Cloich Forest Wind Farm

Volume 3 – SEI Report Technical Appendices (Part 1 of 2)

November 2022

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CLOICH FOREST WIND FARM

SEI Report – Volume 3 – SEI Report Technical Appendices (Part 1 of 2)

A6.1 Post Application Consultation with Historic Environment Scotland
A9.1 Peat Slide Risk Assessment
A9.2 Outline Peat Management Plan

EDF renewables

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CLOICH FOREST WIND FARM

VOLUME 3: SEI REPORT TECHNICAL APPENDICES

TECHNICAL APPENDIX A6.1: POST APPLICATION HISTORIC ENVIRONMENT SCOTLAND CONSULTATION

NOVEMBER 20222

Prepared By:

Arcus Consultancy Services

7th Floor
144 West George Street
Glasgow
G2 2HG

T +44 (0)141 221 9997 l **E** info@arcusconsulting.co.uk
w www.arcusconsulting.co.uk

Registered in England & Wales No. 5644976

Ms Ruth Cameron
Historic Environment Scotland

11 November 2021

Your Ref: 300039684
Planning Ref: ECU00003288

Dear Ms Cameron

Proposed Cloich Forest Wind Farm: Applicant Response to HES Objection

Overview

Thank you for your recent consultation response regarding the proposed Cloich Forest Wind Farm ('the Development'). On behalf of EDF Renewables / Cloich Windfarm Partnership LLP ('the Applicant'), Arcus Consultancy Services Ltd (Arcus) seeks to respond to Historic Environment Scotland (HES) by outlining recent changes in relation to the Development turbine layout design.

In HES's consultation response, dated 16 September 2021, an objection was lodged due to setting impacts, caused by T8, on Whaup Law Cairn, designated as a scheduled monument (SM2755). HES noted in their response,

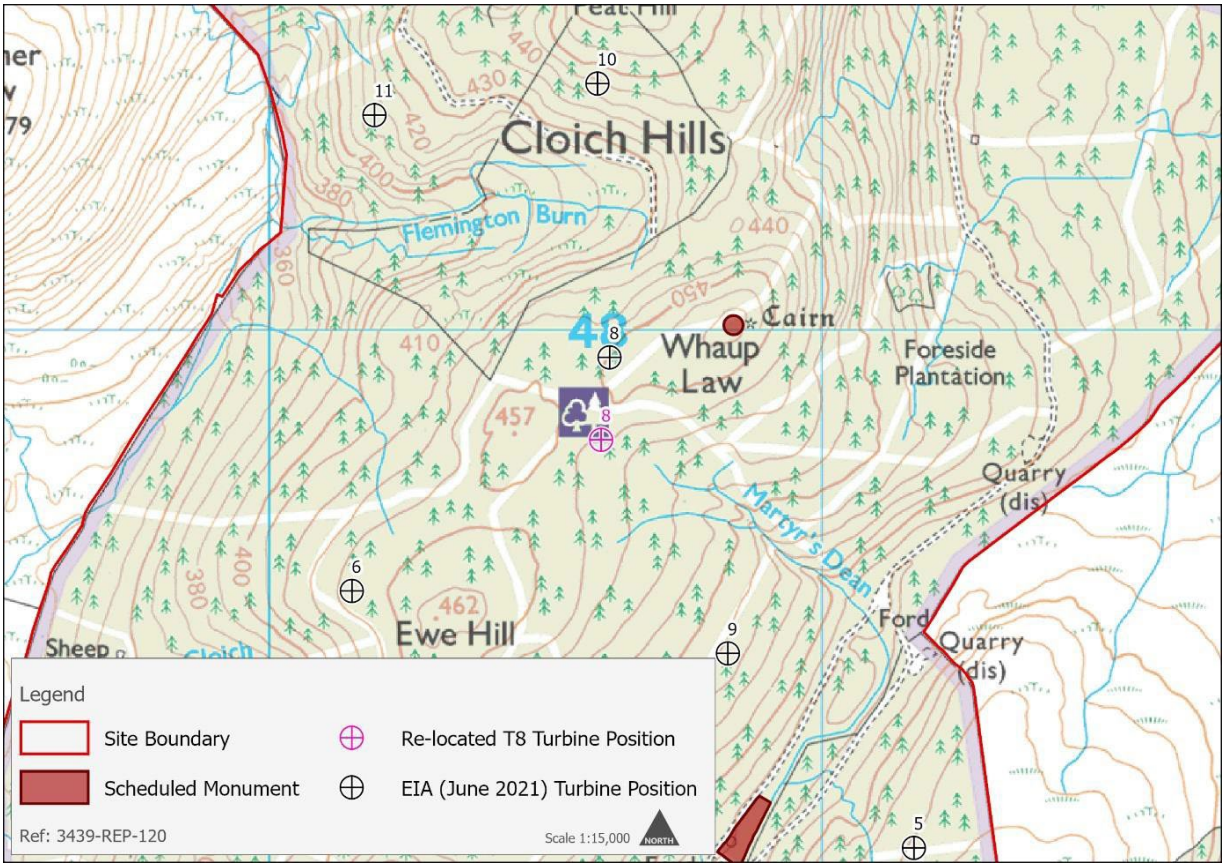
> "*…that a limited alteration to the scheme would be sufficient to allow us* [HES] *to withdraw our objection…"*

Applicant Response & T8 Relocation

The Applicant, advised by Arcus archaeology and cultural heritage experts, has investigated relocating T8 in light of the advice from HES. The relocation of T8 was made in consultation with various other environmental and engineering experts to ensure other site constraints were not unduly compromised.

The EIA application location for T8 was National Grid Reference (NGR) 320616, 647950 – located approximately 200 m west-southwest of SM2755. Following consideration of the HES response, and the setting impact of the original T8 location, the new proposed location for T8 is NGR 320601, 647801 – located approximately 300 m southwest of SM2755. Plate 1, overleaf, illustrates the original and new location of T8.

Plate 1: T8 Relocation



The alternative location for T8 represents a ~150 m southward move from its original location; the movement takes T8 down 10 m Above Ordnance Datum (AOD) from 450 m AOD to 440 m AOD, and off of the crest of the hill on which SM2755 lies. Further movement south is constrained by a deposit of deep peat (currently avoided), as well as other environmental/technical considerations including:

- Increased slope;
- Landscape and visual impacts;
- Turbine spacing; and
- Close proximity to 50 m watercourse buffers.

Appendix A contains four wirelines[1], as follows:

- **Figure A1**: SM2755 Whaup Law Cairn T8 Comparison (180 degree field of view);
- **Figure A2**: SM2755 Whaup Law Cairn T8 Relocation (180 degree field of view);
- **Figure A3**: SM2738 Whether Law Cairn T8 Comparison (120 degree field of view); and
- **Figure A4**: SM2738 Whether Law Cairn T8 Relocation (120 degree field of view).

Figures A1 & A3 provide a comparative Wireline showing the Development with both the original and relocated T8, with the wider Development layout. Figures A2 & A4 provide a wireline showing the revised layout for the Development.

In the original location, it is acknowledged that, whilst not within the direct sightline from Whaup Law Cairn to Whether Law Cairn, T8 is within close proximity to SM2755. **Technical Appendix A6.3: Setting Assessment** of **Chapter 6: Archaeology & Cultural Heritage** of the EIA

[1] The wirelines provided are illustrative only and not produced in accordance with current NatureScot visualisation guidance.

Report submitted in support of the Section 36 Application ('the Application') for the Development, concluded that,

> *"Whilst there would still be commercial forestry on the slopes of Whaup Law surrounding the monument, the height of the turbines would change the appreciation and experience of the monument with the benefit of a more open setting around the cairn but within the context of a modern wind farm. On balance, the magnitude of change to the cultural significance is considered moderate."*

Consequently, a significant effect in terms of the EIA Regulations[2] was concluded for SM2755.

Through the relocation of T8 the proposed turbine position is now a further 100 m away (300 m in total) from the scheduled monument and located further south. Figures A1 to A4 show that the relocated T8 would be further away from the cairn and less prominent, as it no longer shares the hill summit with the monument. This is a marked improvement to the layout, enabling Whaup Law Cairn to be the dominant feature upon the hill top with the turbines a slightly more distant and separate component visible above the forestry treeline. The relocation to the south-west has also increased the gap between T8/T6 to the south and T11 to the north so that there is a wider field of view / viewshed available between Whaup Law and Wether Law Cairns as shown in Figures A1 & A2.

Conclusion

It is hoped that the above relocation of T8 and the information provided, combined with the information previously provided in the Application, addresses the concerns that HES identified. I would be grateful if you could consider the information that we have provided and let us know if the alternative location would enable HES to remove its objection. If so, it will be necessary for the Applicant to formally propose this new location and present updated information in the form of Supplementary Environmental Information (SEI) which would include additional ground investigation data for the realignment of tracks and relocation of the turbine. We would be grateful for your feedback prior to this work being commissioned.

Should HES require any further information, please contact me on the details below to discuss; Arcus would be happy to arrange a meeting or call if that would be helpful.

Yours sincerely,

Heather Kwiatkowski (MCIfA)

Principal Consultant (Archaeology & Cultural Heritage)

[2] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. [Online] Available at: http://www.legislation.gov.uk/ssi/2017/101/contents/made (Accessed 08/11/2021)

Appendix A

Figure A1: SM2755 Whaup Law Cairn T8 Comparison (180 degree field of view)

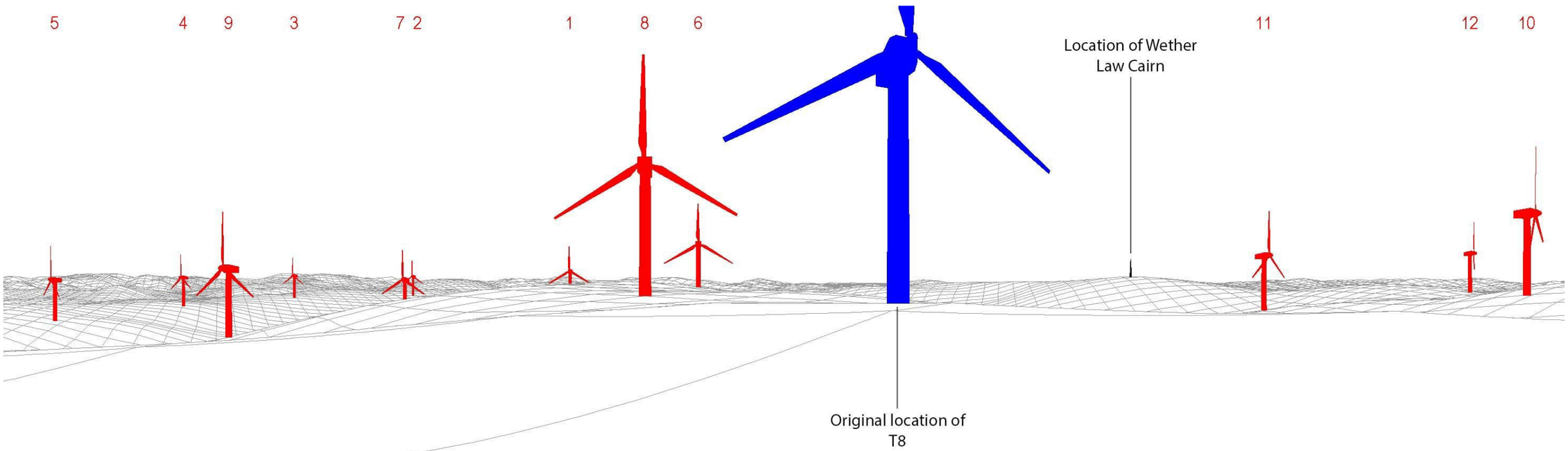


Figure A1: SM2755 Whaup Law Cairn T8 Comparison (180 degree field of view)

Figure A2: SM2755 Whaup Law Cairn T8 Relocation (180 degree field of view)

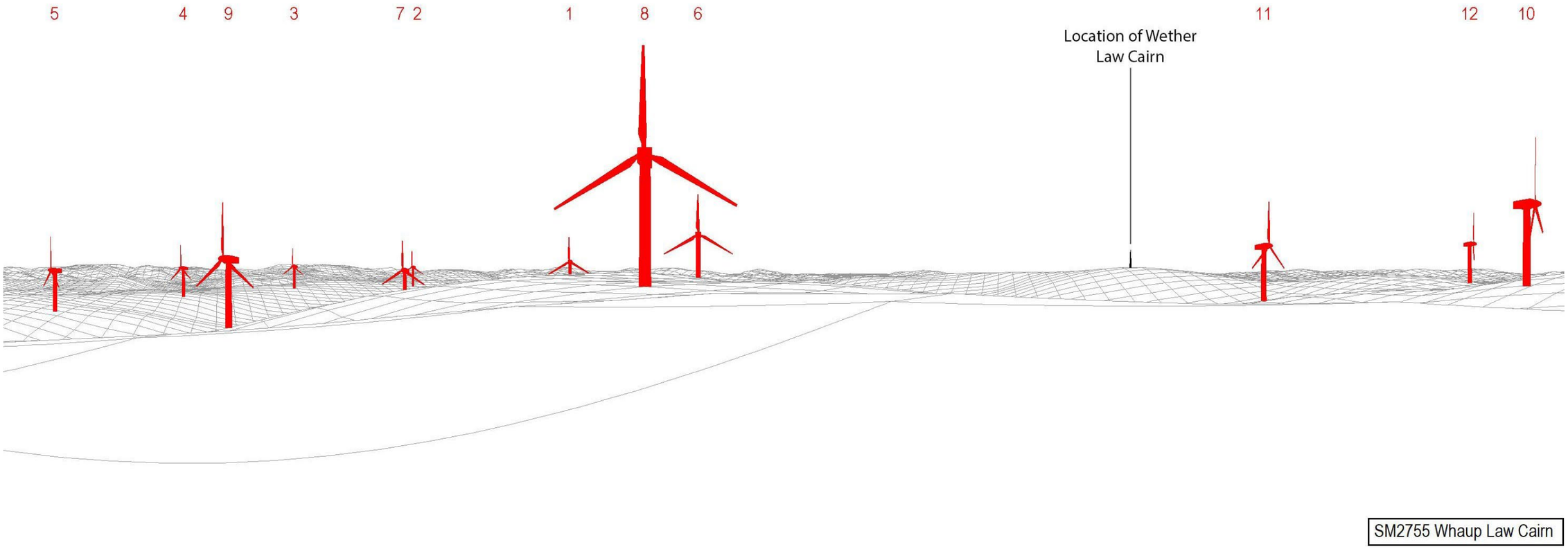


Figure A2: SM2755 Whaup Law Cairn T8 Relocation (180 degree field of view)

