	2	Negligible
3732	Point	171588.834	823450.3746	1.3	PEAT	GRANULAR	2.81914	Thin Peat	2	2	1	4	Negligible
3733	Point	171606.0636	823439.3746	0.4	PEAT	GRANULAR	2.934331	Peaty Soil	1	2	1	2	Negligible
3734	Point	171626.2475	823407.1989	1.2	PEAT	GRANULAR	3.448201	Thin Peat	2	2	1	4	Negligible
3735	Point	171602.8443	823388.7919	1.7	PEAT	GRANULAR	3.373714	Thick Peat	3	2	1	6	Low
3736	Point	171569.7585	823381.151	0.6	PEAT	GRANULAR	2.845962	Thin Peat	2	2	1	4	Negligible
3737	Point	171555.0827	823400.0044	1.4	PEAT	GRANULAR	2.405151	Thin Peat	2	2	1	4	Negligible
3738	Point	171536.082	823429.8834	0.8	PEAT	GRANULAR	2.051432	Thin Peat	2	2	1	4	Negligible
3739	Point	171499.1803	823424.3149	0.2	SOIL	GRANULAR	1.722848	Peaty Soil	1	1	1	1	Negligible
3740	Point	171472.651	823405.8969	0.2	SOIL	GRANULAR	1.283906	Peaty Soil	1	1	1	1	Negligible
3741	Point	171505.183	823372.2816	0.8	PEAT	GRANULAR	1.559756	Thin Peat	2	1	1	2	Negligible
3742	Point	171451.4745	823371.3758	0.1	SOIL	GRANULAR	1.020618	Peaty Soil	1	1	1	1	Negligible
3743	Point	171399.8812	823380.7582	0.3	SOIL	GRANULAR	1.424922	Peaty Soil	1	1	1	1	Negligible
3744	Point	171361.7973	823364.8441	1.3	PEAT	GRANULAR	1.585992	Thin Peat	2	1	1	2	Negligible
3745	Point	173474.7419	824726.3	0.1	PEAT	ROCK	6.122241	Peaty Soil	1	4	2	8	Low
3746	Point	173470.6488	824688.6883	0.2	PEAT	GRANULAR	6.779639	Peaty Soil	1	4	1	4	Negligible
3747	Point	173463.1648	824645.1468	0.3	PEAT	GRANULAR	7.504645	Peaty Soil	1	4	1	4	Negligible

