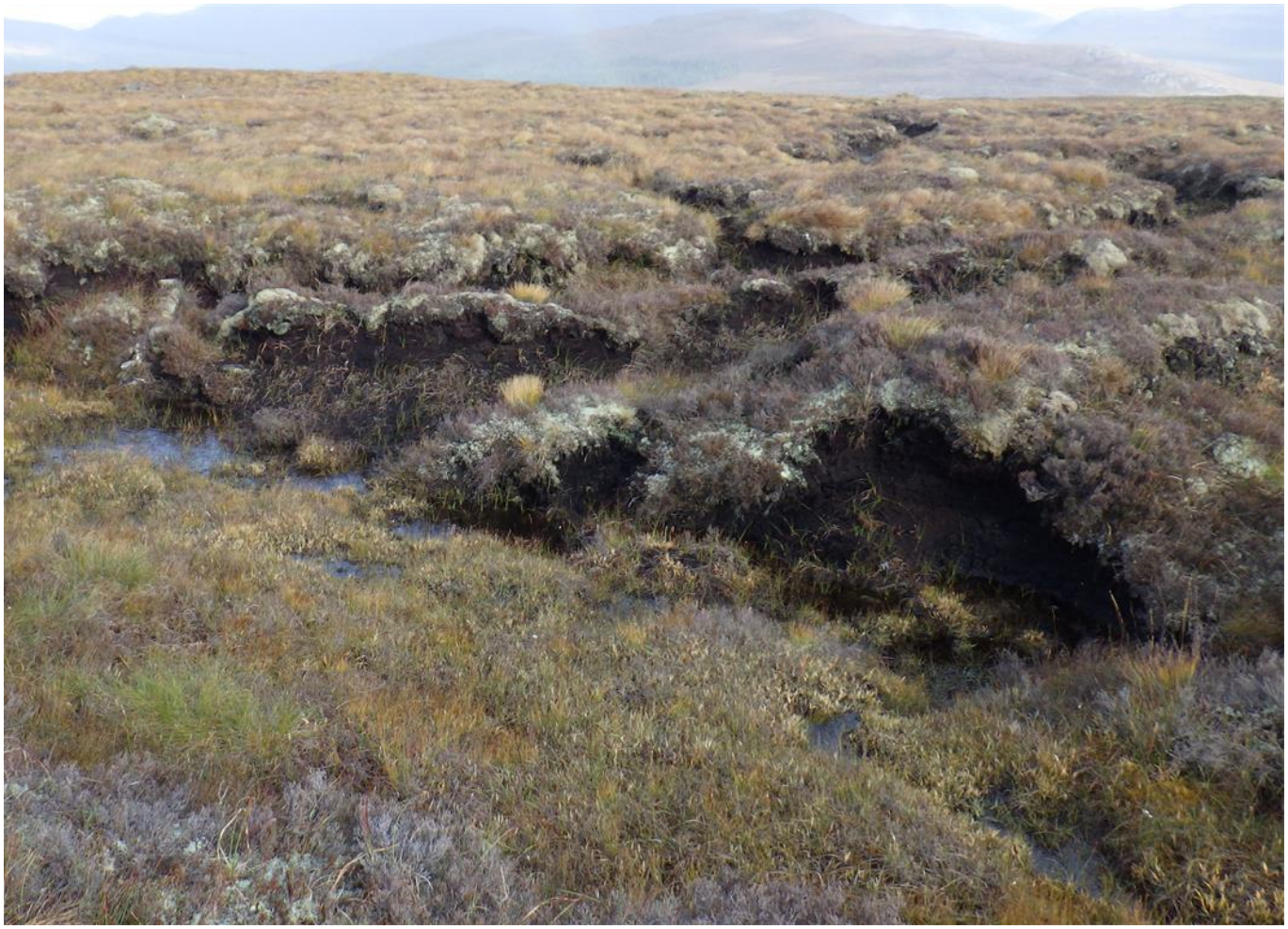

ScottishPower Renewables

Hollandmey Renewable Energy Development: Outline Peat Management Plan

Technical Appendix 10.2

655098-P10.2 (04)

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RSK GENERAL NOTES

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Author	Andrew Cunningham	**Technical reviewer**	Catherine Isherwood
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Project manager	Robert Beck
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1 INTRODUCTION

1.1 This report provides an Outline Peat Management Plan for Hollandmey Renewable Energy Development (RED) and associated development infrastructure (hereafter the 'proposed Development').

1.2 The report forms a Technical Appendix to the Environmental Impact Assessment Report (EIA Report) for Hollandmey RED and should be read in conjunction with this document. It has been produced to address the requirement for excavation of peat and peaty soils during the construction process.