Figure A3: SM2738 Whether Law Cairn T8 Comparison (120 degree field of view)

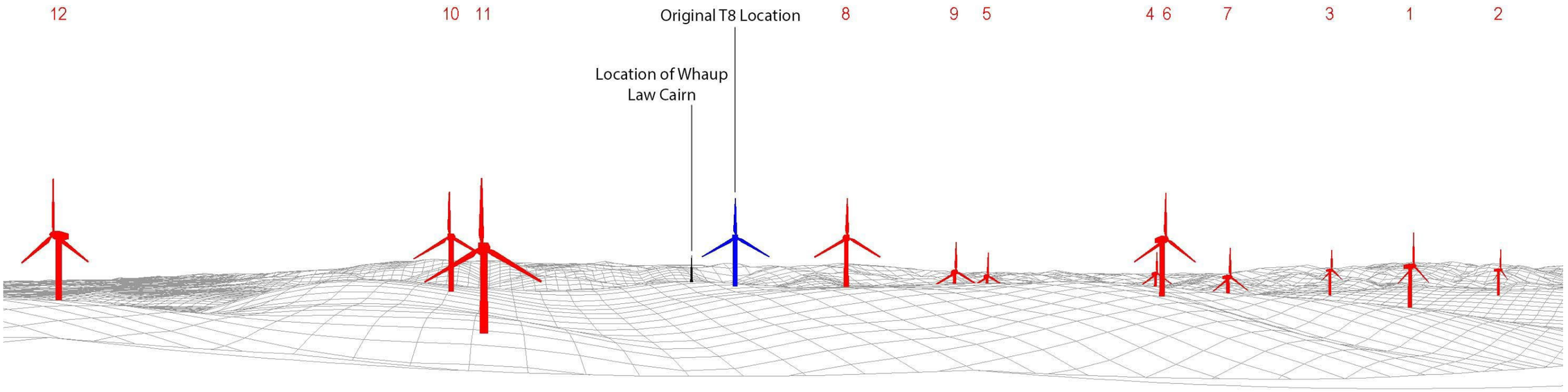


Figure A3: SM2738 Whether Law Cairn Comparison (120 degree field of view)

Figure A4: SM2738 Whether Law Cairn T8 Relocation (120 degree field of view)

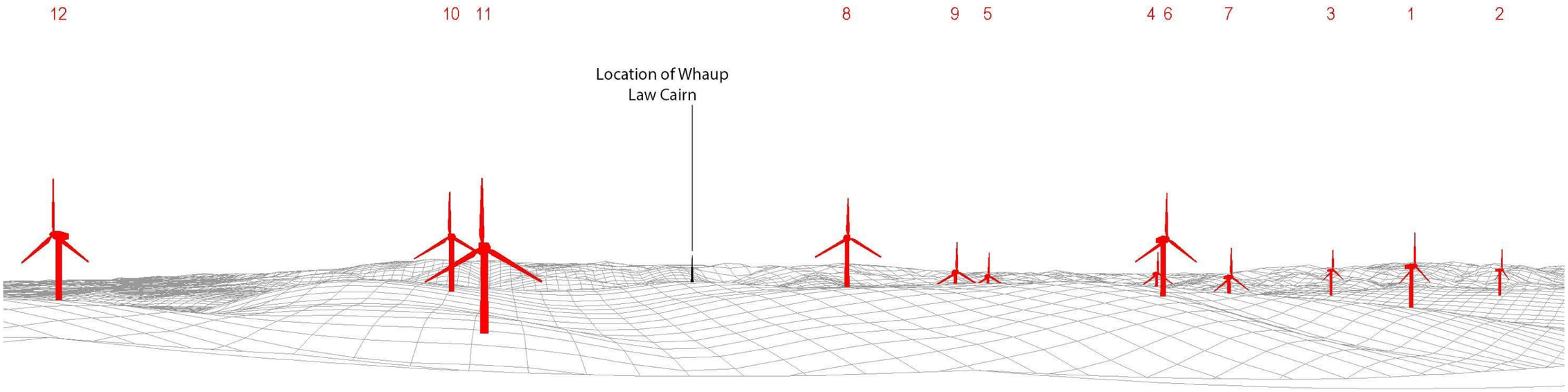


Figure A4: SM2738 Whether Law Cairn Relocation (120 degree field of view)

From:	Ruth Cameron
To:	Fraser Clarke
Cc:	Richard Fisher; Heather Kwiatkowski; Fiona MacGregor; Debbie Flaherty; Deirdre Cameron
Subject:	RE: Cloich Forest Wind Farm: T8 Relocation Consultation
Date:	03 December 2021 10:40:33
Attachments:	image005.png image006.png image007.png image008.jpg image001.png image002.png image003.png image004.png image009.png

---

Fraser,

We have done an initial review of the changes to the scheme. While we can't get offer you a detailed commentary at the moment, I thought it best to give you our expected position, so that you can continue to progress the proposals.

The relocation of turbine 8 as demonstrated in your consultation should allow us to remove our objection to the scheme, based on the information we have available. The new location proposed for Turbine 8 is similar to that of Turbine 9 of the previous (consented) scheme; a little higher in elevation and taller, but slightly further way from the monument. The potential setting impacts on the cairn from the current proposal are therefore likely to be very similar to that from the earlier consented scheme. We do not consider this impact to raise issues in the national interest and therefore would not object to the revised proposals.

Please note that this is not a formal statement of our position. We will give this in full if and when we are consulted by ECU on this variation. However, we expect this to be our position based on the current information.

We hope that this is helpful to you as you continue to work on the proposals. And we hope to be able to formalise this position at a later date.

Kind regards,
Ruth

Ruth Cameron | Senior Environmental Assessment and Advice Officer | Planning, Consents and Advice Service
Pronouns: she/her
We inform and enable good decision-making so that the historic environment of Scotland is valued and protected.

Historic Environment Scotland | Àrainneachd Eachdraidheil Alba
Longmore House, Salisbury Place, Edinburgh, EH9 1SH

www.historicenvironment.scot

Sent: 01 December 2021 09:54
To: Ruth Cameron
Cc: Richard Fisher; Heather Kwiatkowski; Fiona MacGregor ; Debbie Flaherty
Subject: RE: Cloich Forest Wind Farm: T8 Relocation Consultation

Hi Ruth,

Thanks for your email. I'm sorry to hear that you are unwell with covid – I hope it continues to be mild and that you recover soon. I've been lucky enough to avoid it so far – touch wood!

I would be grateful if you could advise us if your situation changes and it looks like you will be on leave for longer.

Thank you very much for updating us whilst you are unwell, it is very much appreciated.

Kind regards,
Fraser

From: Ruth Cameron
Sent: 01 December 2021 09:37
To: Fraser Clarke
Subject: RE: Cloich Forest Wind Farm: T8 Relocation Consultation

Fraser,

I just wanted to drop you a line as I know you're still awaiting a response on this. I'm afraid I'm actually currently sick with covid (not seriously ill, but i still wouldn't recommend it if you haven't tried it yet).

We don't have any available cover in the team so this will have to wait until I'm back at my desk. Which of course I'm hoping won't be too long but it is a bit uncertain at the moment.

I hope this isn't causing too much of a delay at your end. I hope to be able to answer fairly promptly once I'm back at work.

All the best,
Ruth

From: Fraser Clarke
Sent: 17 November 2021 14:48
To: Ruth Cameron
Cc: HM - Consultations; Debbie Flaherty; Richard Fisher ; Fiona MacGregor; Heather Kwiatkowski

Subject: RE: Cloich Forest Wind Farm: T8 Relocation Consultation

Dear Ruth,

I hope you are well. Apologies for my follow up email. The project team wanted to check with you that you received the below consultation regarding HES' objection to the proposed Cloich Forest Wind Farm.

The project team would be very grateful if you could confirm receipt of the below and, if possible, please advise on when HES might be able to respond.

Kind regards,
Fraser

From: Fraser Clarke
Sent: 11 November 2021 13:35
To:
Cc: Richard Fisher; Fiona MacGregor; Heather Kwiatkowski
Subject: Cloich Forest Wind Farm: T8 Relocation Consultation

Dear Ruth,

I hope you are well.

Following email correspondence between HES and my colleague Heather Kwiatkowski (dated 6th - 7th October), please find attached consultation in respect of the proposed Cloich Forest Wind Farm (the Development) and a proposed relocation of T8. As detailed within the attached letter, it is hoped this relocation of T8 is sufficient for HES to remove their objection to the Development.

Should you have any questions regarding the attached, please do get in touch.

We look forward to HES's response.

Kind regards,
Fraser

Fraser Clarke
Environmental Consultant
Arcus Consultancy Services Ltd

Web: www.arcusconsulting.co.uk

CLOICH FOREST WIND FARM
SUPPLEMENTARY ENVIRONMENTAL INFORMATION

VOLUME 3: SEI REPORT TECHNICAL APPENDICES

TECHNICAL APPENDIX A9.1:
PEAT SLIDE RISK ASSESSMENT

NOVEMBER 2022

Prepared By:

Arcus Consultancy Services

7th Floor
144 West George Street
Glasgow
G2 2HG

T +44 (0)141 847 0340 l **E** info@arcusconsulting.co.uk
w www.arcusconsulting.co.uk

Registered in England & Wales No. 5644976

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1 INTRODUCTION

1.1 Background

Arcus Consultancy Services Ltd (Arcus) was commissioned by Cloich Windfarm Partnership LLP, wholly owned by EDF Energy Renewables Limited, ('the Applicant') to carry out a Peat Slide Risk Assessment (PSRA) for the amendments to the proposed Cloich Forest Wind Farm (the SEI Layout) located within the Cloich Forest in the Scottish Borders, centred at approximately (NGR) 320648, 647881, approximately 5.5 kilometres (km) north-west of Peebles ('the Site'). This Supplementary Environmental Information (SEI) Report provides further, and updated, environmental information in light of revisions to the Development. The Applicant has revised the Development by:

- Relocating Turbine 8 (T8) and its associated infrastructure to ensure that it is sufficiently removed from Whaup Law Cairn;
- Provision for an additional control building at the substation compound. It is expected that the grid operator (SPT) will request a separate control building to the wind farm's control building.
- The addition of a new SPT Temporary Construction Compound (TCC) in the north of the Site.

Additional felling is required due to these changes. The SEI Layout is illustrated in Figure 9.1.1 within Appendix A of this PRHA and will consist of the following key infrastructure with changes incorporated within the SEI Layout shown in bold:

- Up to 12 wind turbines three-bladed turbines, **including the relocation of T8 150 m to the south,** with a maximum tip height of up to 149.9 m;
- Widening works along public roads 'D17 Whim – Shiplaw' & 'D18 Cloich';
- Access tracks linking the turbine locations;
- Network of underground cabling running adjacent to the access tracks where possible;
- Substation compound incorporating **two** single storey control **buildings**, external electrical infrastructure, BESS components, recycling and storage, and vehicle parking etc.;
- Crane hardstandings and an external transformer for each turbine;
- Temporary Construction Compound (TCC);
- Two Borrow Pits;
- **Scottish Power Transmission (SPT)TCC**;
- An approximate 20 MW battery energy storage system (BESS); and
- Forestry felling, **including an additional area required due to the relocation of T8** and additional TCC.

The PSRA supports **Chapter 9: Geology, Ground Conditions and Peat** of the SEI Report.

The PSRA is accompanied by the following appendices:

- Appendix A: Figures;
- Appendix B: Site Photographs; and
- Appendix C: Hazard Rank Calculations.

1.2 Scope and Purpose

The scope of this PSRA is to consider the SEI layout (T8 relocation and addition of a TCC) and address points raised by Ironside Farrar in the EIA application. This will be done in line with the following:

- Review available desk-based information on the Site;

- Undertake a site walkover survey and peat probe surveys to characterise the prevailing ground conditions and identify existing or potential peat instability;
- Report on the findings of the survey, assess the potential instability risk and estimate the hazard from any potential peat slide; and
- Recommend mitigation measures and specific construction methodologies that should be considered during the construction period, if required.

This PSRA provides factual information on the peat survey results relating to the Development. Desk-based information and site surveys have been utilised to assess the potential risk of any peat landslide. The methodology adopted and details on the assessment are outlined in Sections 3, 4 and 5. The assessment has been undertaken in accordance with Scottish Government Guidance[1] in assessing the likelihood and consequence of such an event.

The PSRA has been prepared by suitably qualified engineers, ecologists, and hydrologists at Arcus as shown in table 1.1 below.

Table 1.1: Author qualifications

Team Member	**Job Title**	**Qualifications**	**No. Years' Experience**
Gregor Hirst	Senior Engineer	BSc (Hons)	6 Years
David Ballentyne	Principal Engineer	BSc (Hons)	18 Years
Tomos Ap Tomos	Technical Director	BEng (Hons) MCIHT	25 Years

This assessment was undertaken by Gregor Hirst (BSc Hons), a Geo-Environmental Engineer of 6 years, and was supported by David Ballentyne a Geo-Environmental Civil Engineer with over 18 years of experience in ground condition assessment. This Chapter has been technically reviewed by Tomos Ap Tomos, Technical Director of Engineering.