ID	SOURCE	X	Y	Depth	Surface	Substrate	Slope	Peat Coefficient	Peat Coefficient	Slope Coefficient	Substrate Coefficient	Risk Coefficient	Potential Instability
3406	Point	173525.5511	824707.2057	0.2	SOIL	GRANULAR	5.639964	Peaty Soil	1	4	1	4	Negligible
3748	Point	173438.5528	824599.4649	0.1	SOIL	GRANULAR	8.187484	Peaty Soil	1	6	1	6	Low
3749	Point	173418.7283	824551.6221	0.3	PEAT	GRANULAR	8.16242	Peaty Soil	1	6	1	6	Low
3750	Point	173408.3639	824503.0149	0.2	PEAT	GRANULAR	7.510663	Peaty Soil	1	4	1	4	Negligible
3751	Point	173402.1066	824456.3377	1	PEAT	GRANULAR	7.247837	Thin Peat	2	4	1	8	Low
3752	Point	173389.952	824425.3074	1.5	PEAT	GRANULAR	7.451753	Thin Peat	2	4	1	8	Low
3762	Point	173739.775	824245.2528	0.3	PEAT	GRANULAR	9.127945	Peaty Soil	1	6	1	6	Low
3763	Point	173784.5529	824264.128	0.2	PEAT	GRANULAR	8.707742	Peaty Soil	1	6	1	6	Low
3764	Point	173839.3567	824278.7878	0.4	PEAT	GRANULAR	6.424843	Peaty Soil	1	4	1	4	Negligible
3765	Point	173885.5875	824273.9518	0.8	PEAT	GRANULAR	4.997483	Thin Peat	2	4	1	8	Low
3766	Point	173935.3941	824277.6766	0.4	PEAT	GRANULAR	6.240309	Peaty Soil	1	4	1	4	Negligible
3767	Point	173989.6142	824273.3496	0.8	PEAT	GRANULAR	6.967001	Thin Peat	2	4	1	8	Low
3768	Point	174018.2674	824274.5039	0.7	PEAT	GRANULAR	6.18307	Thin Peat	2	4	1	8	Low
3769	Point	174042.3428	824270.8533	0.8	PEAT	GRANULAR	5.347163	Thin Peat	2	4	1	8	Low
3824	Point	173658.6652	824686.0178	0.1	SOIL	GRANULAR	7.664522	Peaty Soil	1	4	1	4	Negligible
3825	Point	173690.1356	824737.7916	0.1	PEAT	GRANULAR	4.045243	Peaty Soil	1	4	1	4	Negligible
3826	Point	173716.5301	824753.0192	0.8	PEAT	GRANULAR	4.566175	Thin Peat	2	4	1	8	Low
3827	Point	173738.8639	824782.4593	0.8	PEAT	GRANULAR	4.439851	Thin Peat	2	4	1	8	Low
3946	Point	173213.8523	824691.0008	0	SUPERFICIAL	GRANULAR	5.144972	No Peat	0	4	1	0	None
3947	Point	173190.036	824627.8726	0	SUPERFICIAL	GRANULAR	4.184295	No Peat	0	4	1	0	None
3949	Point	173152.5545	824560.3686	0	SUPERFICIAL	GRANULAR	5.394612	No Peat	0	4	1	0	None
3950	Point	173119.3692	824505.5125	0	SUPERFICIAL	GRANULAR	8.130343	No Peat	0	6	1	0	None
3954	Point	173037.5345	824410.1371	0	SUPERFICIAL	GRANULAR	12.986906	No Peat	0	8	1	0	None
3956	Point	172980.7711	824374.3252	0	SUPERFICIAL	GRANULAR	13.551527	No Peat	0	8	1	0	None
3958	Point	172896.7344	824327.9196	0	SUPERFICIAL	GRANULAR	12.381378	No Peat	0	8	1	0	None
3961	Point	172820.7178	824294.9794	0	SUPERFICIAL	GRANULAR	9.541612	No Peat	0	6	1	0	None
3963	Point	172766.7996	824250.9243	0	SUPERFICIAL	GRANULAR	8.986328	No Peat	0	6	1	0	None
3964	Point	172816.3357	824155.4043	0.2	PEAT	GRANULAR	10.277686	Peaty Soil	1	6	1	6	Low
3966	Point	172703.8807	824194.6877	0	SUPERFICIAL	GRANULAR	8.502871	No Peat	0	6	1	0	None
3968	Point	172648.1854	824173.5284	0	SUPERFICIAL	GRANULAR	7.459306	No Peat	0	4	1	0	None
3970	Point	172574.8383	824149.2021	0	SUPERFICIAL	GRANULAR	6.979187	No Peat	0	4	1	0	None
3971	Point	172501.6159	824104.2496	0	SUPERFICIAL	GRANULAR	8.616415	No Peat	0	6	1	0	None
3972	Point	172523.7715	823976.4	0.2	PEAT	GRANULAR	8.155465	Peaty Soil	1	6	1	6	Low
3973	Point	172424.4569	823946.6056	0.2	PEAT	GRANULAR	9.792425	Peaty Soil	1	6	1	6	Low
3975	Point	172416.8403	824074.1636	0	SUPERFICIAL	GRANULAR	10.159084	No Peat	0	6	1	0	None
3976	Point	172172.9117	823657.1139	0	SUPERFICIAL	GRANULAR	3.512912	No Peat	0	2	1	0	None
3979	Point	172169.9537	823971.2115	0.1	PEAT	GRANULAR	10.260933	Peaty Soil	1	6	1	6	Low
3981	Point	172139.4739	823936.349	0	SUPERFICIAL	GRANULAR	10.649412	No Peat	0	6	1	0	None
3984	Point	172070.9918	823889.2622	0	SUPERFICIAL	GRANULAR	10.844337	No Peat	0	6	1	0	None
3986	Point	172030.4409	823856.745	0	SUPERFICIAL	GRANULAR	10.570585	No Peat	0	6	1	0	None
3987	Point	171969.3291	823795.0628	0	SUPERFICIAL	GRANULAR	9.256481	No Peat	0	6	1	0	None
3990	Point	171922.8872	823775.5466	0.4	PEAT	ROCK	7.661877	Peaty Soil	1	4	2	8	Low
3991	Point	171913.702	823709.1461	0	SUPERFICIAL	ROCK	5.980742	No Peat	0	4	2	0	None
3992	Point	171887.7961	823721.8132	1.2	PEAT	GRANULAR	4.757867	Thin Peat	2	4	1	8	Low
4408	Point	171791.072	822698.7068	0.2	SOIL	GRANULAR	4.424167	Peaty Soil	1	4	1	4	Negligible
4411	Point	171729.4349	822741.5543	0.4	SOIL	GRANULAR	3.785139	Peaty Soil	1	2	1	2	Negligible
4412	Point	171711.539	822731.5794	2.2	PEAT	GRANULAR	3.705697	Thick Peat	3	2	1	6	Low
4414	Point	171695.1183	822769.8669	0.2	SOIL	GRANULAR	5.358564	Peaty Soil	1	4	1	4	Negligible
4415	Point	171668.4328	822784.9253	0.3	SOIL	GRANULAR	5.589749	Peaty Soil	1	4	1	4	Negligible
4440	Point	171105.6029	823006.48	0.7	SOIL	GRANULAR	3.193983	Thin Peat	2	2	1	4	Negligible
4441	Point	171113.9036	823037.6074	0.5	SOIL	GRANULAR	3.050941	Peaty Soil	1	2	1	2	Negligible
4442	Point	171099.3775	822952.5257	0.9	PEAT	GRANULAR	4.287418	Thin Peat	2	4	1	8	Low
4872	Point	171492.3846	823333.8864	1.2	PEAT	GRANULAR	1.871145	Thin Peat	2	1	1	2	Negligible
4873	Point	171453.9893	823337.543	0.7	PEAT	GRANULAR	1.087728	Thin Peat	2	1	1	2	Negligible
4874	Point	171432.1954	823349.2072	0.5	PEAT	GRANULAR	1.097731	Peaty Soil	1	1	1	1	Negligible
4875	Point	171368.7456	823333.9625	1.8	PEAT	GRANULAR	0.823897	Thick Peat	3	1	1	3	Negligible
4876	Point	171365.962	823307.5279	1.7	PEAT	GRANULAR	0.809447	Thick Peat	3	1	1	3	Negligible