1.3 This report will consider total volumes of peat that needs to be excavated and will set out options for reuse of the excavated material. Guidance on management and handling of excavated peat and soils will be provided

Location

1.4 The Site, defined as the area within the application boundary, is located approximately 8 km south-west of John o' Groats and 16 km east of Thurso, situated within the north-eastern part of the Caithness and Sutherland area of the Highlands. The Site is privately owned. The Site lies within a Sweeping Moorland and Flows Landscape Character Area (LCA), which is described as a flat to gently undulating and smooth landform. The Site contains sections of agriculture and coniferous woodland plantation and is located within an area of carbon-rich soils. The Philips Mains Mire Site of Special Scientific Interest (SSSI), an area of Class 1 Peatland, is in the north-east part of the Site. The Site area is 1,195 hectares (ha) on total and the current land use is classified as agricultural, moorland and forestry.

1.5 The Site is bounded by parts of the Caithness and Sutherlands Peatlands Special Area of Conservation (SAC) which forms part of the Flow Country; an area of blanket bog and freshwater loch habitats which form the largest area of peatland in the UK.

Development proposals

1.6 The proposed Development includes the following key elements:

- ten wind turbines of up to 5 MW capacity and maximum tip height of 149.9 m;
- hardstanding areas and crane pads at the base of each turbine, with a maximum combined area of 3,146 m^2;
- 15 MW ground mounted solar arrays;
- 15 MW battery energy storage system (BESS);
- transformer/switchgear housings located adjacent to turbines & solar panels;
- 12.01 km of access tracks (8.93 km of which is new (6.18 km normal track and 2.75 km floating track), 2.71 is upgraded existing track and 0.37 km is existing access track), including passing places and turning heads;
- watercourse crossings (upgrade of existing or new as required);
- underground electrical cabling;

- permanent met mast and LIDAR compound;
- up to two temporary Power Performance Masts (PPM);
- a temporary windfarm construction compound area and a temporary solar construction compound area;
- a control compound comprising a permanent control building, substation and BESS;
- closed-circuit television mast(s);
- communication mast(s);
- permanent control building;
- up to three borrow pit search areas; and
- health & safety and other directional site signage

1.7 In addition, felling of approximately 24 ha of commercial tree planting would be required to accommodate access for the turbines.

1.8 Full details of the proposed Development design are provided in **Chapter 2: Site Description and Design Evolution** of the EIA Report.

Aims

1.9 This report aims to undertake a review of all available peat depth information for the Site and immediate environs, and to provide a series of calculations determining the estimated volumes of peat that will require excavation in order to allow the proposed Development to be constructed. Options will be provided to address use of the excavated peat within necessary restoration of Site infrastructure. A series of good practice measures relating to peat and soil handling and storage will also be provided.

Assessment method

1.10 The assessment has involved the following stages:

- Desk study;
- Peat depth surveys and infrastructure design;
- Volume calculations for excavation and reuse; and
- Peat handling and storage guidance.

2 PEAT CONDITION

Developments on peat

Definition of peat

2.1 Scotland's Soils (2018a) classifies peat as:

> *'An accumulation of partially decomposed organic material, usually formed in waterlogged conditions. Peat soils have an organic layer more than 50 cm deep from the soil surface which has an organic matter content of more than 60%.'*

2.2 Organic soils which are less than 50 cm thick can also support peatland vegetation and as a result are also considered within Scotland's broader peatland system in Scotland's National Peatland Plan (SNH, 2015). These are often described as 'peaty gleys' or 'peaty podzols', reflecting key aspects of the underlying soil. Peaty soils have a higher plant fibre content and are less decomposed than peat, and as such have a lower sensitivity to excavation and reuse; however, they remain important within Scotland's peatland habitats and require sensitive handling.

2.3 Active peatland typically consists of two layers: the surface layer or *acrotelm* and the deeper layer or *catotelm*. The acrotelm contains the living vegetation and consists of living and partially decayed plant material. It typically has a low but variable hydraulic conductivity and allows some through-flow of water within the plant material. The underlying catotelm is denser, with a very low hydraulic conductivity, and is formed from older decayed plant material. The catotelm varies in structure, in some areas retaining a proportion of fibrous material and in other areas being more humified and amorphous. The degree of humification typically increases with depth.

2.4 Underneath the peat-forming layers, the basal substrate can be a mineral soil, a superficial deposit such as glacial material, or bedrock. There may be a transition zone through a mineral-rich peaty layer at the base of the peat, although this is usually no more than 5 cm in thickness.