[1] Scottish Government (2017) Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Accessed 10/10/22) Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2017/04/peat-landslide-hazard-risk-assessments-best-practice-guide-proposed-electricity/documents/00517176-pdf/00517176-pdf/govscot%3Adocument/00517176.pdf

2 SITE INFORMATION AND DESK STUDY

2.1 Site Description and Topography

The Site Location is shown on Figure 1.1 of the EIA Report. The Site is situated within the Cloich Forest, covering an area of approximately 1,080 hectares (ha), centred on National Grid Reference (NGR) 320648, 647881 (Figure 1.2 of the EIA Report). The Site and the Development is wholly located within the administrative boundary of Scottish Borders Council ('the Council').

The topography of the Site, and immediate vicinity, is complex, with elevation ranging from approximately 280 metres (m) Above Ordnance Datum (AOD) in the north-east part of the Site to approximately 476 m AOD at the peak of Crailzie Hill in the south. The Site encompasses the rolling Cloich Hills, including Peat Hill (466 m AOD), Ewe Hill (462 m AOD), White Rig (325 m AOD), and Crailzie Hill (476 m AOD). The hills are dissected by a number of watercourses, including Middle Burn, Flemington Burn, Martyr's Dean, Corehope Burn and Harehope Burn. All watercourses eventually feed into the River Tweed. There are no waterbodies within the Site.

Coniferous plantation, at various stages of the planting, growing and felling cycle, is the primary land use within the Site; however, the area around Courhope in the south of the Site consists of improved upland pasture, utilised for sheep grazing, and improved grassland which remains clear of forestry.

In addition to the operational commercial forest of Cloich Forest, the Site and immediate vicinity consists of further areas of forestry and rural farmland, primarily used for grazing and other farmland activities.

The Site contains two public roads which form the Site access from the A703; these public roads are as follows:

- D17 Whim – Shiplaw; and
- D18 Cloich.

There are no residential properties within the Site; however, Cloich Farm is located adjacent to the Site, at approximate NGR 321655, 649105, approximately 1.2 km north-west from the closest turbine (T10).

2.2 Site Walkover

The purpose of the desk study and site visit was to gain a thorough understanding of site conditions including topography, geology, existing peat instability and hydrology. The outcome of this stage of the study was to determine which areas required detailed intrusive survey (by peat probing) and ultimately provide data for the assessment of PSRA.

Several site visits were undertaken as part of the overall EIA process between March 2020 and March 2021 (these were supplemented with peat probing as detailed in Section 4). The Site was examined for evidence of peatlands, presence of landslip and localised hagging. Geological mapping and areas of interest were pre-loaded to a handheld device for reference during the site walkover. Following a review of these in parallel with the initial site walkover, the desk study aimed to identify and or verify the following:

- The general condition of peat deposits;
- Evidence of any previous peat instability;
- The presence of low lying wet/peat lands; and
- Watercourses and potential other receptors.

2.2.1 Site Conditions

The current site conditions were informed in part by a review of aerial imagery sourced from Google Earth and Ordnance Survey (OS) online mapping. It can be seen that forestry plantations are present across a majority of the site at varying stages of development. Some southern and northern areas of the site have been subject to felling and currently comprise open hummocky ground. The images also show an established network of forestry tracks, which allow for relatively easy access throughout the Site, with exception to the north eastern area of the Site which does not facilitate vehicular access and consists of dense forestry which restricts access by foot. The aerial imagery was also used to identify areas at the Site where artificial drainage had occurred, the presence of existing access tracks, quarrying and forestry plantations, which all indicate the potential presence of artificial drainage which could have a dewatering effect on any surrounding peat. However, there is very little peat cover beneath the development footprint with only isolated pockets of deep peat noted in the surrounding areas, particularly the central and north-eastern site areas.

Topographically the Site is generally of high gradient, with extreme gradients falling in all directions from various hills in the south, east, west and central Site area.

Quarries are present in the eastern and western areas of the Site where rock has been extracted in specific areas. The presence of these quarries is known and they are not considered to pose any adverse impact to the Development.

Site photographs taken during the site walkover are included in Appendix B.

2.3 Published Geology

2.3.1 Superficial Soils

Published geological mapping of superficial soils indicates a majority of the Site to be underlain by deposits of Diamicton Till of Devensian Age. No superficial deposits are recorded across the remainder of the Site other than small localised pockets of Peat and Alluvium in the central eastern areas and at the northern extent of the Site.

Figure 9.1.2 illustrating the Superficial Soils is included in Appendix A.

2.3.2 Bedrock Geology

Published bedrock geology mapping indicates the majority of the Site to be underlain by sandstone and siltstone of the Kirkcolm Formation, with wacke and siltstone of the Portpatrick Formation present in the south-western Site area. A thin lens of the Moffat Shale Group comprising mudstone is also present in the south-western Site area.

Figure 9.1.3 illustrating the Solid Geology is included in Appendix A.

2.3.3 Carbon and Peatland Mapping 2016

The Carbon and Peatland 2016[2] Mapping indicates that at the macro level the Site is underlain by pockets of Class 4 soils in north, central and southern areas; these soils are unlikely to be associated with peatland habitats or to include carbon-rich soils. Numerous small pockets of Class 5 soils are also present at the Site, primarily in northern and central areas; these soils are not recorded as peatland habitat but there is potential for carbon-rich soils and deep peat. The remainder of the Site is recorded as Class 0 (Mineral Soils) where peatland habitats are not typically found, other than a small area of Class 3 soil which is recorded at the southern boundary of the Site; these are soils where occasional

[2] https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/soils/carbon-and-peatland-2016-map (Accessed 10/10/2022)

peatland habitats can be found and most soils are carbon-rich with some areas of deep peat.

2.4 Geomorphology

No evidence of historic peat hagging was noted during the Site walkover and topsoil, where undisturbed generally appeared to be in good condition. Extensive forestry plantation and quarrying activities have historically been undertaken at the Site; it is considered that properties of the peat deposits may have been altered due to these historical activities. Nonetheless, the possibility of instability within peat soils cannot be discounted, especially where there are significant topographic variances and the presence of watercourses, although there are only very localised areas of peat depth great enough to be considered at risk of instability.

2.5 Hydrology and Hydrogeology

The Site varies significantly in elevation and encompasses a network of watercourses which flow southwest and northeast from the central topographic high ridge.

The Site lies within the catchments of the Eddleston Water, which is classified by SEPA as having an overall status of "Poor", and Flemington Burn and Harehope Burn, which are both classified by SEPA as having an overall status of "Good"[3].

The Cowieslinn Burn, a tributary of Eddleston Water, rises at the northwest boundary of the Site and flows northeast to join Eddleston Water approximately 1.3 km east of the Site. The Middle Burn rises in the centre of the Site, to the west of Peat Hill at approximately 430 m AOD and flows north to join the Cowieslinn Burn and Eddleston Water. The Eddleston Water discharges to the River Tweed in Peebles, approximately 6 km southeast of the Site.

The Early Burn rise to the east of the Site, flows northeast to form the Shiplaw Burn and eventually flows into the Eddleston Water and the River Tweed. There are a number of small tributaries associated with the Early Burn within the Site boundary.

The Courhope Burn rises in the centre of the Site to the northeast of Ewe Hill at approximately 450 m AOD and flows southwest to form the Flemington Burn at the western boundary of the Site. The Flemington Burn flows west and discharges to the Lyne Water and eventually the River Tweed approximately 5 km to the south of the Site.

There are a number of smaller tributaries of the Courhope Burn and Flemington Burn within the Site boundary, including Corbie Linn which is a tributary of Flemington Burn.

The Harehope Burn rises in the south of the Site, 100 m north of the southern boundary, and flows east to join the Eddleston Water and then joins the River Tweed at the confluence in Peebles.

A tributary of the Stewarton Burn is located to the southeast of the Site and drains to the east into Stewarton Burn and Wormiston Burn before discharging to the Eddleston Water approximately 2.5 km east of the Site.

The groundwater unit underlying the Development is the Peebles, Galashiels and Hawick groundwater unit which is classified by SEPA as having an overall status of "Good".

Figure 9.1.4 illustrating the Geomorphology of the Site is included in Appendix A

2.6 Sources of Information

The following sources of information were used as part of the desk study investigations:

[3] https://www.sepa.org.uk/data-visualisation/water-environment-hub/ (Accessed 21/06/21)

- British Geological Survey - Online GeoIndex[4];
- Ordnance Survey (OS) topographical information;
- Aerial and Satellite photography via Ordnance Survey and Google Earth.
- Soil Survey of Scotland - 'MacAulay Institute for Soil Research' 1984;
- Soil Survey of Scotland - 'Scottish Peat Surveys' 1964;
- Scottish Government (SG) - 'Peat Landslide Hazard and Risk Assessments' December 2017;
- Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey, Guidance on Developments on Peatland[5];
- The Scottish Government - Scotland's Third National Planning Framework, 2014[6];
- The Scottish Government - Scottish Planning Policy, 2014[7];
- Assessments by other EIA specialists (specifically hydrology and ecology for data on sensitive receptors); and
- Scotland's Environment Interactive Map[8]

[4] https://mapapps2.bgs.ac.uk/geoindex/home.html (Accessed 10/10/22)

[5] https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatland-survey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf (Accessed 21/06/21)

[6] https://www.gov.scot/publications/national-planning-framework-3/ (Accessed 2110/10/22)

[7] https://www.gov.scot/publications/scottish-planning-policy/ (Accessed 2110/10/22)

[8] https://map.environment.gov.scot/sewebmap/ (Accessed 2110/10/22)

3 GUIDANCE AND METHODOLOGY

3.1 Overview of Guidance and Peat Failure Mechanisms

3.1.1 Peat Depth and Slope

The Scottish Government guidance (as referenced above) divides peat instability into two categories: 'peat slides' and 'bog bursts'. The guidance states that peat slides have a greater risk of occurrence in areas where:

- Peat is encountered at or near to ground surface level;
- The thicknesses are recorded in the region of 2.0 m (above which, in general terms, peat instability would increase with peat thickness); and
- The slope gradients are steep (between 5° and 15°).

Bog bursts are considered to have a greater risk of occurrence in areas where:

- Peat depth is greater than 1.5 m; and
- Slope gradients are shallow (between 2° and 10°).

It should be noted however that peat instability events, although uncommon, can occur out with these limits. Reports of bog bursts are generally restricted to the Republic and Northern Ireland.

Further to the general guidance above, in relation to peat depth, it is considered that the extent and depth of peat is controlled to a degree by rainfall and elevation, giving rise to three common types of peat (Boylan et al. 2008[9]):

- Upland Blanket Bog: Blanket bogs are typically about 3 m thick however, they can be up to 5 m thick. Generally thinning at greater elevations;
- Raised Bog: Raised bogs generally tend to be 3-12 m thick, averaging 7 m with their growth occurring above the water table; and
- Lowland Blanket Bog: Much the same as the upland version; however, they form around sea level in areas of very high rainfall.

Generally, the potential for peat instability increases with peat depth, however other instability indicators need considered, namely slope and substrate.

3.1.2 Substrate

Peat slide failures tend to occur at the interface of the peat and underlying substrate therefore, understanding the nature of the underlying substrate can provide a key factor when considering the risk stability.

Using the peat probe refusal, an estimation of the underlying materials can be determined based on:

- Gradual refusal – Clay;
- Crunching/Gritty – Weathered Rock/Sand and Gravel; or
- Abrupt Refusal/Hard – Rock.

Where sand and/or gravel is recorded, the interface is considered to be the best-case scenario with the highest friction value.

Where clay is recorded, the upper horizons of the clay are typically softened through poor drainage in this soil group with low shear strengths expected. While rock substrate provides a high strength, the surface being smooth can lead to a weak interface, with similar risk to that of a clay substrate.

[9] Boylan et al (2008) Peat Slope Failure in Ireland (Accessed 10/10/22)

The presence of slip material, or evidence of peat instability would represent the worst-case scenario for the assessment of substrate.

The substrate parameters are included in the Hazard and Exposure Assessment in Section 5 of this PSRA.

3.1.3 Other Considerations

Preparatory factors which effect the stability of peat slopes in the short to medium-term include:

- Loss of surface vegetation (deforestation);
- Changes in sub-surface hydrology;
- Increase in the mass of peat through accumulation, increase in water content and growth of tree planting; or
- Reduction in shear strength of peat or substrate due to chemical or physical weathering, progressive creep and tension cracking.

Triggering factors which can have immediate effect on peat stability and act on susceptible slopes include:

- Intensive rainfall or snow melt causing pressures along existing or potential peat/substrate interfaces;
- Snow melt;
- Alterations to drainage patterns, both surface and sub-surface;
- Peat extraction at the toe of the slope reducing the support of the upslope material;
- Peat loading (commonly due to stockpiling) causing an increase in shear stress; and
- Earthquakes or rapid ground accelerations such as due to blasting or mechanical movement.

Consideration of peat stability should form an integral part of the design of a wind farm development. While peat does not wholly provide a development constraint, areas of deep peat or peat deposits on steep slope should be either avoided through design and micro-siting; or mitigation measures should be designed to avoid instability and movement.

3.2 Methodology

Despite being an application under the Town and Country Planning (Scotland) Act 1997[10], the PSRA has been carried out in accordance with the Energy Consents Unit (ECU), Scottish Government guidance of 2017 titled Peat Landslide Hazard and Risk Assessments - Best Practice Guide for Proposed Electricity Generation Developments[11].