4877	Point	171324.1732	823281.2219	0.1	SOIL	ROCK	1.044206	Peaty Soil	1	1	2	2	Negligible
4878	Point	171306.2806	823305.6479	0.2	SOIL	ROCK	1.92663	Peaty Soil	1	1	2	2	Negligible
4879	Point	171327.1902	823343.2144	0.2	SOIL	GRANULAR	1.94738	Peaty Soil	1	1	1	1	Negligible
4880	Point	171290.3895	823324.3842	0.2	SOIL	GRANULAR	2.955105	Peaty Soil	1	2	1	2	Negligible
4881	Point	171248.6911	823285.2438	0.1	SOIL	GRANULAR	3.996474	Peaty Soil	1	2	1	2	Negligible
4882	Point	171261.247	823260.9292	0.1	SOIL	ROCK	3.700741	Peaty Soil	1	2	2	4	Negligible
4883	Point	171259.7784	823227.3555	0.8	PEAT	GRANULAR	5.753475	Thin Peat	2	4	1	8	Low
4884	Point	171222.7632	823201.714	0.2	SOIL	GRANULAR	7.771941	Peaty Soil	1	4	1	4	Negligible
4885	Point	171204.4968	823224.8597	0.2	SOIL	GRANULAR	9.3904	Peaty Soil	1	6	1	6	Low
4886	Point	171184.2535	823243.2813	0.6	PEAT	GRANULAR	9.803145	Thin Peat	2	6	1	12	Low
4887	Point	171159.3342	823221.2424	0.1	SOIL	GRANULAR	9.24856	Peaty Soil	1	6	1	6	Low
4888	Point	171173.9878	823206.6645	0.1	SOIL	GRANULAR	8.626138	Peaty Soil	1	6	1	6	Low
4889	Point	171190.6403	823176.6901	0.1	SOIL	GRANULAR	6.093937	Peaty Soil	1	4	1	4	Negligible
4890	Point	171177.3183	823128.3981	0	SOIL	GRANULAR	4.868483	No Peat	0	4	1	0	None
4891	Point	171133.5593	823198.3217	0.2	SOIL	GRANULAR	6.695334	Peaty Soil	1	4	1	4	Negligible
4892	Point	171140.683	823181.6858	0.1	SOIL	GRANULAR	5.887518	Peaty Soil	1	4	1	4	Negligible
4893	Point	171159.0006	823156.7072	0.2	SOIL	GRANULAR	5.183941	Peaty Soil	1	4	1	4	Negligible
4894	Point	171102.6474	823188.1457	0.9	PEAT	GRANULAR	5.997664	Thin Peat	2	4	1	8	Low
4895	Point	171071.1901	823182.649	0.1	SOIL	GRANULAR	6.192506	Peaty Soil	1	4	1	4	Negligible
4896	Point	171071.7379	823134.6453	0.1	SOIL	GRANULAR	4.213897	Peaty Soil	1	4	1	4	Negligible
4897	Point	171084.8973	823107.5825	0.1	SOIL	GRANULAR	3.179222	Peaty Soil	1	2	1	2	Negligible
4898	Point	171053.432	823081.1857	0.9	PEAT	GRANULAR	3.323079	Thin Peat	2	2	1	4	Negligible
4899	Point	171026.0388	823052.7776	0.3	SOIL	GRANULAR	4.75544	Peaty Soil	1	4	1	4	Negligible
4900	Point	170972.6832	823030.6532	0.2	SOIL	GRANULAR	6.597867	Peaty Soil	1	4	1	4	Negligible
4901	Point	170909.2142	823041.8054	0.5	PEAT	GRANULAR	7.383091	Peaty Soil	1	4	1	4	Negligible
4920	Point	170820.5247	823020.4058	3.5	PEAT	ROCK	11.427883	Thick Peat	3	6	2	36	High
4921	Point	170873.7745	823050.3624	0.2	PEAT	ROCK	8.354829	Peaty Soil	1	6	2	12	Low
4922	Point	170927.2259	823077.9842	2.1	PEAT	ROCK	6.779502	Thick Peat	3	4	2	24	Medium
4923	Point	170984.8529	823116.4928	0.2	PEAT	GRANULAR	6.1929	Peaty Soil	1	4	1	4	Negligible
4924	Point	170965.6848	823101.3068	2.3	PEAT	GRANULAR	6.478572	Thick Peat	3	4	1	12	Low
4925	Point	171020.391	823145.2457	0.6	PEAT	ROCK	5.92888	Thin Peat	2	4	2	16	Medium
4926	Point	171003.401	823079.9797	0.2	PEAT	ROCK	5.447486	Peaty Soil	1	4	2	8	Low
10374	Point	173191.9917	824640.5265	0	<Null>	GRANULAR	4.328368	No Peat	0	4	1	0	None
10375	Point	173180.5947	824600.0829	0.5	Peat	Granular	4.241162	Peaty Soil	1	4	1	4	Negligible
10376	Point	172775.3255	824268.2646	0	<Null>	GRANULAR	8.826857	No Peat	0	6	1	0	None
10377	Point	172388.4601	824064.411	0	<Null>	GRANULAR	10.316731	No Peat	0	6	1	0	None
10378	Point	172129.7831	823936.9557	0	<Null>	GRANULAR	10.539348	No Peat	0	6	1	0	None
10379	Point	171935.6022	823734.8985	0	<Null>	GRANULAR	7.041904	No Peat	0	4	1	0	None
10381	Point	173553.7879	824684.9032	0	<Null>	GRANULAR	6.123903	No Peat	0	4	1	0	None
10456	Point	174535.1027	825323.9768	0.2	Peat	Rock	7.14419	Peaty Soil	1	4	2	8	Low
10457	Point	174540.6068	825272.1887	0.5	Soil	Granular	6.506983	Peaty Soil	1	4	1	4	Negligible
10458	Point	174536.5435	825217.3567	3.7	Peat	Rock	12.604139	Thick Peat	3	8	2	48	High
10459	Point	174539.2434	825181.9921	0	Rock	Rock	17.436887	No Peat	0	8	2	0	None
10460	Point	174585.806	825175.7977	0.2	Superficial	Granular	19.040535	Peaty Soil	1	8	1	8	Low
10461	Point	174631.4845	825221.4334	2.7	Soil	Granular	14.383525	Thick Peat	3	8	1	24	Medium
10462	Point	174634.8255	825185.1452	0.2	Soil	Granular	19.370827	Peaty Soil	1	8	1	8	Low
10463	Point	174677.191	825231.4345	0.2	Soil	Rock	14.919446	Peaty Soil	1	8	2	16	Medium
10464	Point	174579.6395	825218.3523	0.3	Soil	Rock	12.88576	Peaty Soil	1	8	2	16	Medium
10465	Point	174482.6463	825220.7488	0.2	Superficial	Granular	12.791419	Peaty Soil	1	8	1	8	Low
10466	Point	174432.8213	825218.2604	0.3	Soil	Granular	13.24812	Peaty Soil	1	8	1	8	Low
10467	Point	174381.6302	825219.7989	0.2	Peat	Rock	12.886349	Peaty Soil	1	8	2	16	Medium
10468	Point	174335.3917	825221.0236	0.4	Peat	Rock	10.777051	Peaty Soil	1	6	2	12	Low
10469	Point	174282.708	825219.7403	0.2	Soil	Rock	7.604437	Peaty Soil	1	4	2	8	Low
10470	Point	174234.6448	825217.1061	1	Peat	Cohesive	5.506736	Thin Peat	2	4	2	16	Medium
10471	Point	174183.719	825219.3902	0.9	Peat	Granular	2.273828	Thin Peat	2	2	1	4	Negligible
10472	Point	174134.3397	825223.4119	0.2	Peat	Rock	3.374342	Peaty Soil	1	2	2	4	Negligible
10473	Point	174086.6685	825220.0327	1.3	Peat	Cohesive	7.471174	Thin Peat	2	4	2	16	Medium
10499	Point	174332.2684	825315.8369	1.3	Peat	Rock	3.840023	Thin Peat	2	2	2	8	Low

