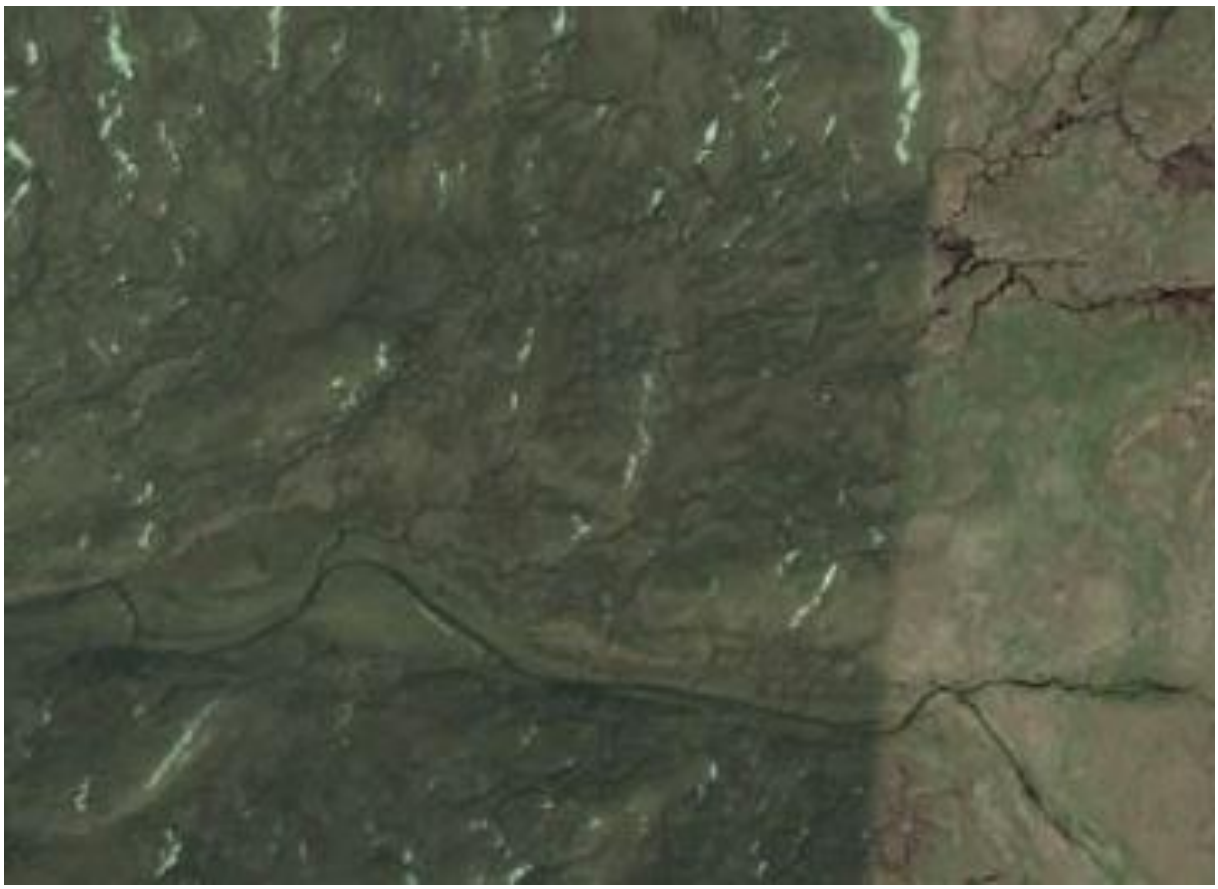
22683 TNS Site, Bogaire - Mamore Estate
Phase 1 Peat Survey



November 2023

CONTROL SHEET

Client: Clarke Telecom
Project Title: 22683 TNS Site, Bogaire - Mamore Estate
Report Title: Phase 1 Peat Survey
Document number: 13817
Project number: 678713

Issue Record

Issue	Status	Author	Reviewer	Approver	Issue Date
1	FINAL	JAS	RE	RE	21/11/2023
2					

EnviroCentre Limited Office Locations:

Glasgow **Edinburgh** **Inverness** **Banchory**

Registered Office: Craighall Business Park 8 Eagle Street Glasgow G4 9XA
Tel 0141 341 5040 info@envirocentre.co.uk www.envirocentre.co.uk

EnviroCentre Limited is registered in Scotland under no. SC161777.

VAT no. GB 348 6770 57.

Contents

Appendices

Tables

1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre were commissioned by Clarke Telecom to carry out a peat depth survey at the proposed Bogaire - Mamore Estate Site, Mamore Estate, Kinlochleven, Scottish Highlands. The purpose of this report is to outline the findings of the peat survey, including baseline description of peat coverage, depth and drainage.

1.2 Scope of Report

The scope of this report will include the following:

- Desk study to review available topography, geology and soil within the site and surrounding area;
- Outline methodology of the peat survey;
- Describe findings of the peat survey, including presentation of a peat depth interpolation: and
- Recommendations for management measures to deal with peat arising from the development in line with the requirements of NPF4 Policy 5(d).