Importance of peat

2.5 Peatland forms a key part of the Scottish landscape, covering more than 20% of the country's land area, and forming a significant carbon store (Scotland's Soils, 2018b). In addition, peatland is an internationally important habitat.

2.6 Active and healthy peatlands develop continuously, removing carbon dioxide from the atmosphere and storing it within the peat soil. Peatland protection and restoration form key parts of the Scottish Government's Climate Change Plan, which targets restoration of 50,000 hectares (ha) of degraded peatland by 2020 and 250,000 ha by 2030 (Scottish Government, 2018).

2.7 It is therefore important that developments take recognition of the importance of peatland as a habitat and carbon store. Careful planning of developments, and careful infrastructure design, can remove or minimise the disturbance of peat that would be needed to allow the development to proceed.

Development setting

Topography and geomorphology

2.7.1 The Site is primarily undulating lowlands with gentle slopes, with most of the Site having an elevation between 45 to 55 m. The highest ground in the Site is located on small isolated hills, in the north-east, south east and south-west of the study area. The Hill of Rigifa' forms a high point just beyond the north eastern study area, reaching an elevation of 80 m above Ordnance Datum (AOD); in the southern Site the Hill of Slickly reaches an elevation of 75 m AOD.

2.7.2 The lowest elevations within the Site are to the west, around the Link Burn and the Burn of Ormigill (40 m AOD), and the north-west around the Burn of Horsegrow (35 m AOD). The west and south-western part of the Site is characterised by a shallow valley which slopes westwards around the Link Burn. The north-western part of the Site slopes north-west towards the Loch of Mey, with a shallow valley around the Burn of Horsegrow.

2.7.3 All the slopes in the immediate area are gentle and undulating, in keeping with the broader landscape. The only exceptions to this are in coastal areas, where steep slopes and cliffs are common, and along some watercourse channels which are deeply incised, such as the lower reaches of the West and East Burns of Gills at Gills. Slope angles within the Site lie within the range 0-20°, with a mean slope of 2.2°.

2.7.4 Following topography, the majority of the Site drains roughly west to join the Burn of Rattar. Outwith the study area, topography generally slopes away from the Site towards the coast.

2.7.5 There is widespread evidence of modification to peatland areas within, and around the Site. These are most likely related to historic peat cutting, or drainage for agriculture and commercial forestry.

Habitats and vegetation

2.8 The majority of the Site is under coniferous forestry plantation with some areas of improved pasture. Some areas of open native woodland are present, notably in the northern part of the Site near the proposed solar array.

2.9 National vegetation classification (NVC) survey mapping of the remaining areas indicates that there are five main communities present:

- M2 –*Sphagnum cuspidatum/recurvum* pog pool community;
- M15 – *Scirpus cespitosus – Erica tetralix* wet heath;
- M18 – *Erica tetralix – Sphagnum papillosum* raised and blanket mire;
- M19 – *Calluna vulgaris – Eriophorum vaginatum* blanket mire; and
- M23 – *Juncus effusus/acutiflorus – Galium palustre* rush pasture.

2.10 The area of M2 is located entirely within the Philips Mains Mire SSSI. There are several areas of M18, all within the eastern half of the Development area and in open areas away from the forestry.

2.11 Within the main Development area, most of the open forest rides and watercourse corridors are characterised by M15, M19 and M23. All three habitats are relatively widespread throughout the Site.

Hydrology

2.11.1 The Site lies within five catchments: the Burn of Rattar, the Burn of Horsegrow, the West Burn of Gills, the Gill Burn and the Burn of Slickly catchments. Most of the Site is located within the Burn of Rattar catchment.

2.11.2 The Burn of Horsegrow catchment drains the north-western Site.

2.11.3 The West Burn of Gills catchment encompasses the north-eastern Site.

2.11.4 The Gill Burn drains part of the southern Site.

2.11.5 Burn of Lyth catchment provides drainage for the south-eastern Site.

2.11.6 The catchment wetness index (PROPWET) for the Site catchments is 0.500, indicating the Site is wet for 50% of the time. The area has a relatively low base flow index (BFIHOST19), indicating that groundwater contribution is of limited importance to Site watercourses. The standard percentage runoff (SPRHOST) is 50-55%, indicating that this percentage of Site rainfall is converted into surface runoff from rainfall events. This is a high runoff risk. Soils have a limited capacity to store rainfall or to allow water to infiltrate; thus, soils with a high standard percentage runoff will quickly saturate, leading to rapid runoff.

Peat characteristics

2.12 Across the majority of the Site, peat development has been disrupted by the plantation of coniferous forestry and is no longer in near-natural condition. The area would formerly have consisted of a patchwork of peaty soils, shallow peat and deeper peat reflecting the underlying topography.