ID	SOURCE	X	Y	Depth	Surface	Substrate	Slope	Peat Coefficient	Peat Coefficient	Slope Coefficient	Substrate Coefficient	Risk Coefficient	Potential Instability
3406	Point	173525.5511	824707.2057	0.2	SOIL	GRANULAR	5.639964	Peaty Soil	1	4	1	4	Negligible
10500	Point	174384.467	825319.8622	0.3	Peat	Granular	4.273359	Peaty Soil	1	4	1	4	Negligible
10501	Point	174432.9065	825318.9259	0.6	Peat	Granular	6.39632	Thin Peat	2	4	1	8	Low
10502	Point	174477.4462	825320.1756	0.5	Peat	Granular	7.634865	Peaty Soil	1	4	1	4	Negligible
10503	Point	174482.0173	825368.6314	0.2	Peat	Rock	6.667364	Peaty Soil	1	4	2	8	Low
10537	Point	174534.623	825376.6229	0.3	Peat	Granular	7.503689	Peaty Soil	1	4	1	4	Negligible
10538	Point	174583.3717	825370.1491	0.5	Peat	Granular	8.053943	Peaty Soil	1	6	1	6	Low
10539	Point	174580.4287	825318.8255	0.8	Peat	Rock	6.209473	Thin Peat	2	4	2	16	Medium
10540	Point	174634.4726	825322.3433	0.4	Peat	Granular	6.31413	Peaty Soil	1	4	1	4	Negligible
10541	Point	174634.2721	825269.0282	0.3	Peat	Rock	8.029814	Peaty Soil	1	6	2	12	Low
10542	Point	174686.8595	825275.732	0.2	Peat	Rock	9.184466	Peaty Soil	1	6	2	12	Low
10543	Point	174734.3028	825272.2509	0.1	Peat	Rock	9.983801	Peaty Soil	1	6	2	12	Low
10544	Point	174482.1218	825166.5217	0.1	Soil	Rock	19.123108	Peaty Soil	1	8	2	16	Medium
10545	Point	174430.6108	825177.2205	0.1	Soil	Granular	18.878526	Peaty Soil	1	8	1	8	Low
10546	Point	174376.3397	825176.2092	0.1	Peat	Rock	19.182883	Peaty Soil	1	8	2	16	Medium
10547	Point	174334.4432	825167.7308	0.1	Peat	Rock	19.359543	Peaty Soil	1	8	2	16	Medium
10548	Point	174285.7862	825166.765	0.2	Peat	Granular	17.390372	Peaty Soil	1	8	1	8	Low
10549	Point	174234.6193	825169.6194	0.6	Peat	Rock	14.369761	Thin Peat	2	8	2	32	High
10550	Point	174180.1334	825170.3889	0.1	Peat	Rock	11.088551	Peaty Soil	1	6	2	12	Low
10551	Point	174133.604	825171.6505	0.2	Peat	Rock	7.296255	Peaty Soil	1	4	2	8	Low
10552	Point	174083.1353	825171.4562	0.2	Peat	Rock	3.674892	Peaty Soil	1	2	2	4	Negligible
10553	Point	174031.633	825173.3462	0.5	Peat	Rock	5.07871	Peaty Soil	1	4	2	8	Low
10554	Point	173982.4633	825165.83	1	Peat	Rock	8.479191	Thin Peat	2	6	2	24	Medium
10555	Point	173935.56	825170.1824	0.4	Peat	Granular	7.281323	Peaty Soil	1	4	1	4	Negligible
10582	Point	174242.765	825270.3388	0.8	Peat	Rock	1.834709	Thin Peat	2	1	2	4	Negligible
10583	Point	174283.8798	825273.5972	0.9	Peat	Rock	1.43734	Thin Peat	2	1	2	4	Negligible
10584	Point	174340.317	825274.0789	0.2	Peat	Rock	4.285186	Peaty Soil	1	4	2	8	Low
10585	Point	174391.0939	825274.7799	0.1	Peat	Rock	7.390563	Peaty Soil	1	4	2	8	Low
10586	Point	174439.4094	825276.3421	0.3	Peat	Rock	8.163546	Peaty Soil	1	6	2	12	Low
10587	Point	174474.7448	825273.4499	0.1	Peat	Rock	8.6156	Peaty Soil	1	6	2	12	Low
10601	Point	173635.4083	825107.9431	0.1	Soil	Rock	11.405616	Peaty Soil	1	6	2	12	Low
10603	Point	173733.7133	825120.8315	1	Peat	Rock	8.223248	Thin Peat	2	6	2	24	Medium
10604	Point	173784.4883	825123.0872	0.3	Peat	Rock	7.32388	Peaty Soil	1	4	2	8	Low
10605	Point	173833.544	825125.0478	0.4	Peat	Rock	4.846354	Peaty Soil	1	4	2	8	Low
10606	Point	173887.3113	825125.113	0.2	Peat	Granular	4.114701	Peaty Soil	1	4	1	4	Negligible
10607	Point	173935.7551	825119.6339	0.7	Peat	Granular	9.176478	Thin Peat	2	6	1	12	Low
10608	Point	173990.204	825123.4745	0.7	Peat	Rock	12.77639	Thin Peat	2	8	2	32	High
10609	Point	174036.9174	825120.6022	0.3	Peat	Granular	15.839435	Peaty Soil	1	8	1	8	Low
10610	Point	174083.0054	825121.5579	0.6	Peat	Granular	17.175373	Thin Peat	2	8	1	16	Medium
10611	Point	174134.5212	825123.7399	0.4	Peat	Rock	18.439841	Peaty Soil	1	8	2	16	Medium
10612	Point	174183.0468	825124.3208	0.3	Peat	Granular	20.698521	Peaty Soil	1	8	1	8	Low
10613	Point	174234.5476	825124.5896	0.3	Peat	Rock	22.735186	Peaty Soil	1	8	2	16	Medium
10614	Point	174083.9889	825068.6419	0.5	Peat	Rock	25.079722	Peaty Soil	1	8	2	16	Medium
10615	Point	174036.5636	825070.3071	0.3	Peat	Rock	24.519118	Peaty Soil	1	8	2	16	Medium
10616	Point	173986.675	825066.5863	0.4	Peat	Rock	21.808764	Peaty Soil	1	8	2	16	Medium
10617	Point	173938.1175	825070.379	0.2	Peat	Rock	17.91028	Peaty Soil	1	8	2	16	Medium
10618	Point	173885.3012	825071.6738	0.3	Peat	Rock	12.764093	Peaty Soil	1	8	2	16	Medium
10619	Point	173834.324	825070.6924	0.2	Peat	Rock	7.896239	Peaty Soil	1	4	2	8	Low
10620	Point	173786.1847	825071.6562	0.3	Peat	Rock	4.522953	Peaty Soil	1	4	2	8	Low
10621	Point	173734.7897	825069.8623	0.3	Peat	Rock	3.755802	Peaty Soil	1	2	2	4	Negligible
10622	Point	173678.9908	825069.3348	0.9	Peat	Rock	7.093524	Thin Peat	2	4	2	16	Medium
10623	Point	173634.5812	825070.1502	0.4	Peat	Rock	10.157442	Peaty Soil	1	6	2	12	Low
10624	Point	173584.8042	825070.1097	0.3	Peat	Rock	9.609492	Peaty Soil	1	6	2	12	Low
10625	Point	173532.4294	825071.1988	0.6	Peat	Rock	6.215182	Thin Peat	2	4	2	16	Medium
10630	Point	173381.0118	825016.569	0.5	Peat	Rock	3.198698	Peaty Soil	1	2	2	4	Negligible
10631	Point	173436.8016	825021.6486	0.6	Peat	Rock	1.914664	Thin Peat	2	1	2	4	Negligible
10632	Point	173483.812	825020.1109	0.4	Peat	Rock	3.350552	Peaty Soil	1	2	2	4	Negligible
10633	Point	173530.2033	825023.052	0.8	Peat	Granular	5.334613	Thin Peat	2	4	1	8	Low