In June 2014, Scottish Planning Policy[12] (SPP) and National Planning Framework (NPF3)[13] were published. In relation to peat and the assessment of effects on resource, NPF3 references SNH Scotland's National Peatland Plan[14]. These policy, framework and guidance documents are considered in this PSRA. The PSRA undertaken is based on:

- Desk based assessment;
- Site Walkover;
- An initial Phase 1 peat probing scheme;

[10] Scottish Government (1997) Town and Country Planning (Scotland) Act 1997 [Online] Available at: http://www.legislation.gov.uk/ukpga/1997/8/contents (Accessed 21/06/21)

[11] Scottish Government (2017) Peat Landslide Hazard and Risk Assessment: Best Practice Guide for Proposed Electricity Generation Development [Online] Available at: https://www.gov.scot/Publications/2017/04/8868 (Accessed 21/06/21)

[12] Scottish Government (2014) Scottish Planning Policy [Online] Available at: http://www.scotland.gov.uk/Topics/Built-Environment/planning/Policy (Accessed 21/06/21)

[13] Scottish Government (2014) National Planning Framework 3 [Online] Available at: http://scotland.gov.uk/Resource/0045/00453683.pdf (Accessed 21/06/21)

[14] SNH (2015) Scotland's National Peatland Plan [Online] Available at: https://www.nature.scot/climate-change/taking-action/carbon-management/restoring-scotlands-peatlands/scotlands-national-peatland-plan (Accessed 21/06/21)

- Phase 2 probing comprising infrastructure specific probing; and
- A hazard and risk ranking assessment.

The area of the Site subject to assessment was determined by the emerging development layout which considered both anticipated peat deposits as well as other physical and environmental constraints.

3.2.1 Development of Hazard Rank

The early stages of the PSRA including the desk study, site visit and peat probing were carried out in parallel with the assessment of wider constraints to inform the layout of the Development. These assessments were once again carried out during the SEI following the relocation of T8 and addition of the new TCC. Following identification of peat depths within the Site, the assessment has determined the potential effects on the peat resource from construction activities which would include:

- Construction of tracks;
- Excavation of turbine bases;
- Foundation construction;
- Construction of hardstanding; and
- Temporary storage of peat and soils.

An assessment of the peat probing data and a review against desk study information was undertaken and a hazard rank was calculated for different zones across the site reflecting risk of peat instability/constraint to construction.

The EIA Report Layout achieved a 'negligible or low' hazard ranking, with half of the hazard zones ranked as 'low.' Where practical, the SEI Layout would be progressed to avoid areas of a risk score above 'low'. Where this has would not be achievable, areas affected would be discussed in the SEI as having significant effect, with relative mitigation measures proposed to reduce this, and recorded on a risk register which sets out specific mitigation measures which are considered necessary to reduce the risk of inducing instability.

Details of the hazard and risk ranking assessment is included in Sections 5 and 6 of this PSRA.

4 SITE SURVEYS AND RESULTS

4.1 Investigations

The existing peat depths across the Site have been determined through peat probe surveys undertaken during both the EIA and SEI as recommended in the NatureScot (formerly Scottish Natural Heritage (SNH)), Scottish Government and James Hutton Institute guidance for investigating peat. The initial surveys were initiated to inform the EIA and site design work while supporting the peat slide risk assessment and comprised of the following:

- Phase 1 Probing – 100 m grid across the developable area; and
- Phase 2 (a and b) Probing – Infrastructure focussed probing comprising 50 m centres along tracks with perpendicular probes between 10 m and 25 m either side of track, and 10 m cross-hair of turbine locations.

Initial peat depth surveys were undertaken in March 2020 comprising a 100 m grid in the developable area and where dense forestry plantation would allow access. The rationale of probing is in accordance with the phase 1 approach as detailed in the Scottish Government guidance for investigating peat.

Phase 2 peat depth surveys were undertaken across a series of visits in November 2020 through to April 2021. The probe positions for these visits were determined by the design freeze for the EIA Report Layout and provided increased resolution along the access track alignments and in the vicinity of turbine hardstandings. Peat depths were measured at cross sections centred along the proposed access tracks at 50 m centres with offsets of 25 m on either side of the centre line. Across turbine locations, where possible, probing was carried out at 10 m centres for assessment allowing for micro siting of turbines and hardstandings relative to prevailing conditions.

The peat probe surveys carried out as part of the SEI specifically targeted the revised and newly proposed infrastructure. At the revised T8 location, probes were sunk at 10 m centres across the turbine location, while the crane hardstanding and access track were probed according to the Site layout. At the additional TCC, the proposed infrastructure area was probed in a 25 m x 25 m grid formation.

It should be acknowledged that natural variations in peat depth/thickness could occur between probe positions, although areas of infrastructure had undergone intensely spaced probing and this would be less likely.

4.2 Summary of Peat Depths

Throughout the peat surveys to date, a total of 1,129 probes were progressed, 1,082 during the initial EIA surveys and 47 probes during the SEI. 92.4% of these probes recorded no peat or peat up to 0.5 m in depth. Thick peat (where the depth was greater than >1.0 m) was recorded at less than 3% of locations.

The maximum peat depth recorded was 4.6 m in the eastern sector of the Site, this was the only peat of this extent found in the entire Site.

Generally, peat over the Site was recorded as being less than 0.5 m with the average peat depth across the Site being 0.26 m.

Table 4.1 summarises the recorded peat depths.

Table 4.1: Peat Depth Summary

Peat Depth Range (m)	No. of peat probes	Percentage of Total (%)
0.00 - 0.50 m	1,043	92.4
0.51m - 1.00 m	55	4.9
1.01m - 1.50 m	12	1.1
1.51m - 2.00 m	8	<1.0
2.01m - 2.50 m	3	<1.0
2.51m - 3.00 m	0	0
3.01m - 3.50 m	4	<1.0
3.51m - 4.00 m	0	0
4.01m - 4.50 m	3	<1.0
4.51m - 5.00m	1	<1.0

The peat probe locations and depths are shown on Figure 9.1.5 appended with this PSRA, and details of probe records are included in Appendix C. The Interpolated Peat Depths are illustrated on Figure 9.1.6 (determined using the Inverse Distance Weighting (IDW) method of interpolation) and the peat depths encountered at turbine locations and summarised in Table 4.2 below.

Table 4.2: Peat Depths at Turbines

Proposed Turbine No.	Average Peat Depths (m)
T1	0.16
T2	0.18
T3	0.28
T4	0.13
T5	0.21
T6	0.16
T7	0.06
T8	0.07
T9	0.12
T10	0.13
T11	0.10
T12	0.11

5 HAZARD AND EXPOSURE ASSESSMENT

5.1 Background

A 'Hazard Ranking' system has been applied across the Site based on the analysis of risk of peat slide as outlined in the Scottish Government guidance. This is applied on the principle:

Hazard Ranking = Hazard x Exposure

Where 'Hazard' represents the likelihood of any peat slide event occurring and 'Exposure' being the impact or consequences that a peat slide may have on sensitive receptors that exist on and around the Site.

5.2 Methodology

The determination of Hazard and Exposure values is based on a number of variables which impact the likelihood of a peat slide (the Hazard), and the relative importance of these variables specific to the Site.

Similarly, the consequences or Exposure to receptors is dependent on variables including the particular scale of a peat slide, the distance it will travel and the sensitivity of the receptor.

In the absence of a predefined system, the approach to determining and categorising Hazard and Exposure is determined on a Site-by-Site basis. The particular system adopted for the Development PSRA assessment is outlined in the following sub sections.

5.3 Hazard Assessment

The potential for a peat slide to occur during the construction of a windfarm depends on several factors, the importance of which can vary from Site to Site. The factors requiring considerations would typically include:

- Peat depth;
- Slope gradient;
- Substrate material;
- Evidence of instability or potential instability;
- Vegetation cover; and
- Hydrology.

Of these, peat depth and slope gradient are considered to be principal factors. Without a sufficient peat depth and a prevailing slope, peat slide hazard would be negligible. The Slope Gradient is illustrated on Figure 9.1.7 for the Development (see Appendix A), the substrate material is also considered a key relevant factor in relation to the mechanics of slide, whilst the other aspects provide key considerations. The slope data is derived from Ordnance Survey 5m Digital Terrain Model (OS 5m DTM). It should be noted that historical peat probing at the Site did not include an estimate of the underlying substrate material, therefore a value of 2 (unknown) was assigned to these probing points which is equivalent to clay as seen in Table 5.1. This is considered a conservative figure which could increase the hazard ranking and is another layer of safety embedded within this PSRA.

The other factors have not been assigned coefficients but have nonetheless been built into the assessment. In regards to hydrology, major and minor watercourses are assigned different coefficients to reflect the sensitivity of the receptor with the distance of each probe from a watercourse affecting its hazard ranking.

No existing peat instability risks have been recorded at the Site. However, should slip material be recorded at a probing point, this will be incorporated into the hazard assessment and is assumed to be the highest potential level of hazard. Therefore, the highest substrate coefficient will be applied.

Vegetation plays a key role on both peatland quality and in reducing the risk of instability in peatland. It gives structure to the upper soil horizons and acts as an important regulator of water content in peat above the water table. The presence of bare or eroded peat can indicate an instability risk due to the lack of supporting vegetation. No bare or eroded peat has been recorded at the Site, but there is a substantial forestry area on Site, some of which needs to be felled prior to the construction phase. This presents a risk of instability due to the removal of long-established roots and resulting lack of vegetation. Due to the shallow peat in the areas where felling will be required, it is deemed that the removal of vegetation will not result in an increased peat slide risk. Further details of vegetation present at the Site are discussed in **Chapter 7: Ecology** of the EIA Report and its associated Technical Appendices.

5.4 Hazard Rating

When several factors may impact on the Hazard potential, a relative ranking process is applied attributing different weighting to each factor as shown below.

Table 5.1: Coefficients for Slope Gradients

Slope Angle (degrees)	Slope Angle Coefficients
Slope < 2°	1
2° < Slope < 4°	2
4° < Slope < 8°	4
8° < Slope < 15°	6
Slope >15°	8

Table 5.2: Coefficients for Peat Thickness and ground conditions

Peat Thickness	Ground Conditions Coefficients
Peaty or organic soil (<0.5m)	1
Thin Peat (0.5 – 1.0m)	2
Deep Peat (>1.0m)	3*
Deep Peat (>3.0)	8

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

Table 5.3: Coefficients for Substrate

Substrate Material	Substrate Coefficients
Sand/gravel	1
Rock	1.5
Clay	2
Not proven	2
Slip material (Existing materials)	5

The Hazard Rating Coefficient for a particular location is calculated using the following equation:

Hazard Rating Coefficient = Slope Gradient x Peat Thickness x Substrate

From the Hazard Rating Coefficient, the risk to stability can be ranked as set out in Table 5.4.

Table 5.4: Hazard Rating

Hazard Rating Co-efficient	Potential Stability Risk (Pre-Mitigation)
<5	Negligible
5 to 15	Low
16 to 30	Medium
31 to 50	High
> 50	Very High

5.5 Peat Stability Assessment

The likelihood of a particular slope or hillside failing can be expressed as a Factor of Safety. For any potential failure surface, there is a balance between the weight of the potential landslide (driving force or shear force) and the inherent strength of the soil or rock within the hillside (shear resistance).

The guidance states that the 'Infinite Slope' method of analysis, after Skempton and DeLory (1957), is the most well established and commonly applied method for the assessment of peat slope stability. The stability of a slope can be assessed by calculating the factor of safety F, which is the ratio of the sum of resisting forces (shear strength) and the sum of the destabilising forces (shear stress):

$$F = \frac{c' + (\gamma - m\gamma_w) z \cos^2 \beta \tan \phi'}{\gamma z \sin \beta \cos \beta}$$

Where c' is the effective cohesion, γ is the bulk unit weight of saturated peat, γ_w is the unit weight of water, m is the height of the water table as a fraction of the peat depth, z is the peat depth in the direction of normal stress, β is the angle of the slope to the horizontal and ϕ' is the effective angle of internal friction. Values of F < 1 indicate a slope would have undergone failure under the conditions modelled; values of F > 1 suggest conditions of stability.

In the absence of any historical hydrological monitoring, an assumption on groundwater levels has been adopted for the assessment, that 90% of the peat column at each probe location is below the water table, an overall conservative approach. While the assessment considers the recorded data at each of the peat probes to establish hazard ranking for the purposes of the peat stability analysis, groundwater depth is conservatively assumed to be within close proximity of the surface, based on the understanding of peat and its hydrological properties that it can consist of up to 90% water by volume.

Assumed geotechnical parameters have been utilised in the formula to inform the stability assessment, based on literature values to inform the stability analysis, as included in Table 5.5.

Table 5.5: Literature for Geotechnical Parameters of Peat

Reference	Effective Cohesion C′ (kPa)	Effective Angle of Friction ϕ (°)	Unit Weight Y (kN/m2)	Comments
Hanrahan et al (1967)[15]	5.5 – 6.1	36.6 - 43.5	-	Remoulded H4 Sphagnum peat
Hollingshead and Raymond (1972)[16]	4.0	34	-	-
Hollingshead and Raymond (1972)	2.4 – 4.7	27.1 – 35.4	-	Sphagnum peat (H3, mainly fibrous)
Carling (1986)[17]	6.52	0	10	-
Kirk (2001)[18]	2.7 – 8.2	26.1 – 30.4		Ombrotrophic blanket peat
Warburton et al (2003)[19]	5.0	23	9.68	Basal Peat
Warburton et al (2003)	8.74	21.6	9.68	Fibrous Peat
Dykes and Kirk (2006)	3.2	30.4	9.61	Acrotelm
Dykes and Kirk (2006)	4.0	28.8	9.71	Catotelm

C′ – effective cohesion (kPa), typically ranging from 2.5 to 8.5 therefore 5.0 has been adopted for the purposes of the assessment.

ϕ – effective angle of friction (°), typically ranging from 21.6 to 43.5 therefore 29.6 has been adopted for the purposes of the assessment.

Y – unit weight (kN/m2), typically ranging from 9.61 to 10, therefore 10 has been adopted for the purposes of the assessment.

In accordance with the best practice method, F values of <1.0 indicate slopes that would experience failure under the modelled conditions and as such are considered areas of high risk. However, Boylan et al (2008) indicate that a relatively high value of F=1.4 should be used to identify slopes with the potential for instability. Adopting this approach, high risk areas area indicated where F is <1.0, medium risk areas are indicated as 1.01 to 1.50 and >1.5 are low risk.