2.13 Extensive drainage ditches have been excavated throughout the woodland areas at various times, partially draining much of the Site, particularly in the west.

2.14 Some marginal areas retain more blanket bog-like characteristics, but these areas have also often been partially drained to improve their potential for agriculture.

2.15 One large area of blanket bog within the eastern section of the Site, which forms the Philips Mains Mire SSSI, has been excluded from the plantation of coniferous woodland and remains in near-natural condition.

3 PEAT CALCULATIONS

Peat at Hollandmey RED

3.1 The Site was identified to include areas of peatland at an early stage, as indicated by superficial geology and soils mapping for the region. In terms of peat coverage, the Site encompasses the red-line planning application boundary, excluding the area of Phillips Mains Mire SSSI. A broad-scale peat depth survey on a 100 m grid was undertaken by RSK in May and June 2020. The peat depth data from these surveys were used to inform the infrastructure layout design process in June and August 2020.

3.2 A subsequent phase of peat depth surveying was undertaken by RSK in September 2020, focusing on the proposed infrastructure layout. Further minor amendments to the layout required a small amount of additional surveying in November 2020, also undertaken by RSK.

3.3 A final phase of peat depth surveying was taken along the roadside of the East Lodge Road, C1033 Everley to Crockster Toll Road and the Charleston Farm Road, due to the requirement for road and junction widening.

3.4 The combined peat depth data were used to generate a detailed map of peaty soil and peat depth for the Site. This is provided on **Figure 10.1.3**. Measured peat and soil depths range from 0 (bedrock at surface) to 8.1 m. A total of 617 peat depth measurements have been recorded for the Site and immediate surroundings.

3.5 The intention has been to avoid peatland areas where possible, and to minimise incursion into peatland where it has not been possible to avoid it altogether. Approximately 68% of the development infrastructure including drainage is underlain by peaty soil or topsoil no greater than 0.5 m deep.

Peat excavation volumes

3.6 The tables below set out the calculated estimated volumes of peat that need to be excavated in order to allow construction to proceed. The calculations are provided per ‘scheme element’, as totals for each element type, and as an overall total. Each set of calculations provides subdivision into ‘acrotelm’ and ‘catotelm’.

3.7 For the purposes of these calculations, the acrotelm has been assumed to form the uppermost 0.5 m where peat is present. Acrotelm is known to vary in thickness, but it is recommended that peat turves are excavated to approximately 0.5 m where possible, including the uppermost part of the catotelm, to promote quicker regeneration of disturbed areas following reinstatement.

3.8 Volumes of peaty soil and topsoil have not been included, in line with the definition of peat quoted above. Soils would also require excavation but are less sensitive than peat to both excavation and restoration.

3.9 **Table 10.2.1** provides peat volumes that require excavation in order to allow construction of the access track network and associated drainage, and modification of the junctions on the A836, East Lodge Road, C1033 Everley to Crockster Toll Road and the Charleston Farm Road, and the widening of the Charleston Farm Road. The proposed access track areas include a buffer of 5 m on each side, which includes an allowance for passing

places at an average of one every 500 m, turning heads as necessary at some turbine locations, and trackside drainage. Modified existing track includes a buffer of 5 m on one side. Required modifications to the public road junctions include a 5 m buffer on each side. The Charleston Farm Road would be widened by 2.25 m, and includes a buffer of 5 m on one side. No excavation is proposed to be carried out in areas of deep peat where floating access tracks have been specified.

3.10 The track sections are identified on **Figure 10.2.1** and peat volume calculations make use of measured peat depth data for the relevant track section.

Table 10.2.1: Peat excavation volumes for access tracks, including passing places and turning heads, and trackside drainage

Proposed Development element	Acrotelm (m^3)	Catotelm (m^3)	Total (m^3)
Northern access – re-routed corner	252	50	302
T07-T10 access	716	310	1,026
T09 access	3,351	2,458	5,809
T06 towards T03-T04 access including met mast	2,086	1,200	3,286
T03-T04 access	3,898	2,039	5,937
T08-T05 access	2,212	1,245	3,457
T01-T02 access	3,592	2,275	5,867
Modified existing northern access from road	280	56	336
Modified existing central access track	301	121	422
A836-U1633 East Lodge Road Junction	0	0	0
U1633 East Lodge Road- C1033 Everly-Crockster Toll Road Junction	0	0	0
A836-Charleston Farm Road Junction	56	11	67
Charleston Farm Road-C1033 Everly-Crockster Toll Road Junction	41	8	49
Charleston Farm Road Junction	177	47	224
Total	**16,962**	**9,820**	**26,782**

3.11 **Table 10.2.2** provides peat volumes that require excavation in order to allow construction of the turbine foundations, hardstanding areas and crane pads, plus associated drainage. Calculations have been made for each turbine base plus necessary hardstanding areas, making use of peat depth data for the relevant turbine and hardstanding footprint.