10634	Point	173581.0194	825022.923	0.2	Peat	Rock	8.613532	Peaty Soil	1	6	2	12	Low
10635	Point	173637.1226	825021.6474	0.6	Peat	Rock	11.265162	Thin Peat	2	6	2	24	Medium
10636	Point	173682.6971	825021.8462	0.4	Peat	Rock	10.625533	Peaty Soil	1	6	2	12	Low
10637	Point	173732.1512	825024.9737	0.3	Peat	Rock	9.360266	Peaty Soil	1	6	2	12	Low
10638	Point	173785.6382	825016.4628	0.4	Peat	Rock	11.010186	Peaty Soil	1	6	2	12	Low
10639	Point	173834.4518	825022.23	0.2	Peat	Rock	13.118154	Peaty Soil	1	8	2	16	Medium
10640	Point	173738.1904	824969.9003	0.4	Peat	Rock	13.89272	Peaty Soil	1	8	2	16	Medium
10641	Point	173690.5469	824971.6558	0.2	Peat	Rock	13.133831	Peaty Soil	1	8	2	16	Medium
10642	Point	173635.0025	824971.747	0.3	Peat	Granular	10.112081	Peaty Soil	1	6	1	6	Low
10643	Point	173587.5842	824973.7517	0.1	Peat	Rock	7.013712	Peaty Soil	1	4	2	8	Low
10644	Point	173533.1104	824973.7107	0.5	Peat	Rock	4.584528	Peaty Soil	1	4	2	8	Low
10645	Point	173483.1948	824973.0096	0.2	Peat	Rock	2.643657	Peaty Soil	1	2	2	4	Negligible
10646	Point	173435.7949	824970.6082	0.1	Soil	Rock	1.259265	Peaty Soil	1	1	2	2	Negligible
10647	Point	173385.5759	824970.0737	1	Peat	Rock	1.278491	Thin Peat	2	1	2	4	Negligible
10648	Point	173336.113	824971.0043	0.9	Peat	Rock	4.621586	Thin Peat	2	4	2	16	Medium
10649	Point	173348.7017	824943.1798	0	Rock	Rock	3.079204	No Peat	0	2	2	0	None
10650	Point	173341.7325	824933.766	0	Rock	Rock	3.144387	No Peat	0	2	2	0	None
10651	Point	173335.4465	824915.2035	0	Superficial	Granular	3.122533	No Peat	0	2	1	0	None
10652	Point	173382.5378	824917.658	0.3	Peat	Rock	2.222313	Peaty Soil	1	2	2	4	Negligible
10653	Point	173433.5363	824923.1698	0.2	Peat	Granular	1.527078	Peaty Soil	1	1	1	1	Negligible
10654	Point	173483.8226	824923.2734	1.7	Peat	Rock	1.386119	Thick Peat	3	1	2	6	Low
10655	Point	173529.1185	824927.7069	0.9	Peat	Granular	2.508151	Thin Peat	2	2	1	4	Negligible
10656	Point	173588.3605	824925.5879	1.5	Peat	Granular	3.619159	Thin Peat	2	2	1	4	Negligible
10657	Point	173634.7398	824922.8226	1.5	Peat	Rock	4.837408	Thin Peat	2	4	2	16	Medium
10658	Point	173683.2814	824922.3557	0.2	Peat	Rock	6.089944	Peaty Soil	1	4	2	8	Low
10659	Point	173734.2112	824919.1543	0.5	Peat	Rock	6.659366	Peaty Soil	1	4	2	8	Low
10682	Point	170837.7066	822926.2262	0.4	Peat	Granular	14.497431	Peaty Soil	1	8	1	8	Low
10683	Point	170924.8981	822915.1592	1.6	Peat	Granular	9.087932	Thick Peat	3	6	1	18	Medium
10687	Point	174583.0237	825272.4694	0.4	Peat	Granular	5.56373	Peaty Soil	1	4	1	4	Negligible
10690	Point	174162.3943	825232.2788	0.6	Peat	Granular	2.134437	Thin Peat	2	2	1	4	Negligible
10691	Point	173423.943	824728.9091	0.4	Peat	Granular	6.210825	Peaty Soil	1	4	1	4	Negligible
10692	Point	173390.6551	824824.3349	0.6	Peat	Granular	3.495821	Thin Peat	2	2	1	4	Negligible
10693	Point	173431.7809	824824.4346	1	Peat	Granular	3.733809	Thin Peat	2	2	1	4	Negligible
10694	Point	173486.9763	824820.9445	2.6	Peat	Granular	3.306191	Thick Peat	3	2	1	6	Low
10695	Point	173533.8899	824822.1486	1.7	Peat	Granular	3.051795	Thick Peat	3	2	1	6	Low
10696	Point	173582.1709	824818.606	1.3	Peat	Granular	2.997739	Thin Peat	2	2	1	4	Negligible
10697	Point	173611.8497	824802.4269	0.3	Peat	Granular	3.144984	Peaty Soil	1	2	1	2	Negligible
10698	Point	173635.862	824819.5835	0.1	Soil	Granular	2.942688	Peaty Soil	1	2	1	2	Negligible
10699	Point	173684.4894	824821.3804	0.1	Soil	Granular	3.035743	Peaty Soil	1	2	1	2	Negligible
10700	Point	173733.1678	824823.0077	0.1	Soil	Granular	3.104817	Peaty Soil	1	2	1	2	Negligible
10701	Point	173687.2781	824769.8518	0.1	Soil	Granular	3.510203	Peaty Soil	1	2	1	2	Negligible
10702	Point	173636.452	824771.1326	0.1	Soil	Granular	3.382701	Peaty Soil	1	2	1	2	Negligible
10703	Point	173639.6781	824720.6021	0.1	Soil	Granular	4.257099	Peaty Soil	1	4	1	4	Negligible
10704	Point	173610.4547	824734.6365	0.4	Peat	Granular	3.912124	Peaty Soil	1	2	1	2	Negligible
10705	Point	173583.4703	824722.3903	0.4	Peat	Granular	4.283305	Peaty Soil	1	4	1	4	Negligible
10706	Point	173588.4054	824772.0189	0.2	Soil	Granular	3.646308	Peaty Soil	1	2	1	2	Negligible
10707	Point	173536.3968	824768.4947	0.1	Soil	Granular	4.177798	Peaty Soil	1	4	1	4	Negligible
10708	Point	173490.7961	824770.819	0.2	Soil	Granular	4.809352	Peaty Soil	1	4	1	4	Negligible
10709	Point	173487.6412	824873.4726	2.2	Peat	Granular	1.460381	Thick Peat	3	1	1	3	Negligible
10710	Point	173435.872	824872.986	0.9	Peat	Granular	2.040757	Thin Peat	2	2	1	4	Negligible
10711	Point	173386.9956	824867.9601	0.2	Soil	Granular	2.799089	Peaty Soil	1	2	1	2	Negligible
10712	Point	173337.7297	824870.8869	0.3	Soil	Granular	3.421473	Peaty Soil	1	2	1	2	Negligible
10713	Point	173536.5046	824871.7032	1.5	Peat	Granular	1.482296	Thin Peat	2	1	1	2	Negligible
10714	Point	173578.917	824874.6416	1.6	Peat	Granular	0.889752	Thick Peat	3	1	1	3	Negligible
10715	Point	173633.8968	824872.1452	0.6	Peat	Granular	0.537546	Thin Peat	2	1	1	2	Negligible
10716	Point	173684.33	824869.9748	0.2	Soil	Granular	0.457127	Peaty Soil	1	1	1	1	Negligible
10717	Point	173581.8102	824669.8402	0.2	Soil	Granular	7.207252	Peaty Soil	1	4	1	4	Negligible