Using digital terrain modelling and GPS co-ordinates of each peat probe, a factor of Safety, F has been calculated for each probe locations which has been interpolated through ArcGIS Spatial Analyst tools. The Factor of Safety Assessment provides a sense check of the ranking based system, providing an absolute approach to the 'Factor of Safety Plan' is shown on Figure 9.1.8 (see Appendix A). The results of the Factor of Safety calculations

[15] Hanrahan et al (1967) - Hanrahan, E.T., Dunne, J.M., and Sodha, V.G. 1967. Shear strength of peat. Proceedings Geotechnical Conference, Oslo, Vol. 1, pp. 193–198.

[16] Hollingshead and Raymond (1972) - Hollingshead, G.W., and Raymond, G.P. 1972. Field loading tests on Muskeg, Canadian Geotechnical Journal, 9(3): 278–289.

[17] Carling (1986) - Peat slides in Teesdale and Weardale, northern Pennines, July 1983: Description and failure mechanisms

[18] Kirk (2001) - Initiation of a multiple peat slide on Cuilcagh Mountain, Northern Ireland

[19] Warburton et al (2003) - Anatomy of a Pennine peat slide, Northern England

indicated all points on the Site as low risk. This was primarily due to the limited peat recorded on the Site.

5.6 Exposure Assessment

The main Exposure receptors identified within the Site and surrounding area which could potentially be affected in the event of a peat slide were existing wind farm infrastructure.

The impact of a peat slide on receptors can be assessed on a relative scale based on the potential for loss of habitat, a historical feature or disruption/danger to the public. To effectively assess the impact, the assessment of Exposure effect must also consider the distance between the hazard and the receptor, and the relative elevation between the two.

5.7 Exposure Rating

Similar to the Hazard Rating, the Exposure Ratings were determined using relative ranking process by attributing the different weighting systems to each factor as shown below:

Table 5.6: Coefficients for Receptor Type

Receptor	Receptor Coefficients
Tracks or Paths	2
Road	3
Minor water feature	6
Site infrastructure	6
Dwelling	8
Major water feature	8
Sensitive Habitats (Blanket bog)	8

Table 5.7: Coefficients for Distance from Receptor

Distance from Receptor	Distance Coefficients
> 1 km	1
100 m to 1 km	2
10 m to 100 m	3
<10 m	4

Table 5.8: Coefficients for Receptor Elevation

Receptor Elevation	Elevation Coefficients
< 10 m	1
10 m to 50 m	2
50 m to 100 m	3
> 100 m	4

The Exposure Rating Coefficient for a particular location is calculated using the following equation:

Exposure Rating Coefficient = Receptor x Distance x Elevation

From the Exposure Rating Coefficient, the risk to stability can be ranked as set out in Table 5.9.

Table 5.9: Exposure Rating

Exposure Rating Co-efficient	Potential Stability Risk (Pre-Mitigation)
<6	Very Low
6 to12	Low
13 to 24	High
24 to 30	Very High
>30	Extremely High

5.8 Rating Normalisation

In order to achieve an overall Hazard Ranking in accordance with the Scottish Government Guidance, the Hazard and Exposure Rating Coefficient derived from the coefficient tables are normalised as shown in Table 5.10.

Table 5.10: Rating Normalisation

Hazard Rating		Exposure Rating	
Current Scale	**Normalised Scale**	**Current Scale**	**Normalised Scale**
<5 Negligible	1	<6 Very Low	1
5 to 15 Low	2	6 to 12 Low	2
15 to 30 Medium	3	13 to 24 High	3
30 to 50 High	4	25 to 30 Very High	4
>50 Very high	5	>30 Extremely High	5

The record of the Hazard Rank Assessment is included in Appendix C of this PSRA.

6 HAZARD RANKING

Having identified the rating coefficients in Section 5 of this PSRA, it is possible to categorise areas of the Site with a Hazard Ranking by multiplying the Hazard and Exposure Rating. Hazard Ranking and associated suggested actions matrix are shown in Tables 6.1 and 6.2 below:

Table 6.1: Hazard Ranking and Suggested Actions

Hazard Ranking		**Action Suggested in the Scottish Government Guidance (as referenced above)**
17-25	High	Avoid project development at these locations.
11-16	Medium	Project should not proceed unless hazard can be avoided or mitigated at these locations, without significant environmental impact, in order to reduce hazard ranking to low or less
5-10	Low	Project may proceed pending further investigation to refine assessment. Mitigation of hazards maybe required through micro-siting or re-design at these locations.
1-4	Negligible	Project should proceed with monitoring and mitigation of peat landslide hazards at these locations as appropriate.

Table 6.2: Hazard Ranking Matrix

Hazard Rating	5	Low	Low	Medium	High	High
	4	Negligible	Low	Medium	Medium	High
	3	Negligible	Low	Low	Medium	Medium
	2	Negligible	Negligible	Low	Low	Low
	1	Negligible	Negligible	Negligible	Negligible	Low
		1	2	3	4	5
		Exposure Rating				

Receptor exposure was assessed for each of the hazard zones using the approach in Section 5. A summary of the Hazard Ranking result for each identified area is summarised in Table 7.1 and is presented in Figure 9.1.9 - Hazard Ranking Zonation Plan (see Appendix A). The zonation is based on a combination of considerations including calculated hazard result, peat depth, topography and receptors and land uses.

7 SLIDE RISK AND MITIGATION

7.1 General

The PSRA has shown the Site to be of 'negligible' or 'low' hazard ranking.

The majority of peat across the site area was less than 0.5 m, with some also extending to depths between 0.5 m and 1.0 m. Localised pockets of peat greater than 1.0 m were recorded and these areas were largely avoided through the design development process.

The previous location of T8 was in an area with average peat depth of 0.48m and a 'negligible' hazard ranking. The new location of T8 is within an area of shallower peat with an average depth of 0.07m and remains in an area of 'negligible' hazard ranking.

As part of the SEI an additionalTCC has been added for Scottish Power Transmission within the northern area of the Site. The additional TCC is located in an area with average peat depths of 0.42m and was assessed to pose a 'negligible' hazard ranking in relation to peat slide. Following the completion of the SEI process, the additional TCC remains in a 'negligible' hazard rank area.

Where the hazard ranking has been lowered through mitigation measures set out in Section 7.2 and 7.3 of this PSRA, the original ranking will remain in the overall hazard zoning plan. It should be acknowledged that the hazard zonation plan is based on the pre-mitigation status.

While specific recommended mitigation in 'low' ranked areas are proposed, other mitigation is embedded in the design at EIA stage. It is also necessary for detailed design and construction of the Development to be undertaken in a competent and controlled manner.

The embedded mitigation and good practice measures are set out in Section 7.2 of this PSRA. It should be noted that the mitigation measures defined are not exclusive and other forms of mitigation may be required, as a result of conclusions from ground investigations undertaken prior to detailed design for example, and should be implemented during construction of the Development.

Table 7.1: Hazard Ranking

Hazard Area and Infrastructure		**Unmitigated Hazard**		**Mitigated Hazard**	
Hazard Area	**Infrastructure Affected**	**Ranking**	**Key Aspects and Direct Effects**	**Specific Actions**	**Ranking**
H1	Existing tracks, Substation, BESS, and both Temporary Construction Compounds	Negligible	• Location and topography: Northern portion of site, sloping northerly • Hydrology: Middle burn situated in the central area flowing north. • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 8° • Exposure: Proposed infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H2	Proposed track, T12 and Borrow Pit	Low	• Location and topography: sloping slightly to the north and more steeply to the south with the plateau West Side Hill in in the central area. • Hydrology: Tributaries from surrounding hills, flowing north. • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 18° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. During construction, visual inspections and monitoring in areas with the potential for peat slide risk should take place. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H3	T10	Low	• Location and topography: South side of Peat • Hydrology: Middle Burn and tributary to Early Burn • Peat Depth: 0.0 m – 2.50 m. • Generally < 0.50m • Slope Gradient: 0° to <20° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. During construction, visual inspections and monitoring in areas with the potential for peat slide risk should take place. Mitigation measures as set out in section 7.3.	Negligible
H4	n/a	Negligible	• Location and topography: Slightly sloping topography in the valley between West Side and Peat Hill. • Hydrology: None noted • Peat Depth: 0.0 m – 1.50 m. Generally, < 0.50 m • Slope Gradient: 0° to 14° • Exposure: None	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H5	T10 and Proposed Tracks	Negligible	• Location and topography: Sloping topography on south-eastern face of Peat Hill. • Hydrology: None noted • Peat depth: 0.0 m – 0.50 m. • Slope Gradient: 4° to 16° • Exposure: Proposed Site Infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
				Mitigation measures as set out in section 7.3.	
H6	Proposed track, existing track	Negligible	• Location and topography: Generally flatter topography, within the north eastern area of main body of site. • Hydrology: Tributaries to the Early Burn • Peat Depth: 0.0 m - 4.50 m. Varying depths of peat with isolated are of deep peat located in the shallowest topographic area. • Slope Gradient: 0° to 30° • Generally 0 - 8° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H7	n/a	Low	• Location and topography: Generally flatter topography, within the north eastern area of main body of site. • Hydrology: Tributaries to the Early Burn • Peat Depth: 0.0 m - 3.50 m. Varying depths of peat with isolated are of deep peat located in the shallowest topographic area. • Slope Gradient: 0° to 8° • Exposure: None	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. During construction, visual inspections and monitoring in areas with the potential for peat slide risk should take place. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H8	Proposed track, existing track and T11	Low	• Location and topography: Steep valley in the western site area within Cloich Hills • Hydrology: Flemington Burn and tributaries • Peat Depth: 0.0 m - 1.50 m. Generally, <0.50 m • Slope Gradient: 0° to 16° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. During construction, visual inspections and monitoring in areas with the potential for peat slide risk should take place. Mitigation measures as set out in section 7.3.	Negligible
H9	T6	Low	• Location and topography: Sloping area in the west of site, on face of Ewe Hill. • Hydrology: Tributary to Flemington Burn • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 2° to 18° • Exposure: Site infrastructure and Borrow pit area	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. During construction visual inspections and monitoring in areas with the potential for peat slide risk should take place. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H10	Proposed track, T1 and T8	Negligible	• Location and topography: Plateau along top of Ewe Hill and Whaup Law in the Central site area. • Hydrology: Gibbs Cloich • Peat Depth: 0.0 m – 2.00 m. Generally, <0.50 m • Slope Gradient: 0° to 20° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H11	Proposed track, T7 and T9	Negligible	• Location and topography: Steep southern face of Ewe Hill in the central site area. • Hydrology: Muirhope Glen, and tributary to the Courhope Burn • Peat Depth: 0.0 m - 0.50 m. • Slope Gradient: 4° to <22° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outline in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H12	Proposed Tracks and Borrow Pit	Low	• Location and topography: Valley between Ewe Hill/Whaup Law and the southern face of Kilrubie Hill. • Hydrology: Martyr's Dean and Tributaries to the Courhope Burn • Peat Depth: 0.0 m – 1.50 m. Generally, <0.50 m • Slope Gradient: 0° to <18° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outline in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H13	T5	Negligible	• Location and topography: Eastern Site Area, slightly sloping topography. • Hydrology: None • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 16° • Exposure: Site infrastructure	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H14	T4 and Proposed Tracks	Low	• Location and topography: Sloping topography on the eastern face of Kilrubie Hill, in the eastern site area. • Hydrology: None • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 16° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H15	Proposed Tracks	Low	• Location and topography: Sloping topography on the southern and western face of Ewe Hill. • Hydrology: Gibbs Cloich, Muirhope Glen and Courhope Burn • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 18° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H16	None	Negligible	• Location and topography: Gently sloping topography between Ewe Hill and Crailzie Hill. • Hydrology: Courhope Burn • Peat Depth: 0.0 m – 0.50 m. • Slope Gradient: 0° to 16° • Exposure: Hydrology	Construction Environmental Management Plan and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. No infrastructure or construction activity is proposed in this area at the south western extent of the Site. Nonetheless, visual inspections and monitoring in the area should take place during the construction phase. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H17	Proposed Tracks, T2 and T3	Low	• Location and topography: Southern site area between Crailzie Hill and Ewe Hill. • Hydrology: Muirhope Glen • Peat Depth: 0.0 m – 1.00 m. Generally <0.5m • Slope Gradient: 0° to 14° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible
H18	Proposed Tracks	Negligible	• Location and topography: Southern site area between Crailzie Hill and Ewe Hill. • Hydrology: Tributary to Courhope Burn • Peat Depth: 0.0 m – 0.5 m. • Slope Gradient: 2° to 14° • Exposure: Site infrastructure, Hydrology	Best practice measures in relation to drainage prior to and during construction will be implemented as outlined in Technical Appendix A10.1 Water Construction Environmental Management Plan of the EIA Report and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. Mitigation measures as set out in section 7.3.	Negligible

Hazard Area and Infrastructure		Unmitigated Hazard		Mitigated Hazard	
H19	None	Negligible	• Location and topography: Eastern Site area between Kilrubie Hill and Cralzie Hill. • Hydrology: Tributary to Stewarton Burn • Peat Depth: 0.0 m – 0.5 m. • Slope Gradient: 0° to 14° • Exposure: Hydrology	Construction Environmental Management Plan and management of peat and peaty soils as outlined in Technical Appendix A9.2 Outline Peat Management Plan of the SEI Report. No infrastructure or construction activity is proposed in this area at the south eastern extent of the Site. Nonetheless, visual inspections and monitoring in the area should take place during the construction phase. Mitigation measures as set out in section 7.3.	Negligible

7.2 Embedded Mitigation

Embedded mitigation includes measures taken during design of the SEI Layout to reduce the potential for peat slide risk, designing to avoid any localised deep pockets of peat as well as consideration of wider environmental constraints, including the hydrology on Site. In summary the principal measures that have been taken in relation to avoiding peat slide are:

- Locating infrastructure on shallower slopes, where possible; and
- Locating infrastructure on areas of shallow peat (or no peat) where possible.

Section 7.3 will detail the types of mitigation that will be employed prior to and during construction to reduce potential risk.