1.3 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

Whilst the Client has a right to use the information as appropriate, EnviroCentre Limited retains ownership of the copyright and intellectual content of this report. Any distribution of this report should be managed to avoid compromising the validity of the information or legal responsibilities held by both the Client and EnviroCentre Limited (including those of third party copyright). EnviroCentre Limited does not accept liability to any third party for the contents of this report unless written agreement is secured in advance, stating the intended use of the information.

EnviroCentre Limited accepts no liability for use of the report for purposes other than those for which it was originally provided, or where EnviroCentre Limited has confirmed it is appropriate for the new context.

2 SITE CONTEXT

2.1 Site Location

The site is located approximately 8.8km north-east of Kinlochleven in the Scottish Highlands. The centre of the site is located at National Grid Reference (NGR) NN 23751 69419. The proposed site boundary is shown in Appendix A.

The site is situated within the Mamore Estate which is mainly used for tourism and hillwalking (including part of the West Highland way), on an area of upland moorland. The site was accessed by estate tracks located off the B863 at Kinlochleven, via an Argocat vehicle. The site is elevated at approximately 380 meters above ordnance datum (mAOD) on the southern-western slopes of Tom an Eite (401 mAOD). The site is located on the banks of 'Water of Nevis', the upper reaches on River Nevis, which flow north-west through Glen Nevis towards Fort William, eventually discharging into Loch Linnhe approximately 14km north-west of the site. Within the site small tributaries are present that flow south-west into the Water of Nevis.

2.2 Desk Study

2.2.1 Geology

Bedrock Geology

A review of the BGS 1:50,000 scale mapping indicate that the site is underlain by Pelite of the Loch Treig and Quartzite Formation[1].

Superficial Geology

A review of the BGS 1:50,000 superficial mapping viewer indicates that Glacial deposits comprised of diamicton, sand and gravel are present at the site. Peat deposits are present approximately 50m east of the site.

A review of the Carbon and Peatland map indicates that the site is underlain by Class 2 soil[2]. Class 2 soil represents nationally important carbon rich soils, deep peat and priority habitat considered to be areas of potentially high conservation value and restoration potential.

[1] British Geological Society, 2023. BGS Geology Viewer. Available at : https://geologyviewer.bgs.ac.uk/ Accessed 10/11/2023

[2] SNH, 2016. Carbon and Peatland Map. Available at: https://map.environment.gov.scot/Soil_maps/?layer=10 Accessed. 10/11/2023.

3 PEAT SURVEY

3.1 Methodology

The extent of the peat survey area is shown in Appendix A. In line with Scottish Government Guidance a 10m survey grid was applied to the site boundary and additional points were placed within a 10m wider buffer. Additionally, points were places at 50m intervals along and offset from the proposed access track.

The peat depth survey was undertaken on 31st October 2023. In total 46 locations were probed as shown in Drawing 678713-GIS008 in Appendix A. A high-accuracy handheld Trimble GPS device was used to navigate to the probe locations. At each location the following information was recorded:

- Peat depth;
- Ground conditions/ vegetation type; and
- Drainage conditions.

The probe depths were obtained by manual insertion of a metal probe to a refusal depth (maximum 5m. Observation on the ground conditions/ vegetation type and drainage (wet or dry) were noted.

3.2 Results

In total 46 locations were probed. The probed depths recorded on site are provided in tabular form in Appendix B. A peat interpolation was undertaken using 3D analyst tools in ArcGIS software with the outputs shown in Drawing 678713-GIS008 in Appendix A. The probed depth results are summarised in Table 1 below.

Table 1: Probed Depth Summary

Probed Depths (m)		Number of Locations	% of Locations
<0.5	Soils not classified as peat	26	56.5
0.5 – 1.0	Shallow Peat	10	21.7
1.01-2.0	Deep Peat	8	17.4
2.01-3.0		2	4.3
Total		**46**	**100**

Probed depths of less than 0.5m are considered to be organic or mineral soils and are not classified as peat. These are mainly identified within eastern, southern and western areas of the proposed site boundary. Several probed locations were recorded as being above 0.5m in depth and therefore within peat (43.5%). This covers the majority of length of the proposed access track and the northern area of the proposed site boundary. The majority of the site was noted to be dry and covered with heather with some wetter patches identified around the tributaries in the west, along the proposed access track.

4 CONCLUSIONS AND RECOMMENDATIONS

On the basis of the survey results is it considered the peat underlies the northern area of the site boundary and the majority of the length of the proposed access track.

NPF4 policy 5(d) presumes against development on peat, however makes a number of exceptions which include:

- i. Essential infrastructure and there is a specific locational need and no other suitable site;
- ii. The generation of energy from renewable sources that optimises the construction of the area to greenhouse gas emissions reductions targets;
- iii. Small-scale development directly lined to rural business, farm or croft;
- iv. Supporting a fragile community in a rural or island area; or
- v. Restoration of peatland habitats.