ID	SOURCE	X	Y	Depth	Surface	Substrate	Slope	Peat Coefficient	Peat Coefficient	Slope Coefficient	Substrate Coefficient	Risk Coefficient	Potential Instability
3406	Point	173525.5511	824707.2057	0.2	SOIL	GRANULAR	5.639964	Peaty Soil	1	4	1	4	Negligible
10799	Point	171838.3837	823726.5637	1.3	Peat	Granular	4.172055	Thin Peat	2	4	1	8	Low
10822	Point	171432.4625	823415.4275	1.9	Peat	Granular	1.622358	Thick Peat	3	1	1	3	Negligible
10840	Point	171529.9802	823522.3619	1.8	Peat	Granular	2.703481	Thick Peat	3	2	1	6	Low
10851	Point	171987.7684	823733.3372	0.6	Peat	Granular	8.700668	Thin Peat	2	6	1	12	Low
10852	Point	172024.7145	823720.5361	1.2	Peat	Granular	9.278888	Thin Peat	2	6	1	12	Low
10853	Point	172125.1696	823729.8111	0.4	Peat	Granular	10.276746	Peaty Soil	1	6	1	6	Low
10854	Point	172129.7317	823625.085	1.3	Peat	Granular	2.531483	Thin Peat	2	2	1	4	Negligible
10855	Point	172034.5123	823620.6049	1.2	Peat	Granular	8.510606	Thin Peat	2	6	1	12	Low
10856	Point	172239.6213	823718.1552	1.4	Peat	Granular	5.334889	Thin Peat	2	4	1	8	Low
10857	Point	172322.7863	823719.3955	0.4	Peat	Granular	3.847343	Peaty Soil	1	2	1	2	Negligible
10858	Point	172360.4745	823721.0412	0.1	Soil	Rock	3.734091	Peaty Soil	1	2	2	4	Negligible
10859	Point	172421.6316	823728.9344	1.8	Peat	Granular	4.645848	Thick Peat	3	4	1	12	Low
10860	Point	172528.2884	823727.0348	0.8	Peat	Granular	4.152113	Thin Peat	2	4	1	8	Low
10861	Point	172627.3176	823730.0976	1.6	Peat	Granular	8.085934	Thick Peat	3	6	1	18	Medium
10862	Point	172727.6867	823724.4237	1.9	Peat	Granular	9.026195	Thick Peat	3	6	1	18	Medium
10863	Point	172827.1991	823723.2995	0.9	Peat	Granular	6.940532	Thin Peat	2	4	1	8	Low
10864	Point	172924.8677	823729.6616	0.9	Peat	Granular	7.903425	Thin Peat	2	4	1	8	Low
10865	Point	172826.213	823617.4052	0.2	Soil	Granular	5.699018	Peaty Soil	1	4	1	4	Negligible
10866	Point	172728.5524	823621.9781	1.3	Peat	Granular	6.865281	Thin Peat	2	4	1	8	Low
10867	Point	172705.2255	823618.6592	0	Rock	Rock	6.5407	No Peat	0	4	2	0	None
10868	Point	172643.2884	823611.2512	1.2	Peat	Granular	6.15013	Thin Peat	2	4	1	8	Low
10869	Point	172731.7152	823821.6893	0.2	Soil	Granular	4.100354	Peaty Soil	1	4	1	4	Negligible
10870	Point	172626.2969	823819.1457	1.3	Peat	Granular	5.9973	Thin Peat	2	4	1	8	Low
10871	Point	172532.0982	823824.0895	0.2	Soil	Granular	9.298626	Peaty Soil	1	6	1	6	Low
10872	Point	172437.5317	823832.9422	0.2	Soil	Granular	7.351549	Peaty Soil	1	4	1	4	Negligible
10873	Point	172332.858	823822.2204	0.3	Soil	Granular	8.291743	Peaty Soil	1	6	1	6	Low
10874	Point	172224.7901	823821.5448	0.2	Soil	Granular	11.693596	Peaty Soil	1	6	1	6	Low
10875	Point	172133.8046	823824.0946	0.3	Soil	Granular	11.360255	Peaty Soil	1	6	1	6	Low
10876	Point	172236.9424	823921.9559	0.2	Soil	Granular	11.656971	Peaty Soil	1	6	1	6	Low
10877	Point	172335.8974	823904.7846	1.3	Peat	Granular	9.525317	Thin Peat	2	6	1	12	Low
10878	Point	172418.8979	823911.1048	0.2	Soil	Granular	7.390673	Peaty Soil	1	4	1	4	Negligible
10879	Point	172525.0192	823932.3468	0.4	Peat	Granular	6.81168	Peaty Soil	1	4	1	4	Negligible
10880	Point	172591.6096	823932.5033	0.8	Peat	Granular	6.604342	Thin Peat	2	4	1	8	Low
10881	Point	172621.7129	823921.184	0.3	Soil	Granular	6.043783	Peaty Soil	1	4	1	4	Negligible
10882	Point	172723.6729	823931.2079	2.8	Peat	Granular	4.439036	Thick Peat	3	4	1	12	Low
10883	Point	172821.8185	823924.06	0.5	Peat	Granular	2.770974	Peaty Soil	1	2	1	2	Negligible
10884	Point	172828.5281	823829.6194	0.5	Peat	Granular	4.74808	Peaty Soil	1	4	1	4	Negligible
10885	Point	172927.9074	823829.7681	0.4	Peat	Granular	4.52746	Peaty Soil	1	4	1	4	Negligible
10886	Point	172935.8406	823917.1327	1.7	Peat	Granular	3.555894	Thick Peat	3	2	1	6	Low
10887	Point	173027.57	823923.6033	1.9	Peat	Granular	3.474227	Thick Peat	3	2	1	6	Low
10888	Point	173033.5157	823825.9294	1.9	Peat	Granular	5.005608	Thick Peat	3	4	1	12	Low
10891	Point	173227.57	823723.6054	1.9	Peat	Granular	7.010457	Thick Peat	3	4	1	12	Low
10892	Point	173264.092	823836.6101	0.2	Soil	Granular	4.407575	Peaty Soil	1	4	1	4	Negligible
10893	Point	173296.716	823913.5334	0.3	Soil	Granular	7.464447	Peaty Soil	1	4	1	4	Negligible
10894	Point	173309.8418	824012.3302	0.2	Soil	Granular	9.916631	Peaty Soil	1	6	1	6	Low
10896	Point	173225.2443	823938.2723	1.7	Peat	Granular	9.601775	Thick Peat	3	6	1	18	Medium
10897	Point	173227.292	824013.1223	1.4	Peat	Granular	12.731136	Thin Peat	2	8	1	16	Medium
10898	Point	173132.6689	823926.0352	1.8	Peat	Granular	2.479843	Thick Peat	3	2	1	6	Low
10899	Point	173130.7804	824034.0117	0.3	Peat	Granular	10.031795	Peaty Soil	1	6	1	6	Low
10900	Point	173039.5072	823999.921	0.4	Peat	Granular	5.340797	Peaty Soil	1	4	1	4	Negligible
10901	Point	173026.2544	824026.7046	0.2	Soil	Granular	6.845414	Peaty Soil	1	4	1	4	Negligible
10902	Point	172924.4377	824032.3032	0.4	Peat	Granular	7.080532	Peaty Soil	1	4	1	4	Negligible
10903	Point	172838.02	824018.7733	0.5	Peat	Granular	4.083231	Peaty Soil	1	4	1	4	Negligible
10904	Point	172742.3947	824021.7092	0.2	Soil	Granular	9.413614	Peaty Soil	1	6	1	6	Low
10905	Point	172632.3779	824011.5739	0.7	Peat	Granular	9.913925	Thin Peat	2	6	1	12	Low
10906	Point	172442.0874	824020.5932	0.2	Soil	Granular	11.918021	Peaty Soil	1	6	1	6	Low
10924	Point	173535.9269	824625.5154	0.1	Peat	Granular	9.293421	Peaty Soil	1	6	1	6	Low
10925	Point	173522.5047	824528.453	0.2	Peat	Granular	14.129497	Peaty Soil	1	8	1	8	Low
10926	Point	173622.7096	824526.2112	0.4	Peat	Granular	15.255491	Peaty Soil	1	8	1	8	Low
10927	Point	173727.5608	824523.6141	0.2	Peat	Granular	12.244243	Peaty Soil	1	8	1	8	Low
10928	Point	173816.2881	824513.5719	0.2	Peat	Granular	12.70579	Peaty Soil	1	8	1	8	Low
10929	Point	173731.6899	824426.5955	0.2	Peat	Granular	6.425215	Peaty Soil	1	4	1	4	Negligible
10930	Point	173635.3361	824411.9246	0.9	Peat	Granular	3.521579	Thin Peat	2	2	1	4	Negligible
10931	Point	173533.9264	824419.5875	0.2	Peat	Granular	9.528587	Peaty Soil	1	6	1	6	Low
10932	Point	171921.4344	823530.4787	0.9	Peat	Granular	8.146906	Thin Peat	2	6	1	12	Low
10933	Point	172025.2955	823521.3213	0.2	Peat	Rock	4.268063	Peaty Soil	1	4	2	8	Low
10934	Point	172119.6131	823527.0887	2.2	Peat	Granular	2.120999	Thick Peat	3	2	1	6	Low
10935	Point	172222.8916	823523.232	0.4	Peat	Rock	4.885481	Peaty Soil	1	4	2	8	Low
10936	Point	172126.4168	823426.7292	0.8	Peat	Granular	6.350852	Thin Peat	2	4	1	8	Low
10937	Point	172028.8067	823424.1568	1.9	Peat	Cohesive	5.130321	Thick Peat	3	4	2	24	Medium
10938	Point	171929.4254	823419.2864	0.2	Peat	Granular	3.01739	Peaty Soil	1	2	1	2	Negligible
10939	Point	171824.3674	823421.6514	0.4	Peat	Granular	3.600713	Peaty Soil	1	2	1	2	Negligible
10940	Point	171722.2786	823427.9259	1.7	Peat	Granular	4.637508	Thick Peat	3	4	1	12	Low
10941	Point	171622.3722	823421.9765	1	Rock	Granular	3.10119	Thin Peat	2	2	1	4	Negligible
10942	Point	171226.5676	823224.2046	0.5	Peat	Granular	8.536939	Peaty Soil	1	6	1	6	Low
10943	Point	171238.5182	823125.3843	1.4	Peat	Granular	3.571704	Thin Peat	2	2	1	4	Negligible
10944	Point	171327.1931	823115.0602	0.2	Peat	Granular	5.939968	Peaty Soil	1	4	1	4	Negligible
10945	Point	171426.4777	823125.7979	0.6	Peat	Granular	5.22035	Thin Peat	2	4	1	8	Low
10946	Point	171530.1006	823121.332	0.8	Peat	Granular	2.085	Thin Peat	2	2	1	4	Negligible
10947	Point	171629.4806	823123.0096	2	Peat	Granular	4.074159	Thick Peat	3	4	1	12	Low
10948	Point	171713.438	823118.1326	1.1	Peat	Granular	8.181842	Thin Peat	2	6	1	12	Low
10949	Point	171819.795	823128.6277	1.9	Peat	Granular	8.298204	Thick Peat	3	6	1	18	Medium
10951	Point	171731.5671	823023.78	0.2	Peat	Rock	7.120774	Peaty Soil	1	4	2	8	Low
10952	Point	171633.459	823023.3264	0.3	Peat	Granular	5.2644	Peaty Soil	1	4	1	4	Negligible
10953	Point	172833.1657	824228.8205	0.2	Peat	Granular	10.609225	Peaty Soil	1	6	1	6	Low
10954	Point	172927.1524	824219.1345	0.2	Peat	Granular	9.914477	Peaty Soil	1	6	1	6	Low
10955	Point	173029.2316	824206.3438	1.3	Peat	Granular	5.745986	Thin Peat	2	4	1	8	Low
10956	Point	173124.1749	824214.125	0	Peat	Granular	5.605168	No Peat	0	4	1	0	None
10957	Point	173213.0947	824220.5869	0	Soil	Rock	11.495318	No Peat	0	6	2	0	None
10958	Point	173321.9899	824306.9779	0.2	Peat	Rock	8.949116	Peaty Soil	1	6	2	12	Low
10960	Point	173735.2972	824586.3959	0.3	Soil	Granular	16.319003	Peaty Soil	1	8	1	8	Low
10961	Point	173729.9882	824526.7053	0.5	Peat	Granular	12.54437	Peaty Soil	1	8	1	8	Low
10962	Point	173723.0738	824430.2504	0.3	Soil	Granular	5.623913	Peaty Soil	1	4	1	4	Negligible
10963	Point	173814.8854	824419.7748	0.3	Soil	Granular	14.069845	Peaty Soil	1	8	1	8	Low
10964	Point	173921.4494	824416.4088	0.4	Peat	Granular	13.788277	Peaty Soil	1	8	1	8	Low
10965	Point	174017.1876	824418.8483	0.6	Peat	Granular	14.218782	Thin Peat	2	8	1	16	Medium
10966	Point	173624.1901	824622.7615	0.4	Peat	Granular	14.466682	Peaty Soil	1	8	1	8	Low
10967	Point	171628.8458	823327.8442	0.2	Soil	Granular	3.736969	Peaty Soil	1	2	1	2	Negligible
10968	Point	171726.5298	823323.5233	0.3	Soil	Granular	1.858485	Peaty Soil	1	1	1	1	Negligible
10969	Point	171828.799	823328.061	2.1	Peat	Granular	3.817515	Thick Peat	3	2	1	6	Low
10970	Point	171926.0741	823321.1086	2.2	Peat	Granular	5.083416	Thick Peat	3	4	1	12	Low
10971	Point	172032.4596	823318.2823	0.5	Peat	Granular	7.65707	Peaty Soil	1	4	1	4	Negligible
10972	Point	172126.9026	823317.3307	0.2	Soil	Rock	5.549073	Peaty Soil	1	4	2	8	Low
10974	Point	171928.8718	823228	0.9	Peat	Rock	7.140941	Thin Peat	2	4	2	16	Medium
10975	Point	171904.7282	823209.6879	0	Rock	Rock	7.125573	No Peat	0	4	2	0	None
10976	Point	171826.953	823227.6239	0.2	Soil	Granular	7.643342	Peaty Soil	1	4	1	4	Negligible
10977	Point	171799.703	823232.1332	3.6	Peat	Rock	6.330125	Thick Peat	3	4	2	24	Medium
10978	Point	171725.6839	823215.0162	2.5	Peat	Rock	2.210386	Thick Peat	3	2	2	12	Low
10979	Point	171611.1916	823231.8197	1.7	Peat	Rock	1.708387	Thick Peat	3	1	2	6	Low
10980	Point	171522.8587	823229.4118	0.9	Peat	Granular	4.477232	Thin Peat	2	4	1	8	Low
10981	Point	171422.5227	823220.7387	3.1	Peat	Granular	4.112735	Thick Peat	3	4	1	12	Low
10982	Point	171432.9321	823006.5822	0.3	Soil	Granular	5.260959	Peaty Soil	1	4	1	4	Negligible
10983	Point	171515.3467	823003.4609	0.1	Soil	Rock	5.307972	Peaty Soil	1	4	2	8	Low
10984	Point	171529.3688	822944.0516	0	Rock	Rock	5.960918	No Peat	0	4	2	0	None