Table 10.2.2: Peat excavation volumes for turbines, hardstandings, crane pads and associated drainage

Proposed Development element	Acrotelm (m^3)	Catotelm (m^3)	Total (m^3)
Turbine 1	2,581	2,581	5,161
Turbine 2	1,720	817	2,537
Turbine 3	1,290	671	1,961
Turbine 4	1,408	962	2,369
Turbine 5	No peat		
Turbine 6	1,935	452	2,387
Turbine 7	1,642	868	2,510
Turbine 8	2,064	3,071	5,135
Turbine 9	No peat		
Turbine 10	469	891	1,361
Total	**13,110**	**10,312**	**23,422**

3.12 **Table 10.2.3** provides peat volumes that require excavation in order to allow construction of additional infrastructure, such as construction compounds and the substation, and to allow excavation of the borrow pits, plus associated drainage. Calculations have been made for each footprint, making use of peat depth data for the relevant infrastructure element.

3.13 No excavation work for the solar array would be required.

Table 10.2.3: Peat excavation calculations for other infrastructure elements

Proposed Development element	Acrotelm (m^3)	Catotelm (m^3)	Total (m^3)
Borrow pit 1	No peat		
Borrow pit 2	799	200	999
Borrow pit 3	1,635	858	2,493
Solar array compound	No peat		
Control compound	563	113	676
Compound and laydown area	375	113	488
Permanent met mast hardstanding	150	60	210
Total	**3,522**	**1,344**	**4,866**

3.14 A summary of the total peat volumes is provided in **Table 10.2.4.**

Table 10.2.4: Summary of estimated peat excavation volumes

Proposed Development element	Acrotelm (m^3)	Catotelm (m^3)	Total (m^3)
All tracks	16,963	9,820	26,783
All turbine infrastructure	13,110	10,312	23,422
All other infrastructure	3,521	1,343	4,864
Total	**33,594 (61%)**	**21,475 (39%)**	**55,069**

Peat reuse

3.15 The guidance document '*Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste*' (Scottish Renewables/SEPA, 2012) identifies a number of reuse options for excavated peat within windfarm developments. These have all been tested in practice and found to be effective, if undertaken with care and appropriate handling of the peat.

Dressing-off edges of constructed infrastructure

3.16 Excavated peat can provide a valuable means for dressing-off and reinstating the slopes and edges of constructed infrastructure. This should be undertaken as soon as practicable after construction and should be undertaken to create a suitable tie-in to the surrounding topography. This has a twofold purpose – to reduce the visual effect of the infrastructure and to retain as much of the existing habitat as possible.

3.17 A secondary part of this would involve full reinstatement of elements of infrastructure only required for the construction phase, principally the additional construction footprint around the turbine bases. Parts of the turbine hardstandings may also be reinstated following installation of the turbines.

Verge reinstatement on track sections and at hardstanding areas

3.18 For cut tracks on nearly flat ground, as at Hollandmey RED, and for all floating roads, the track margins can be reinstated to form a verge slightly raised above the track level. This acts as a partial visual screen for the track network. Well-designed track margins also help to direct track surface runoff into trackside drainage, where it can be directed for treatment.

3.19 Where existing tracks require upgrading, new works are typically focused on one side of the track and reinstatement would also usually be focused on the track side with new works. Reinstatement of the already-existing track verge can be undertaken where the ground has been left raw or where previous reinstatement has not been effective.

3.20 Verge reinstatement can also be undertaken around all hardstanding areas and provides a partial visual screen and means for directing surface runoff in the same manner as for tracks.

Borrow pit restoration

3.21 Excavated peat has been used successfully in borrow pit restoration, where the method of reuse and the final restoration profile is in keeping with overall habitat and environmental reinstatement objectives. Care must be taken to ensure that no residual risks from pollution of the environment or harm to human health results from the restoration. Unconsolidated peat may be the most suitable material for this purpose, depending on the local situation. Fencing of the restored area may be appropriate if required to exclude grazing in order to encourage vegetation recovery or to allow stabilisation of the surface until vegetation cover has established.

Peatland restoration

3.22 Peat can provide a valuable material for ditch blocking, as part of a peatland restoration plan on blanket bog. In areas with wider ditches, it may be appropriate to use saturated or unconsolidated peat behind dams in order to speed up the restoration process and regeneration of associated vegetation.