7.3 Peat Slide Mitigation Recommendations

Mitigation measures and good practice procedures will be implemented during construction including:

- Ground investigations prior to detailed design;
- Identification of areas sensitive to changes in drainage regime prior to detailed design;
- Implementation of a geotechnical risk register where the contractor will be responsible for appointing a chartered geotechnical engineer who will monitor any potential stability risks for periodic monitoring programme through construction;
- Identification of areas of deep peat and tool box talks on limiting the works in these areas. There is no significant peat present beneath the footprint of the Development;
- Micro siting turbines and other infrastructure where required;
- Management of peat, soils and rock where necessary to predetermined temporary storage areas, and managed by the onsite ECoW when required;
- Avoid placing excavated material or other forms of loading on breaks of slope or other potentially unstable slopes;
- Excavation works should not be during periods of continuous heavy rainfall after heavy and prolonged rainfall events; and
- Post-construction reinstatement and re-establishment of vegetation at earliest;
- Appropriate drainage design should be implemented trackside and at turbines and crane hardstands.

8 CONCLUSIONS

This PSRA has been undertaken for the Development in accordance with best practice, as detailed in Section 4.2 of the PSRA. The early stages of the assessment included a desk study, review of historic peat probing across the Site, followed by completion of Phase 1 peat probing and a further intensive probing exercise on the design of the SEI Layout. The information gathered during this investigation was used to develop a Hazard Ranking across the Site.

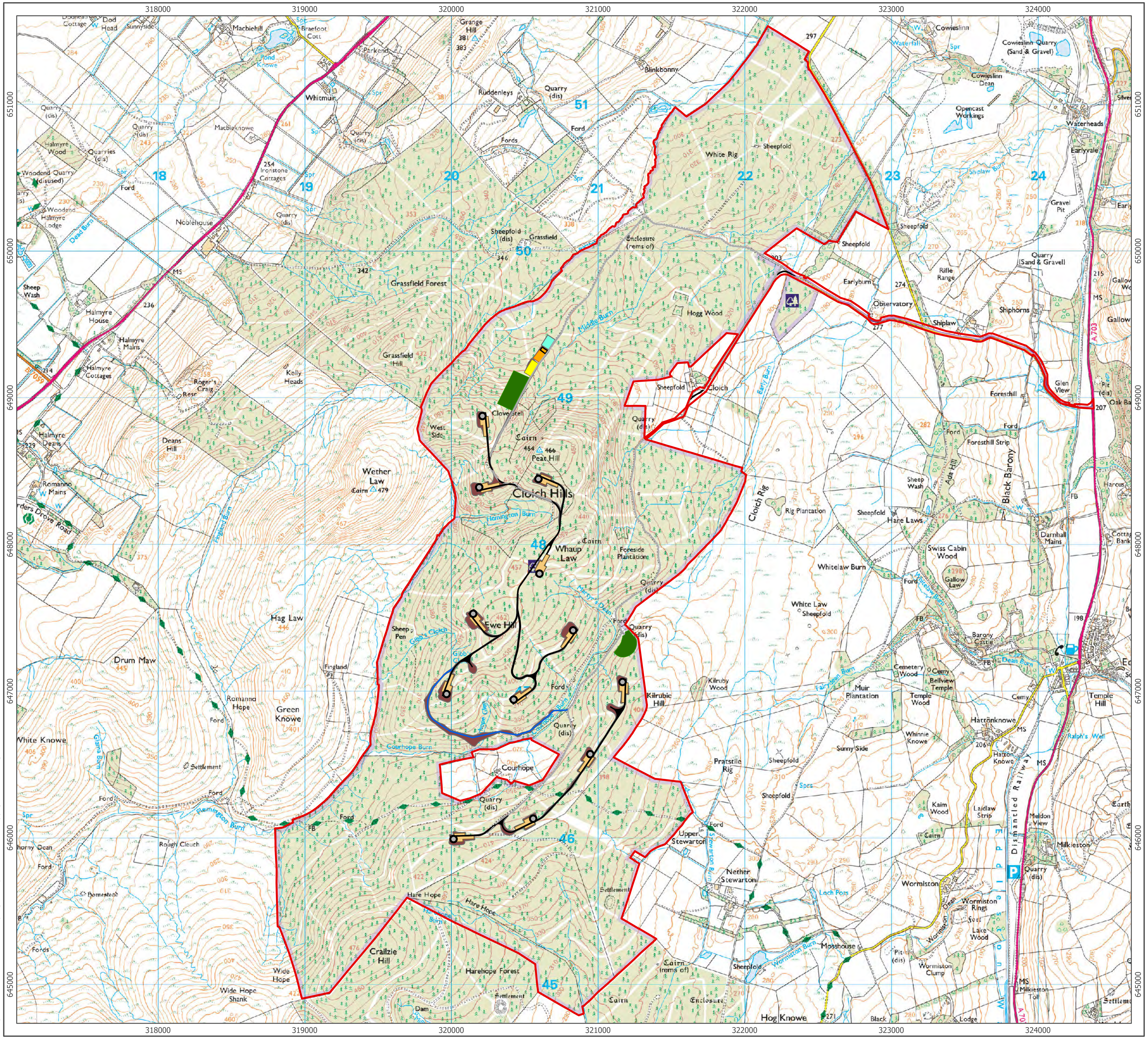
The findings of the probing indicate that the majority of the Development is underlain by peat at a depth of less than 0.5 m. While pockets of deep peat were recorded during the peat probing, these areas were out with the footprint of the Development.

Based on the scope of the study, the PSRA has indicated that the entire Site is 'negligible or low' hazard ranking with half of the hazard zones ranked as 'low' hazard ranking.

The relocation of T8 and addition of the Scottish Power Transmission TCC have not resulted in any additional peat slide risk with both located in zones of 'negligible' hazard ranking.

Notwithstanding the findings of the PSRA, the final design of infrastructure should be carefully sited and micro-siting adopted if required in order to maintain the design objective of avoiding potential peat slide risk.

APPENDIX A - FIGURES



edf renewables

ARCUS
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- Site Boundary
- Turbine Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

1:25,000 Scale @ A3

0 0.45 0.9 km

NORTH

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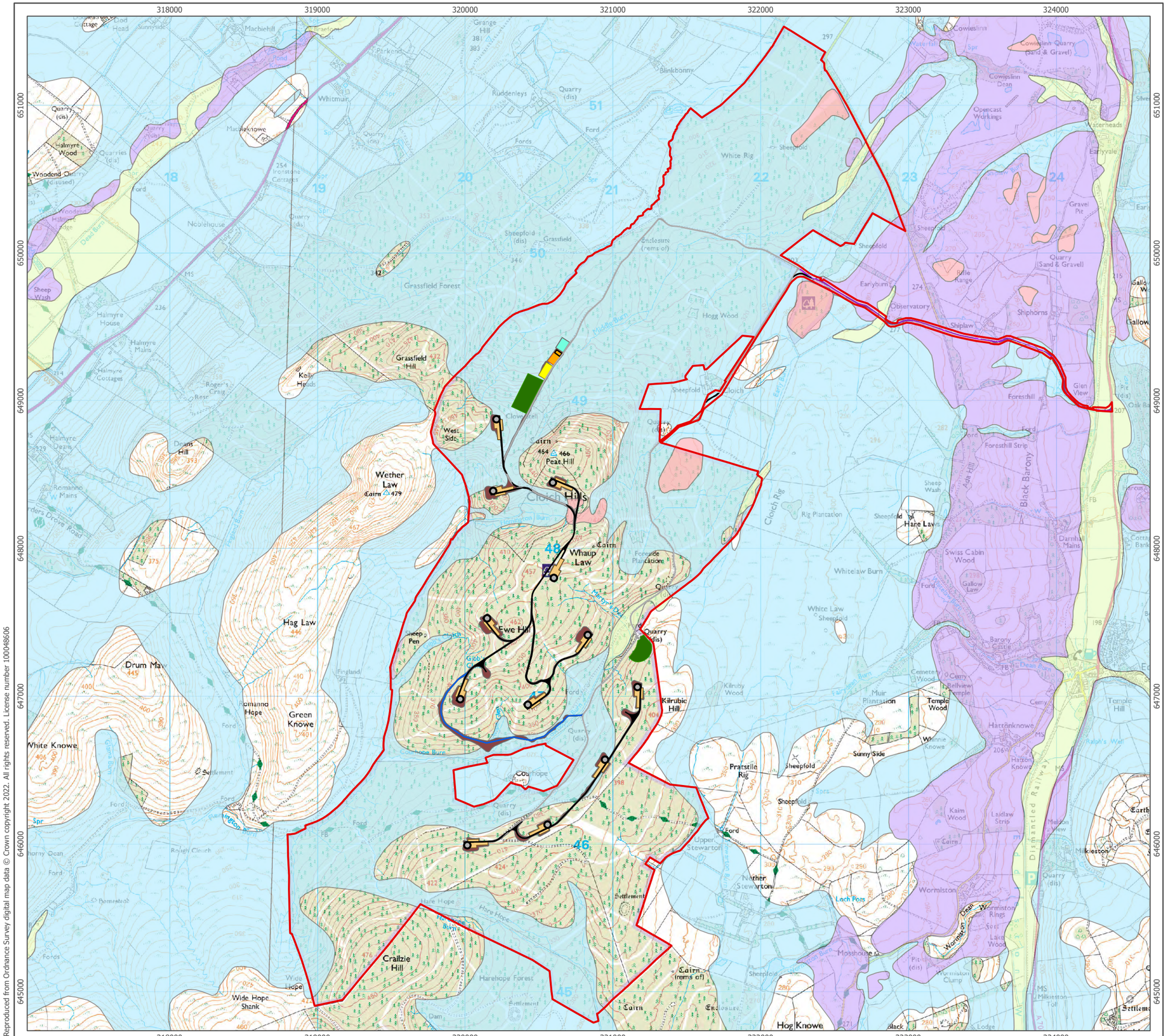
Checked By: DB	Date: 11/17/2022

Site Layout Plan

Figure 9.1.1

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-002 Fig01 Site Layout Plan



1:25,000 Scale @ A3

0 0.45 0.9 km

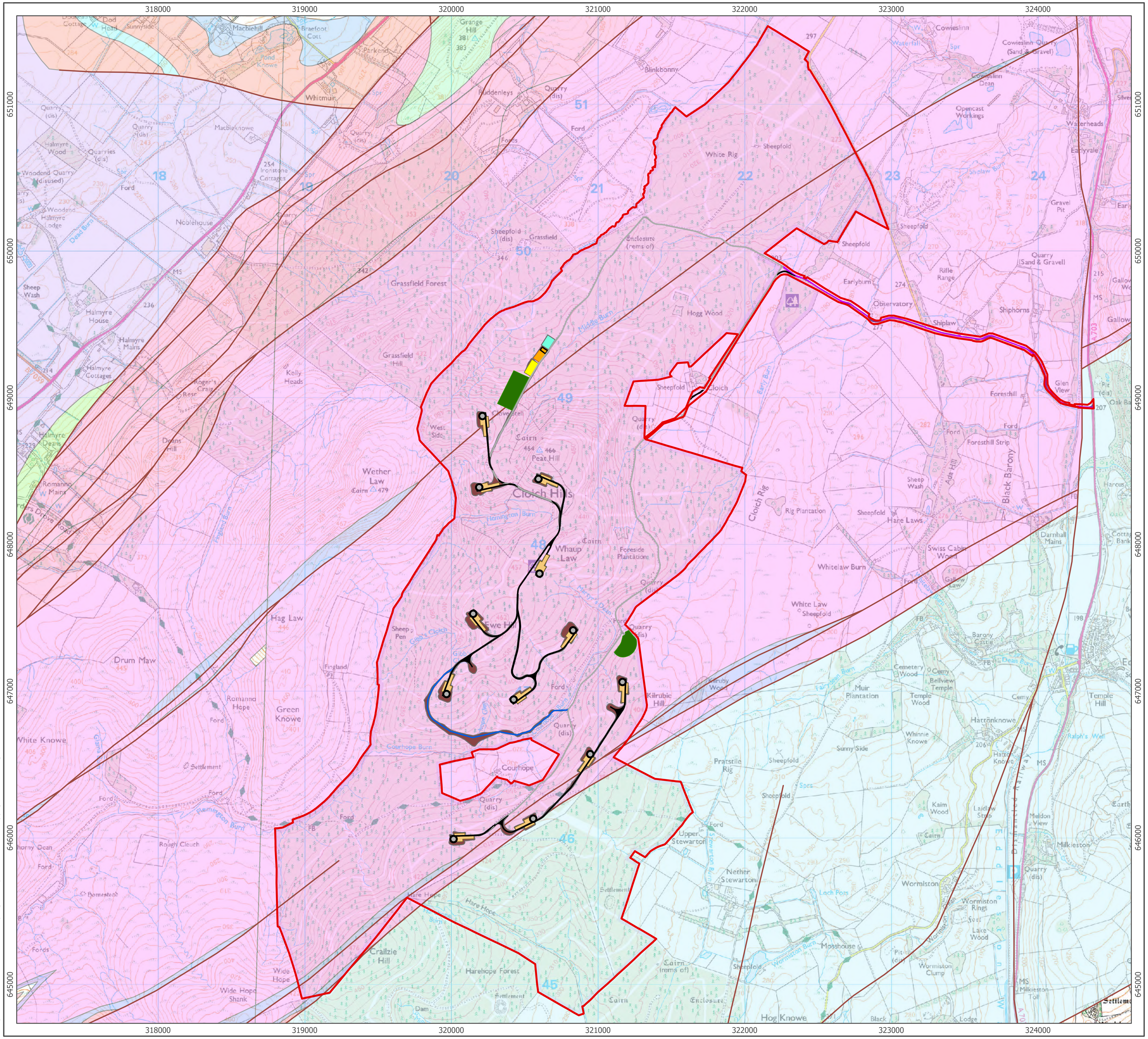
NORTH

Produced By: CS	Ref: 4519-REP-003
Checked By: DB	Date: 11/17/2022

Superficial Soils
Figure 9.1.2

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-003 Fig02 Superficial Soils