Slide Risk Data

ID	SOURCE	X	Y	Depth	Surface	Substrate	Slope	Peat Coefficient	Peat Coefficient	Slope Coefficient	Substrate Coefficient	Risk Coefficient	Potential Instability
3406	Point	173525.5511	824707.2057	0.2	SOIL	GRANULAR	5.639964	Peaty Soil	1	4	1	4	Negligible
10985	Point	171531.7766	822923.7425	0.9	Peat	Rock	5.729359	Thin Peat	2	4	2	16	Medium
10986	Point	171628.3811	822923.9429	0.1	Soil	Rock	6.436411	Peaty Soil	1	4	2	8	Low
10987	Point	171630.5493	822821.6086	0.4	Peat	Granular	3.882247	Peaty Soil	1	2	1	2	Negligible
10988	Point	171716.3625	822823.8807	1	Peat	Granular	6.882256	Thin Peat	2	4	1	8	Low
10989	Point	171726.5528	822935.1033	0.1	Soil	Granular	5.446463	Peaty Soil	1	4	1	4	Negligible
10990	Point	171608.4632	822915.494	0	Rock	Rock	6.684064	No Peat	0	4	2	0	None
10991	Point	172646.3017	824093.1183	0.4	Soil	Rock	9.104507	Peaty Soil	1	6	2	12	Low
10992	Point	172731.0728	824105.6754	0.3	Soil	Granular	11.622381	Peaty Soil	1	6	1	6	Low
10993	Point	172831.7706	824130.8512	0.4	Soil	Granular	9.752319	Peaty Soil	1	6	1	6	Low
10994	Point	172945.4883	824115.0712	1	Peat	Granular	6.339989	Thin Peat	2	4	1	8	Low
10995	Point	173004.5949	824098.9882	0	Rock	Rock	7.959534	No Peat	0	4	2	0	None
10996	Point	173039.3419	824118.5971	1.1	Peat	Granular	6.614867	Thin Peat	2	4	1	8	Low
10997	Point	173121.3407	824119.7128	0.8	Peat	Granular	5.864909	Thin Peat	2	4	1	8	Low
10998	Point	173221.0334	824124.7791	0.3	Soil	Granular	10.072695	Peaty Soil	1	6	1	6	Low
10999	Point	173304.7367	824128.4818	0.1	Soil	Granular	7.665361	Peaty Soil	1	4	1	4	Negligible

Annex B Peat Auger Data

Skye Reinforcement Project: PLHRA of Compensation Areas

Peat Landslide Hazard and Risk Assessment (Annex D of Compensation Plan)

Scottish & Southern Electricity Networks (SSEN)

SLR Project No.: 428.04707.00020

27 July 2023

Peat Core Log

Hole No. PC01

Sheet 1 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 173334.00 N: 825612.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 3.50 [1]				0.50			Brown fibrous PEAT. Very slight decomposition, plant structure is still identifiable. Slight amount of amorphous material. When squeezed, brown muddy water with no peat extruded. No pasty residue (H3).
					1.00			Dark brown pseudo-fibrous PEAT. Moderate decomposition, plant structure is recognisable but vague. Considerable amount of amorphous material. When squeezed, muddy water and some peat extruded. Residue strongly pasty (H5).
					1.50			Dark brown amorphous PEAT. Moderately strong decomposition, indistinct plant structure. Considerable amount of amorphous material. When squeezed, approximately 1/3 of peat squeezed out and some dark brown muddy water. Residue strongly pasty (H6).
								Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). Frequent organic inclusions of brownish orange wood present.
								Peat Core Continued on Next Page

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.5m

Peat Core Log

Hole No. PC01

Sheet 2 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 173334.00 N: 825612.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	2				2.50			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). Frequent organic inclusions of brownish orange wood present.	2
					3.00			Dark brown amorphous PEAT. Very strong decomposition, very indistinct plant structure. High content of amorphous material. Approximately 2/3 peat squeezed out with some pasty water. Residue is strongly pasty (H8). Frequent organic inclusions of brownish orange wood present.	
	3				3.50			Dark brown amorphous PEAT. Decomposition nearly complete, plant structure almost unrecognisable. High content of amorphous material. Nearly all peat squeezed out as a uniform paste (H9). Frequent organic inclusions of brownish orange wood present.	3
				Recovery = 100%				Peat Core Complete at 3.50m	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.5m

Peat Core Log

Hole No. **PC02** Sheet 1 of 1

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 173777.00 N: 825249.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50			Recovery = 100%	0.50			Dark brown pseudo-fibrous PEAT. Plant structure still recognisable. Some amorphous material present. When squeezed, brown water and some peat extruded. Residue slightly pasty (H4).
	1							Peat Core Complete at 0.50m

Remarks:

1. Sample obtained using peat corer 2. Refusal at 0.5m

Peat Core Log

Hole No. **PC03**

Sheet 1 of 1

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 174038.00 N: 825247.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 0.50			Recovery = 100%	0.30			Dark brown pseudo-fibrous PEAT. Moderate decomposition, plant structure is recognisable but vague. Considerable amount of amorphous material. When squeezed, muddy water and some peat extruded. Residue strongly pasty (H5).	
					0.50			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7).	
	1							Peat Core Complete at 0.50m	1

Remarks:

1. Sample obtained using peat corer 2. Refusal at 0.5m

Peat Core Log

Hole No. PC04

Sheet 1 of 1

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 174247.00 N: 825277.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 1.50			Recovery = 100%	0.15			Dark brown pseudo-fibrous PEAT. Plant structure still recognisable. Some amorphous material present. When squeezed, brown water and some peat extruded. Residue slightly pasty (H4).
					0.60			Dark brown amorphous PEAT. Moderately strong decomposition, plant structure is indistinct but more distinct after squeezing. Considerable amount of amorphous material. Dark brown water and approximately 1/3 peat extruded when squeezed. Residue is strongly pasty (H6).
					1.00			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). Organic inclusions of brownish orange wood present.
					1.50			Dark brown amorphous PEAT. Decomposition nearly complete, plant structure almost unrecognisable. High content of amorphous material. Nearly all peat squeezed out as a uniform paste (H9).
								Peat Core Complete at 1.50m

Remarks:

1. Sample obtained using peat corer 2. Refusal at 1.5m

Peat Core Log

Hole No. **PC05**

Sheet 1 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 173487.00 N: 824821.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 2.00 [1]				0.50			Brown fibrous PEAT. Very slight decomposition, plant structure is still identifiable. Slight amount of amorphous material. When squeezed, brown muddy water with no peat extruded. No pasty residue (H3).
					1.00			Dark brown pseudo-fibrous PEAT. Moderate decomposition, plant structure is recognisable but vague. Considerable amount of amorphous material. When squeezed, muddy water and some peat extruded. Residue strongly pasty (H5).
								Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). Frequent organic inclusions of brownish orange wood present.
								Peat Core Continued on Next Page

Remarks:

1. Sample obtained using peat corer 2. Refusal at 2.0m

Peat Core Log

Hole No. **PC05**

Sheet 2 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 173487.00 N: 824821.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	2			Recovery = 100%	2.00			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). Frequent organic inclusions of brownish orange wood present.	2
								Peat Core Complete at 2.00m	
	3								3

Remarks:

1. Sample obtained using peat corer 2. Refusal at 2.0m

Peat Core Log

Hole No. **PC06**

Sheet 1 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 172330.00 N: 824219.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 3.00 [1]				0.50			Dark brown pseudo-fibrous PEAT. Moderate decomposition, plant structure is recognisable but vague. Considerable amount of amorphous material. When squeezed, muddy water and some peat extruded. Residue strongly pasty (H5). *0.00 Poor recovery due to surface water*	1
					1.00			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). *0.80 Poor recovery due to moisture content*	
								Dark brown amorphous PEAT. Very strong decomposition, very indistinct plant structure. High content of amorphous material. Approximately 2/3 peat squeezed out with some pasty water. Residue is strongly pasty (H8). *1.85 Poor recovery due to moisture content*	
								Peat Core Continued on Next Page	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.0m

Peat Core Log

Hole No. **PC06** Sheet 2 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 172330.00 N: 824219.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	2							Dark brown amorphous PEAT. Very strong decomposition, very indistinct plant structure. High content of amorphous material. Approximately 2/3 peat squeezed out with some pasty water. Residue is strongly pasty (H8).	2
								2.40 Poor recovery due to moisture content	
	3			Recovery = 60%	3.00			Peat Core Complete at 3.00m	3

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.0m

Peat Core Log

Hole No. **PC07** Sheet 1 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 172393.00 N: 824140.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 3.80 [1]				0.50			Dark brown amorphous PEAT. Moderately strong decomposition, indistinct plant structure. Considerable amount of amorphous material. When squeezed, approximately 1/3 of peat squeezed out and some dark brown muddy water. Residue strongly pasty (H6).	
					1.00			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7). *0.80 Poor recovery due to moisture content*	
								Dark brown amorphous PEAT. Very strong decomposition, very indistinct plant structure. High content of amorphous material. Approximately 2/3 peat squeezed out with some pasty water. Residue is strongly pasty (H8). *1.75 Poor recovery due to moisture content*	1
								Peat Core Continued on Next Page	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.8m