It is considered that the development proposal meets the criteria of expections (i) and (iv) noted above, and development may be supported with specific mitigation measures.

Due to the presence of peat at the site, and the likely requirements of excavation it is recommended that the site be micro-sited to the southeast to avoid direct impacts on peat if possible. Should it not be possible to consider an alternative access track route consideration should also be given to construction methods which seek to avoid or minimise disturbance of peat, for example by use of floating track. Should it not be possible to avoid excavation of peat soils a peat management plan should be developed for the Site, in order to quantify volumes of excavated peat, identify opportunities for reuse and reinstatement, and outline best practise and mitigation in relation to the extraction and handling of peat soils.

APPENDICES

A PEAT DEPTH INTERPOLATION

223450 223500 223550 223600 223650 223700 223750 223800

769550 769500 769450 769400 769350 769300

N

1.5 1 0.5 1.8 1.5 0.2 0.1 0.4 0.1 1 1 1.5 1.2 0.8 0.7 0.2 2.4 0.1 0.6 2.1 0.4 0.4 0.1 0.45 0.2 0.4 0.3 0.1 0.1 0.1 0.2 0.4 0.1 0.4 0.4 0.1 0.2 0.3 1.1 2 1.2 0.7 1 0.5 0.4 0.4 0.3

Contains OS data © Crown Copyright and database right 2022, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Site Boundary
- Proposed Access Track
- Probe Depths (m)

Interpolated Peat Depth

- 0.00 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- 2.00 - 3.00

Do not scale this map

Client
Clark Telecom

Project
Bogaire - Mamore Estate

Title
Peat Depth Interpolation

Status
FINAL

Drawing No.	Revision	Date
678713-GIS008	-	06 Nov 2023
Drawn	**Checked**	**Approved**
RG	JAS	RE

Scale
1:1,250 @A3
0 5 10 20 30 Metres

Rev	Date	Amendment	Initials
-	-	-	-

envirocentre
8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA.
T: 0141 341 5040 E: info@envirocentre.co.uk
W: www.envirocentre.co.uk

B TABULATED PEAT DEPTH DATA

ID	X	Y	Probed Depth (m)	Vegetation/ Comments	Drainage
C01	223748.4	769447.2	1.2	Heather	Dry
C02	223755.7	769440.5	0.7	Heather	Dry
C03	223763	769433.7	0.1	Heather	Dry
C04	223770.4	769426.9	0.4	Heather	Dry
C05	223777.7	769420.1	0.3	Heather	Dry
C06	223741.6	769439.9	0.8	Heather	Dry
C07	223748.9	769433.1	2.4	Heather	Dry
C08	223756.2	769426.3	0.4	Heather	Dry
C09	223763.6	769419.5	0.4	Heather	Dry
C10	223770.9	769412.7	0.2	Heather	Dry
C11	223734.8	769432.6	0.2	Heather	Dry
C12	223742.1	769425.8	2.1	Heather	Dry
C13	223749.5	769419	0.2	Heather	Dry
C14	223756.8	769412.2	0.1	Heather	Dry
C15	223764.1	769405.4	0.4	Heather	Dry
C16	223728	769425.2	0.6	Heather	Dry
C17	223735.3	769418.4	0.45	Heather	Dry
C18	223742.7	769411.6	0.1	Heather	Dry
C19	223750	769404.9	0.4	Heather	Dry
C20	223757.4	769398.1	0.2	Heather	Dry
C21	223721.2	769417.9	0.1	Heather	Dry
C22	223728.5	769411.1	0.1	Heather	Dry
C23	223735.9	769404.3	0.1	Heather	Dry
C24	223743.2	769397.5	0.1	Heather	Dry
C25	223750.6	769390.7	0.3	Heather	Dry
G01	223464.9	769382.1	0.4	Heather	Dry
G02	223471.1	769374.3	0.4	Heather	Dry
G03	223477.3	769366.4	0.3	Heather	Dry
G04	223504.4	769412.8	0.7	Heather	Dry
G05	223510.6	769405	1	Heather	Dry
G06	223516.7	769397.1	0.5	Heather	Dry
G07	223543.4	769444.1	1.1	Heather	Wet
G08	223549.6	769436.2	2	Heather	Wet
G09	223555.8	769428.3	1.2	Heather	Wet
G10	223572.3	769482.5	0.2	Heather	Dry
G11	223579	769475	0.1	Heather	Dry
G12	223585.8	769467.7	0.1	Heather	Dry
G13	223625.5	769491.4	0.5	Heather	Dry
G14	223631	769483	1.5	Stiff Ground	Wet
G15	223636.8	769474.9	0.4	Heather	Dry
G16	223664.7	769509	1.5	Heather	Dry
G17	223665	769499	1	Heather	Dry
G18	223665.2	769489	1.8	Heather	Dry
G19	223709.2	769473.1	1	Heather	Dry

G20	223702.4	769465.8	1	Heather	Dry
G21	223695.9	769458.2	1.5	Heather	Dry