Site Boundary
Turbine Locations
Site Infrastructure
Borrow Pit
Construction Compound
Crane Hardstanding
BESS Location
Substation Compound
New Access Track (Construction Traffic Only)
New Access Track
Existing Track (Subject to Localised Upgrades)
Public Road
Public Road Widening Works
Earthworks
SPT Temporary Construction Compound
Faults
Faults
Bedrock Geology
AUCHTITENCH SANDSTONE FORMATION
BIGGAR VOLCANIC FORMATION
CLYDE PLATEAU VOLCANIC FORMATION
CRAWFORD GROUP
HURLET LIMESTONE
KIRKCOLM FORMATION
LAMANCHA CONGLOMERATE FORMATION
LIMESTONE COAL FORMATION
LOWER HARTFELL SHALE FORMATION
MARCHBURN FORMATION
MOFFAT SHALE GROUP
PORTPATRICK FORMATION
STRATHCLYDE GROUP

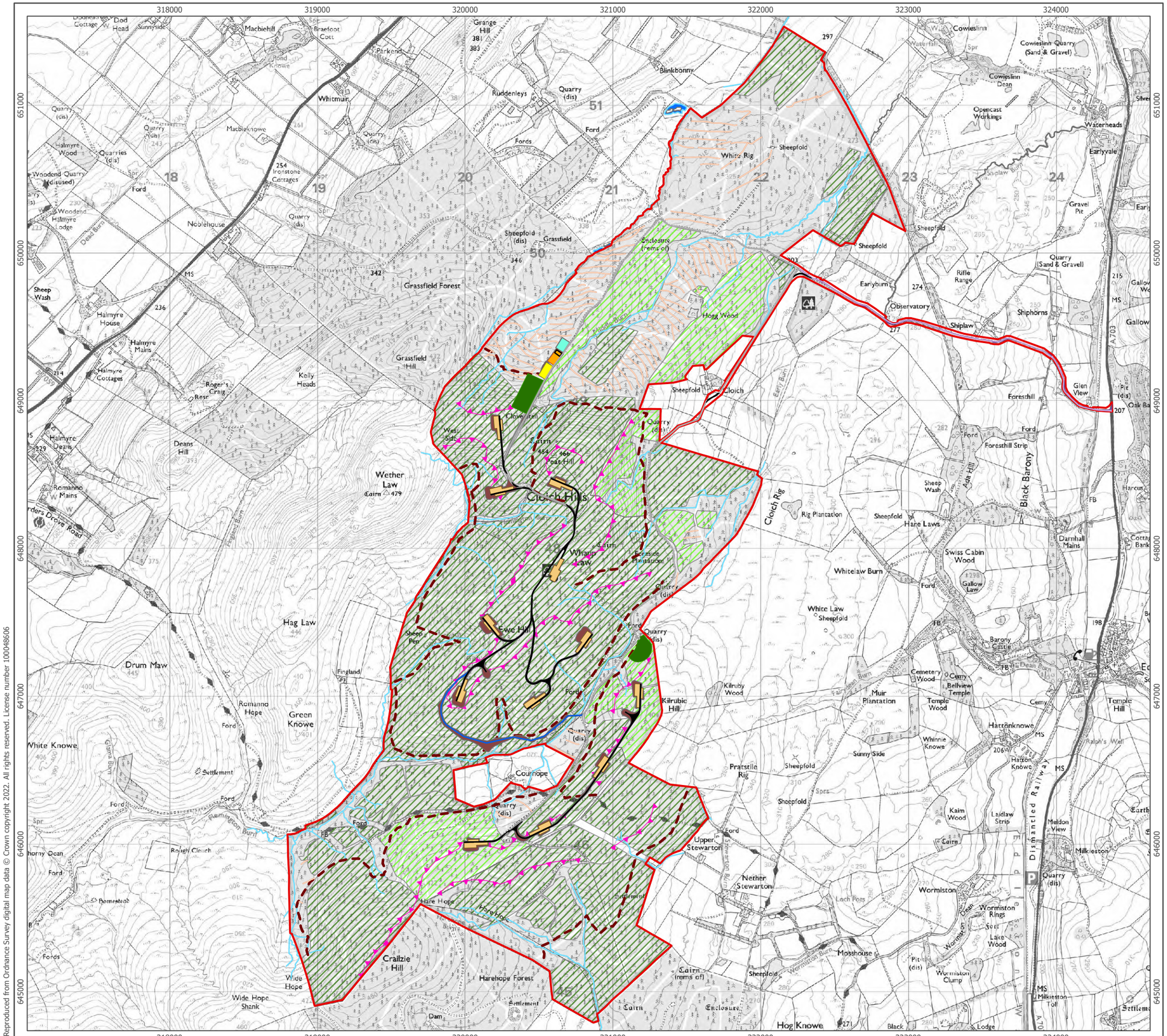
1:25,000 Scale @ A3
0 0.45 0.9 km
NORTH

Produced By: CS	Ref: 4519-REP-004
Checked By: DB	Date: 11/17/2022

Solid Geology
Figure 9.1.3

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-004 Fig03 Solid Geology



Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-005 Fig04 Geomorphology Map

eDF renewables

ARCUS
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- Site Boundary
- Turbine Locations
- Artificial Drainage
- Bottom of Slope
- Top of Slope
- Watercourses
- Young Forestry
- Mature Forestry
- Body of Water

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

1:25,000 Scale @ A3

0 0.45 0.9 km

NORTH

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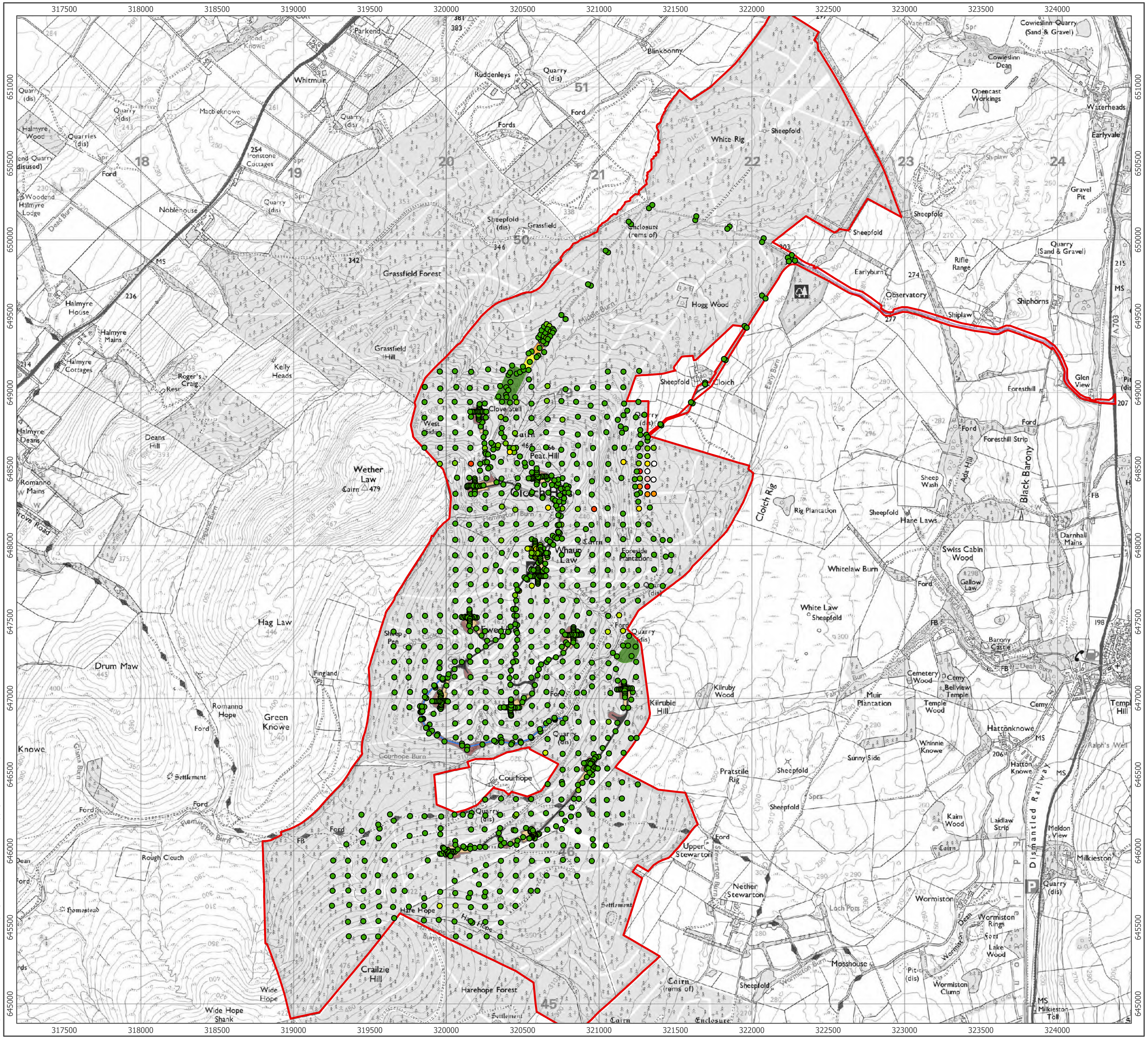
Checked By: DB	Date: 11/17/2022

Geomorphology Map
Figure 9.1.4

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment



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Site Boundary
Turbine Locations

Site Infrastructure
- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

Peat Depth (m)
- 0.00 - 0.50
- 0.51 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 3.50
- 3.51 - 4.00
- 4.01 +

1:24,000 Scale @ A3

0 0.45 0.9 km

NORTH

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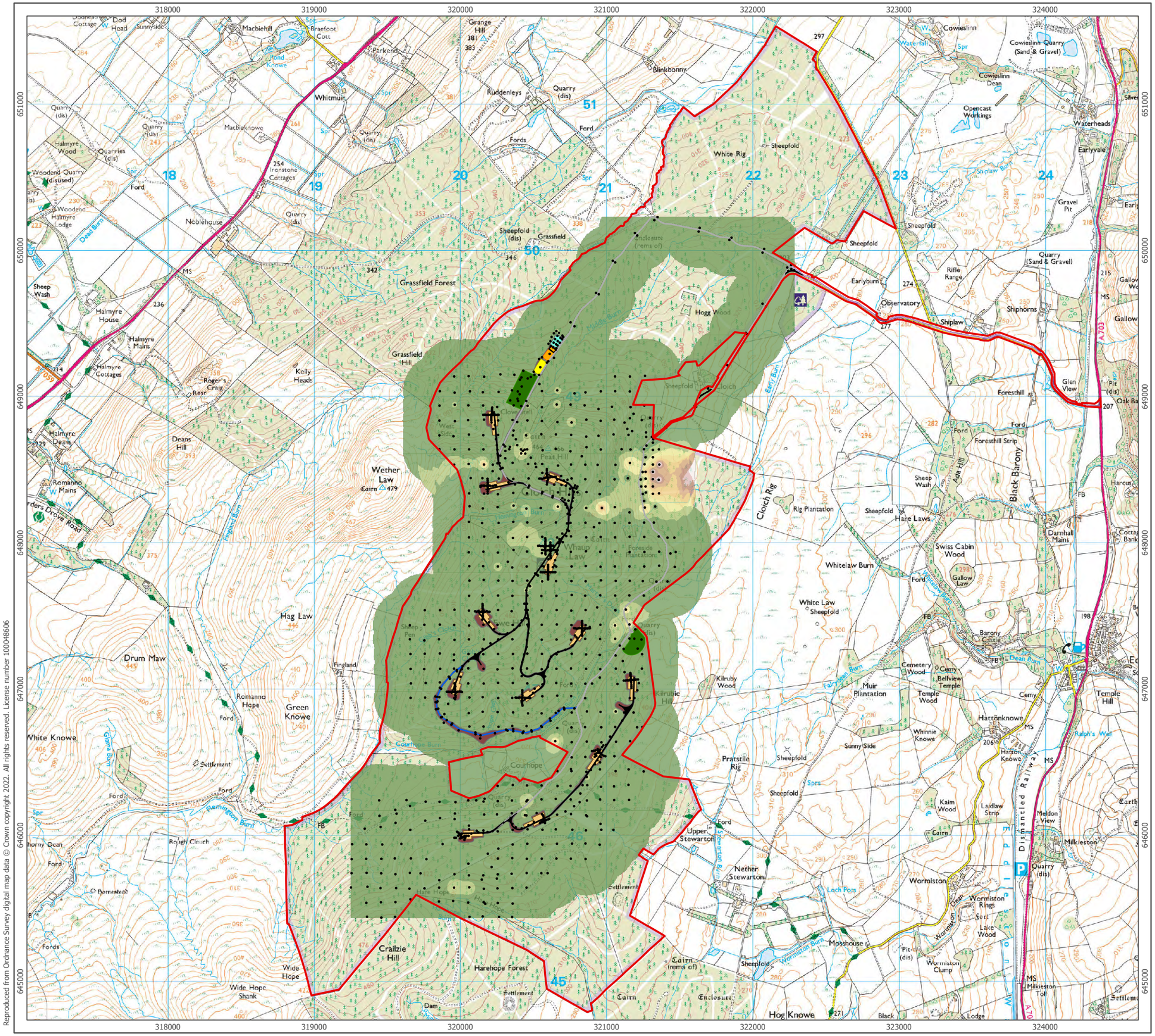
Checked By: DB	Date: 11/17/2022

Recorded Peat Depths
Figure 9.1.5

Cloich Forest Wind farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-006 Fig05 Recorded Peat Depths