Peat reuse volumes

3.23 Calculations have been made to determine where excavated peat can usefully be reused within the proposed Development, for the purposes of reinstatement and restoration. Estimated volumes for reuse are provided in **Table 10.2.5**, subdivided by the different reinstatement and restoration methods that are appropriate for the Site.

Table 10.2.5: Estimated soil and peat volumes for different reuse options

Reuse option	Acrotelm (m^3)	Catotelm (m^3)	Total (m^3)
Dressing-off edges of turbine hardstanding	4,500	1,900	6,400
Dressing-off edges of other hardstanding	1,300	500	1,800
Access track verge reinstatement (proposed cut and fill, modified existing track, and proposed floating track)	32,100	-	32,100
Reinstatement of edges of borrow pits (BP1 and BP2)	1,000	400	1,400
Borrow pit restoration (BP3)	800	7,200	8,000
Reinstatement of compound and laydown areas	7,700	3,300	11,000
Totals	**57,300**	**21,500**	**78,800**

3.24 All figures provided in **Table 10.2.5** have been rounded down to the nearest 100 m^3, to make allowance for the uncertainties present within the figures.

3.25 It has been assumed that limited catotelmic peat would be reused for dressing-off edges and reinstatement of construction infrastructure. In areas with natural hollows, use of some catotelmic peat may be appropriate but it is likely in practice that most of this work would make use of acrotelmic peat.

3.26 It has been assumed that all track verge reinstatement would use entirely acrotelmic peat, although some catotelmic peat may be used in areas with natural hollows.

3.27 Reinstatement and dressing-off have assumed a maximum depth of 0.6 m and a maximum width of 2.5 m from the infrastructure or track margin, to be varied in practice as best suits the local ground conditions.

3.28 Approximately 49% of the catotelmic peat would be used for borrow pit restoration within BP3, with acrotelmic peat providing a surface vegetated layer to encourage redevelopment of the turf layer.

3.29 Due to the topography and likely high groundwater within the areas of BP1 and BP2, reinstatement of the full volume would not be proposed. Dressing-off and reinstatement

of the margins would be carried out using predominantly acrotelmic peat, with limited catotelmic peat utilised where appropriate.

3.30 The balance of excavated catotelmic peat from the construction of the proposed Development would be used for peatland restoration within the application boundary. Peatland restoration works would focus on the main areas where extensive deep peat has been identified and in areas where forestry has either been clear-felled or is proposed for felling in the near future. Restoration work may also be appropriate in the area around the margins of the existing Philips Mains Mire SSSI as a means to protect the existing blanket bog and to help improve the surrounding habitat. This would need to be agreed with NatureScot, but it is likely that some works such as drain blocking could be valuable in this area.

3.31 The balance of acrotelmic peat estimated to be reused beyond that included in the excavation volumes would be made up of peaty soils excavated during construction.

3.32 **Figure 1** within **Technical Appendix 8.6 Habitat Management Plan** indicates areas identified as potential restoration areas within the Site.

4 PEAT HANDLING & STORAGE

Peat excavation

4.1 During the construction of the proposed Development infrastructure, the Contractor would adopt the following good practice guidelines with relation to peat excavation:

- Where peat conditions are suitable, peat turves would be excavated as intact blocks of the uppermost 0.5 m including the vegetated surface acrotelm layer and the upper part of the catotelm;
- In areas where peat conditions do not allow clean removal of peat turves, the upper layer of peat would be removed as divots or mulch rather than as turves. Careful handling would help to keep the vegetated blocks largely the right way up;
- Underlying peat would be extracted as close to intact as is feasible within the constraints of the Site. Remoulding of the peat by the excavator would be kept to a minimum;
- Excavated materials would be classified depending on their composition, and each type would be stored separately. Anticipated material classes are: peaty soils and topsoil, subsoil, acrotelmic peat, catotelmic peat, mineral soil, and rock; and
- Excavated peat would be transported as short a distance as practicable for either reuse or temporary storage, in order to minimise loss of structure during transport.

4.2 Peat and soil stripping can be adversely affected by wet weather. The following 'stop' conditions are recommended to guide any peat and soil stripping activity (**Table 10.2.6**; CH2M & Fairhurst, 2018).