Peat Core Log

Hole No. **PC07** Sheet 2 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 172393.00 N: 824140.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	2							Dark brown amorphous PEAT. Very strong decomposition, very indistinct plant structure. High content of amorphous material. Approximately 2/3 peat squeezed out with some pasty water. Residue is strongly pasty (H8).	2
					3.00				
	3							Dark brown amorphous PEAT. Decomposition nearly complete, plant structure almost unrecognisable. High content of amorphous material. Nearly all peat squeezed out as a uniform paste (H9).	3
				Recovery = 80%	3.80			Peat Core Complete at 3.80m	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 3.8m

Peat Core Log

Hole No. **PC08**

Sheet 1 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 170929.00 N: 824534.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 2.00 1							Dark brown amorphous PEAT. Decomposition nearly complete, plant structure almost unrecognisable. High content of amorphous material. Nearly all peat squeezed out as a uniform paste (H9).	1
								1.38 Organic inclusion of brownish orange wood present	
					1.50			Dark brown amorphous PEAT. Decomposition complete with no discernible plant structure. When squeezed, all the peat escapes as a uniform paste (H10).	
								Peat Core Continued on Next Page	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 2.0m

Peat Core Log

Hole No. **PC08**

Sheet 2 of 2

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 170929.00 N: 824534.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	2			Recovery = 100%	2.00			Dark brown amorphous PEAT. Decomposition complete with no discernible plant structure. When squeezed, all the peat escapes as a uniform paste (H10). Peat Core Complete at 2.00m	2
	3								3

Remarks:

1. Sample obtained using peat corer 2. Refusal at 2.0m

Peat Core Log

Hole No. PC09

Sheet 1 of 1

Project: Skye Compensation Areas	Client: SSEN		Date: 17/05/2023
Project No: 428.04707.00020	Logger: ET	Approved By: AH	Coordinates: E: 170925.00 N: 822915.00
Location: Kyleakin, Isle of Skye	Hole Type: HA	Method: Peat Core	Vertical Scale: 1:10

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 1.60			Recovery = 100%	0.50			Dark brown pseudo-fibrous PEAT. Moderate decomposition, plant structure is recognisable but vague. Considerable amount of amorphous material. When squeezed, muddy water and some peat extruded. Residue strongly pasty (H5).	
					1.00			Dark brown amorphous PEAT. Strong decomposition, fainty recognisable plant structure. High content of amorphous material. When squeezed, about 1/2 of peat squeezed out and little dark brown water (H7).	
	1				1.60			Dark brown amorphous PEAT. Decomposition nearly complete, plant structure almost unrecognisable. High content of amorphous material. Nearly all peat squeezed out as a uniform paste (H9).	1
								Peat Core Complete at 1.60m	

Remarks:

1. Sample obtained using peat corer 2. Refusal at 1.6m

Peat Core 01
0 - 0.5m

Peat Core 01
0.5 – 1.0m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 01
1.0 – 1.5m

Peat Core 01
1.5 – 2.0m

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 01
2.0 – 2.5m

Peat Core 01
2.5 – 3.0m

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 01
3.0 – 3.5m

Peat Core 02
0 – 0.5m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 03
0 – 0.5m

Peat Core 04
0 – 1.0m

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 04
1.0 – 1.5m

Peat Core 05
0 – 0.5m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 05
0.5 – 1.0m

Peat Core 05
1.0 – 1.5m

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 05
1.5 – 2.0m

Peat Core 06
0 – 1.0m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 06
1.0 – 2.0m

Peat Core 06
2.0 – 3.0m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 07
0 – 1.0m

Peat Core 07
1.0 – 2.0m

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 07
2.0 – 3.0m

Peat Core 07
3.0 – 3.8m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 08
0 – 1.0m

Peat Core 08
1.0 – 2.0m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

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

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023

Peat Core 09
0 – 1.0m

Peat Core 09
1.0 – 1.6m

SLR

Floor 2
4/5 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

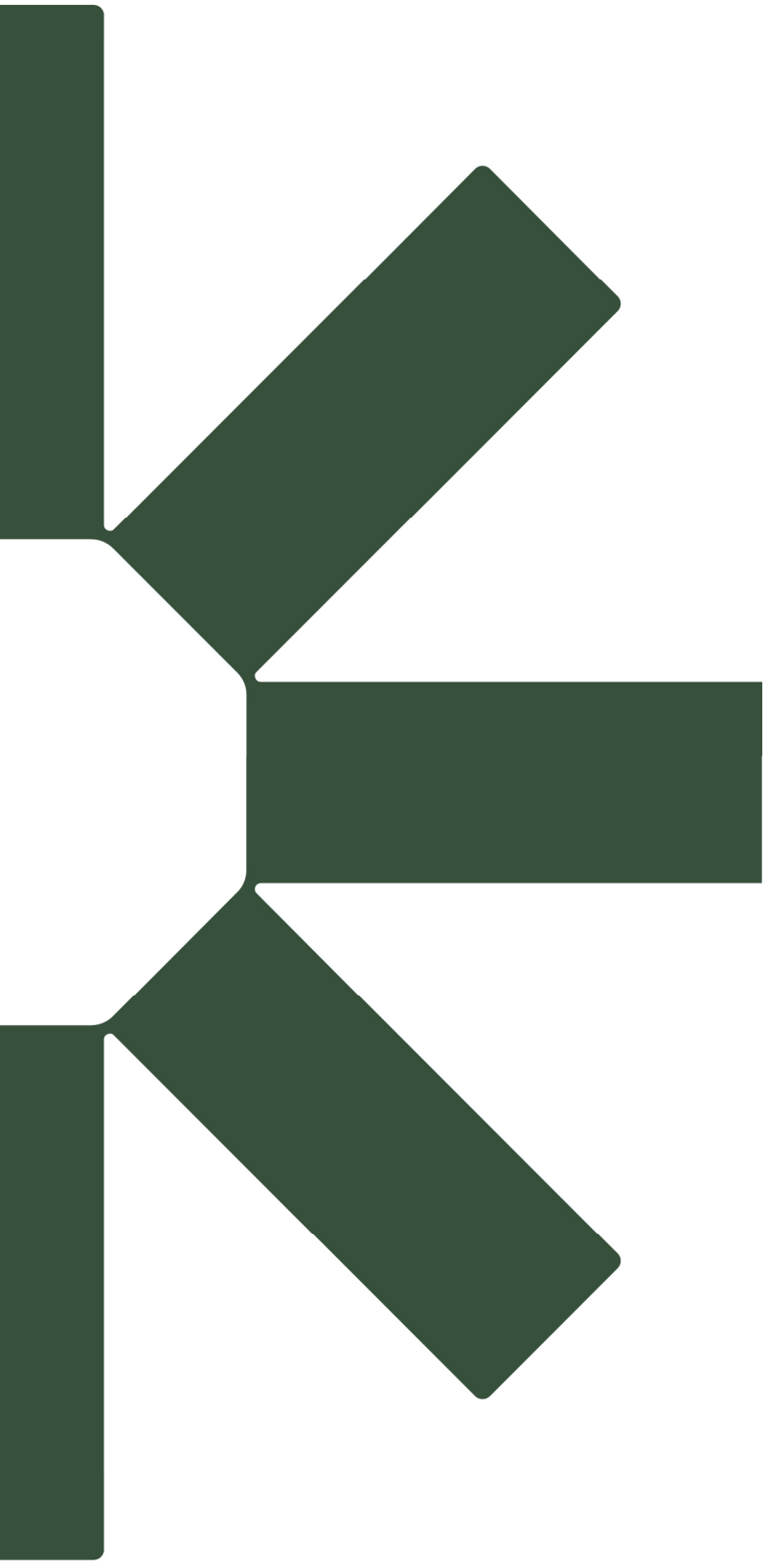
Tel: 0131 335 6830
Fax: 0131 335 6831
Web: www.slrconsulting.com

Project : Skye Compensation Areas

Scottish & Southern Electricity Networks

Project No.: 428.V04707.00020

Date :- May 2023



Making Sustainability Happen