Table 10.2.6: Recommended 'stop' conditions for peat and soil stripping,

'Stop' rule	Requirements
High intensity rainfall	Rainfall during construction greater than 10 mm per hour
Long duration rainfall	Rainfall in the preceding 24 hours greater than 25 mm
Seven-day cumulative rainfall (1)	Preceding seven days of rainfall greater than 50% of the monthly average
Seven-day cumulative rainfall (2)	Preceding seven days of rainfall greater than 50 mm

4.3 Monitoring of rainfall for 'stop' conditions would require access to a suitable local source of data, such as the Met. Office's monitoring station at John o' Groats or a Site-specific rainfall station, to allow identification of these conditions being exceeded in order to allow appropriate action to be taken.

Temporary storage

4.4 Temporary storage of peat should be avoided or minimised wherever possible. This is best achieved by transporting the peat to an allocated reuse location as soon as practicable following excavation. This would help to retain its structural integrity as far as

possible, would minimise volumes of peat requiring storage and would help to prevent the peat drying out.

4.5 The Environmental Clerk of Works would maintain a schedule of reuse and restoration areas and would direct whether excavated peat should be stored or transported directly to a suitable reuse location. Immediate reuse is likely to be more practicable in the later stages of construction.

4.6 Soils, peat turves and peat would all be stored separately. The following outline good practice would be applied to all areas of peat and soil storage:

- Excavated materials would not be stored immediately above excavation faces, in order to prevent overburden-induced failure;
- Local drainage lines, areas of very wet ground and locally steep slopes would be avoided for excavated material storage, including peat;
- Peat turves would be stored vegetation-side up;
- Careful handling of upper-layer peat divots, from areas where peat turves cannot be excavated, would help to retain vegetated blocks the right way up;
- Catotelmic peat would be stored separately from vegetated peat blocks, in mounds up to 1 m high;
- Limited smoothing or 'blading' of stockpiled catotelm peat, topsoil and subsoil would help to shed rainwater and prevent ponding of water on the stockpile;
- All temporary storage areas for excavated peat and soils would be at least 50 m from any watercourse;
- Runoff from stored peat and soils would be managed to avoid impacts to habitats and watercourses. Where necessary, drainage control measures such as use of silt fences or straw bales would be put in place; and
- Monitoring of peat storage areas may be required during wet weather or snowmelt. This would be undertaken by the Contractor, with findings reported to the Environmental Clerk of Works.

4.7 Areas identified as potentially suitable for peat and soil stockpiles are detailed in **Table 10.2.7** and shown on **Figure 10.2.1.** Storage areas would be assessed for suitability during construction works; key controls would be the areas of forestry plantation and widespread watercourses.

Table 10.2.7: Potential areas for peat and soil stockpiles

Location	Grid reference
South of BP2, east of construction compound	ND 2975 6985
North of Turbine 9, south-east of access track (please note: the ditch marked immediately SW of this location is not present on the ground)	ND 3017 6894
South of Turbine 6	ND 2962 6874
South-east of Turbine 3	ND 2873 6880

Reinstatement and restoration

4.8 The following principles would be applied in all situations where peat is being reinstated or used in restoration:

- Reinstatement of peat turves and vegetated peat divots would ensure that surface re-vegetation is encouraged as early as possible. Vegetated peat must only be used for surface layer reinstatement and restoration;
- Re-seeding of any significant areas of bare peat would be undertaken with a suitable species mix appropriate to the surrounding habitats. Careful planning of reinstatement should minimise areas of bare peat by appropriate distribution of vegetated peat turves and divots;
- Grazing by livestock and deer may need to be prevented in sensitive areas, by selective use of fencing, until re-vegetation has become established; and
- In the event that stored peat becomes dewatered or desiccated, this material would not be exposed in the upper part of any reinstatement or restoration area in order to minimise any further character loss. Storage of excavated peat would be minimised in order to prevent or limit dewatering and desiccation.

Updated peat management

4.9 The Outline Peat Management Plan presented here would be updated and refined as necessary with further site-specific detail once Site investigation results become available. This would involve recalculation of peat volumes requiring excavation and storage. Location-specific reinstatement and restoration would be specified by the Environmental Clerk of Works, taking account of specific local variation in topography and natural ground conditions. The Construction Peat Management Plan would be a live document, with revisions added as necessary during the construction process.

5 SUMMARY

5.1 This Outline Peat Management Plan provides an assessment of the likely volumes of peat that would require excavation during the proposed Development's construction, and of the volumes of peat that can legitimately be used in reinstatement and restoration of the proposed Development's infrastructure. The assessment has included consideration of all proposed infrastructure that would require construction and excavation work where peat would require removal.

5.2 The assessment indicates that there would be a balance in peat volumes and that all peat excavated for construction would be able to be reused within the Site, either for reinstatement or peatland restoration. Approximately 62% of the excavated peat would be acrotelmic, which provides good opportunities for promoting re-establishment of peatland vegetation around construction areas. Sensitive reinstatement would help to minimise the visual impact of the construction works as well as minimising the habitat loss from construction.

6 REFERENCES

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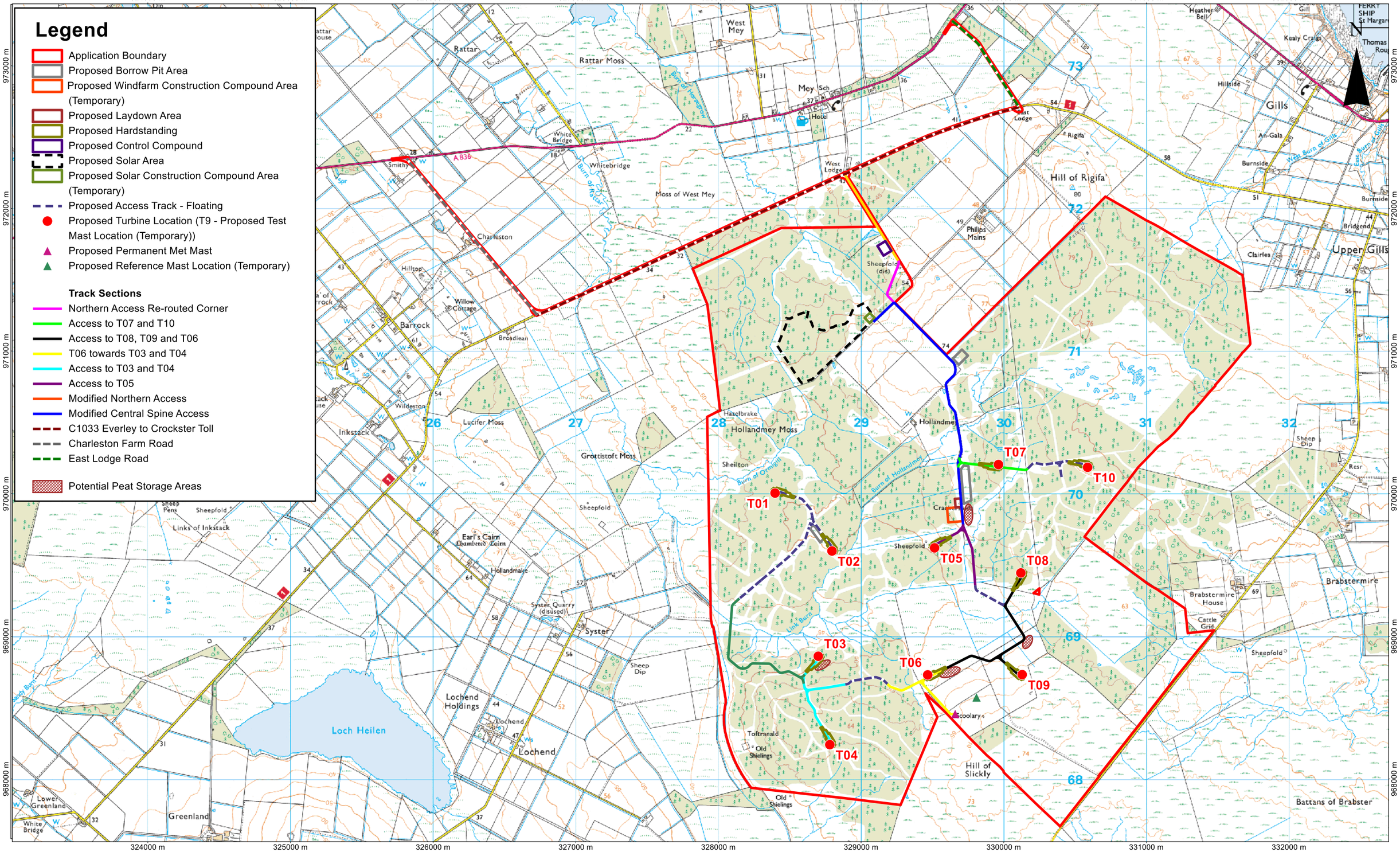

Rev	Date	By	Comment
E	11/11/2021	CI	Layout change
D	02/11/2021	CI	Infrastructure & boundary update
C	23/08/2021	CI	Infrastructure update

SCOTTISHPOWER RENEWABLES

1:25,000 Scale @ A3

0 1 km

Hollandmey Renewable Energy Development

Figure 10.2.1: Track Sections and Potential Peat Storage Areas

Drg No	HMY_Geo_CI
Rev	E
Date	11/11/2021
Figure	10.2.1

Datum: OSGB36
Projection: TM