Site Boundary

Peat Probe Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

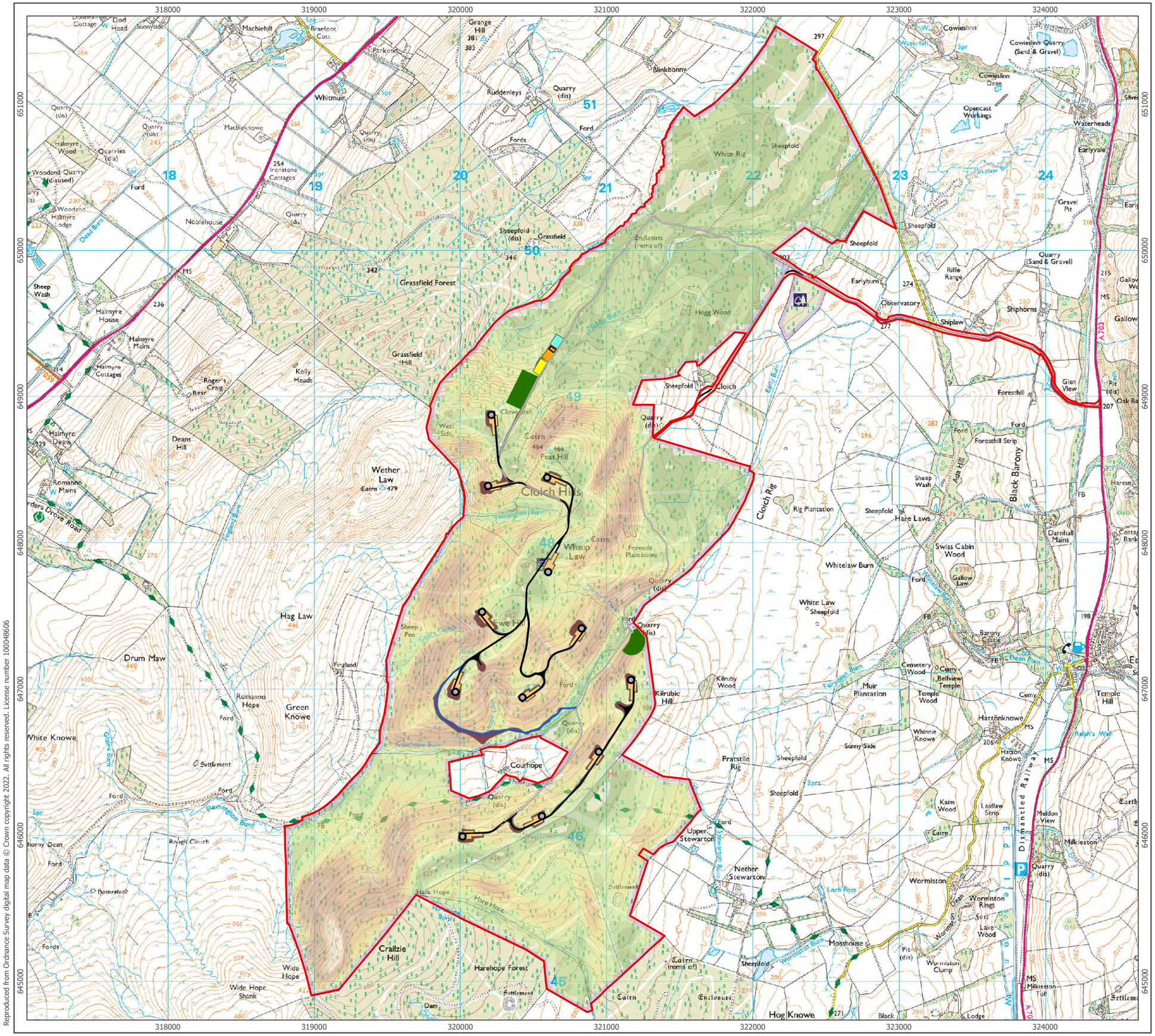
Peat Depths (m)

- 0.00 - 0.50
- 0.51- 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 3.50
- 3.51 - 4.00
- 4.01 +

Interpolated Peat Depths
Figure 9.1.6

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-007 Fig06 Interpolated Peat Depths



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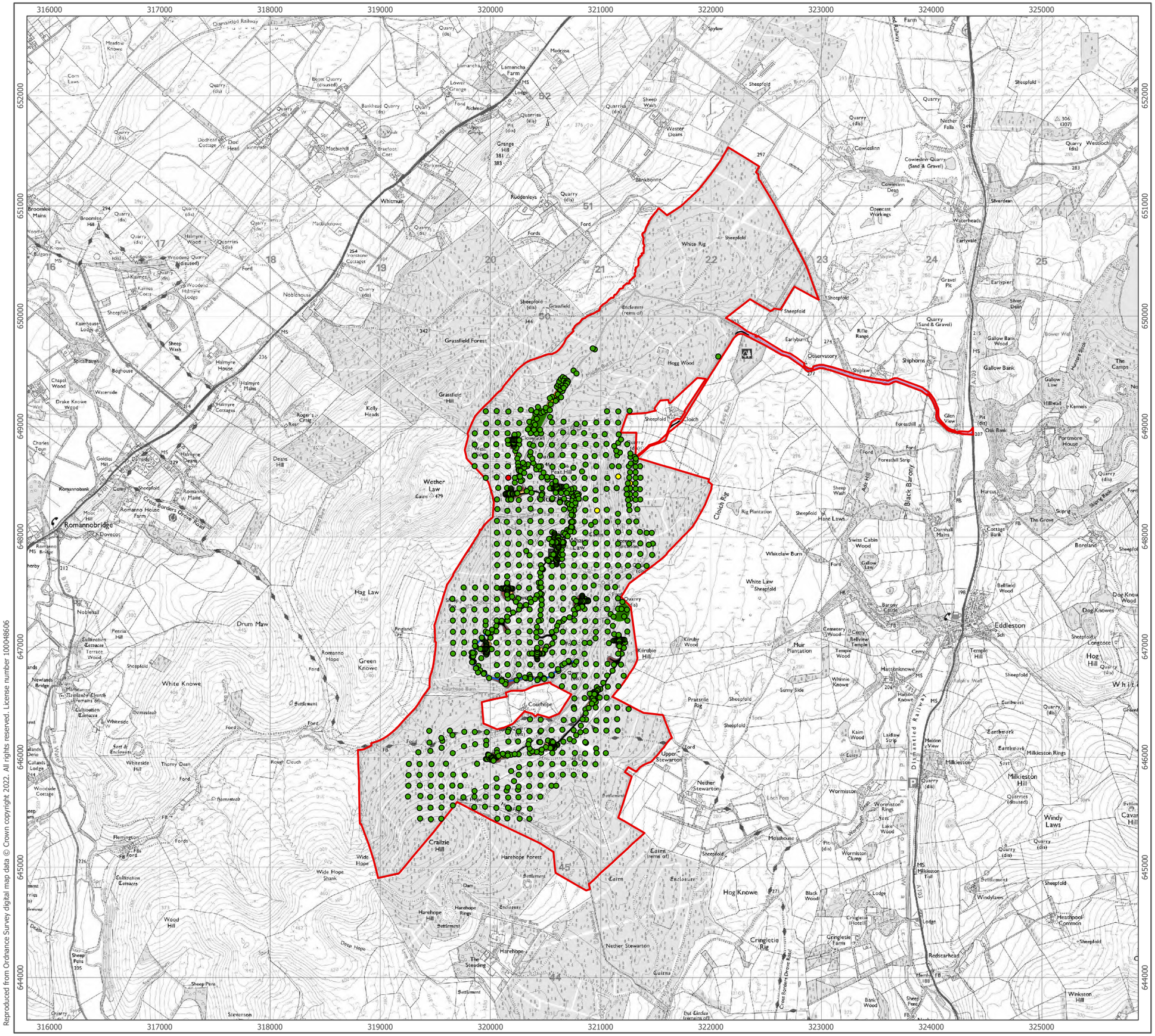
Checked By: DB	Date: 11/17/2022

Slope Gradient
Figure 9.1.7

Cloich Forest Wind Farm
Technical Appendix 9.1:
Peat Slide Risk Assessment

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-008 Fig07 Slope Map



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Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-009 Fig08 Factor of Safety Plan

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- Site Boundary
- Turbine Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

Factor of Safety

- Low
- Medium
- High

1:33,164 Scale @ A3

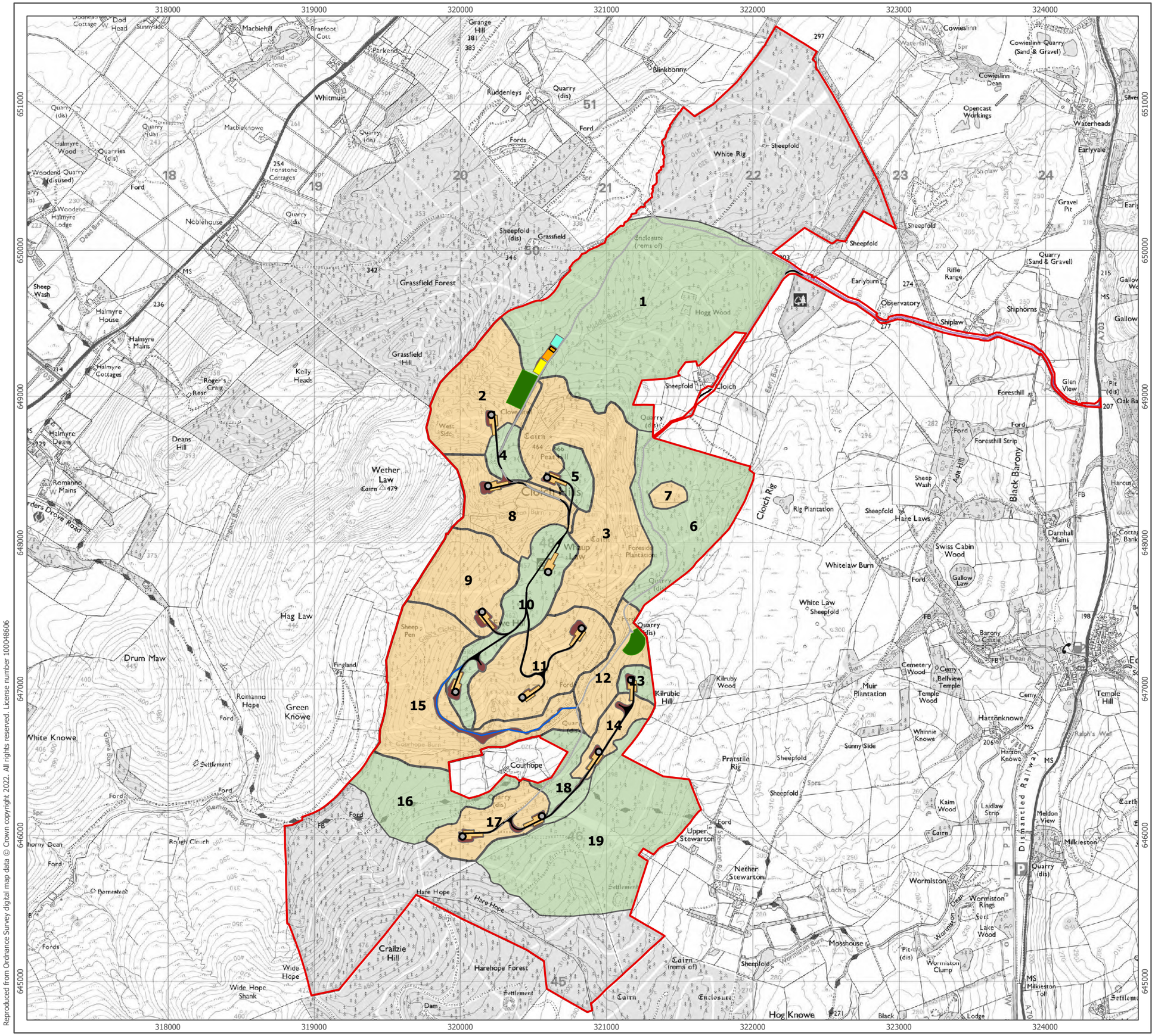
0 0.65 1.3 km

NORTH

Produced By: CS	Ref: 4519-REP-009
Checked By: DB	Date: 11/17/2022

Factor of Safety Plan
Figure 9.1.8

Cloich Forest Wind Farm SEI
Technical Appendix 9.1:
Peat Slide Risk Assessment



Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-010 Fig09 Hazard Ranking Zonation Plan

eDF renewables

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- Site Boundary
- Turbine Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

Hazard Ranking Zones

- Negligible
- Low

1:25,000 Scale @ A3

0 0.45 0.9 km

NORTH

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Checked By: DB	Date: 11/17/2022

Hazard Ranking Zonation Plan
Figure 9.1.9

Cloich Forest Wind Farm
Technical Appendix 9.1:
Peat Slide Risk Assessment

APPENDIX B - SITE PHOTOGRAPHS

Photograph 1 - View North along existing track in the Southern Site area

Photograph 2 – Sphagnum mosses in clearing within the central Site area

Photograph 3 – View Southeast from the central Eastern Site area

Photograph 4 – Existing quarry along North western Site access

Photograph 5 – Fire break within plantation in the western Site area

Photograph 6 – Engineered track through plantation in the western Site area

Photograph 7 – View North from central area of the Site

Photograph 8 – Watercourse running through plantation in the central Western Site area

APPENDIX C – HAZARD RANK ASSESSMENT RECORDS

4519 - Cloich SEI - PSRA - Tabulated Peat Probe Data

ID	X	Y	Z	SLOPE	Slope Co-efficient	PEAT DEPTH	Peat Level	Peat Co-efficient	Gen Substrate	Substrate Co-eff.	Risk Rating Coefficient	Risk Rating Normalisation	Receptor	Receptor Co-eff.	Z Receptor	Distance	Receptor Dist Co-eff.	Z Difference (remove =/-)	Receptor elevation Co-eff	Impact Rating	Impact Rating Normalisation	Hazard Ranking
1	320600	647849	450.949504	3.827189	2	0.1	450.849504	1	G	1	2	1	Site Infrastructure	3	450.984382	1.243586	4	-0.034878	1	12	2	2
2	320600	647839	451.543999	4.506068	4	0.1	451.443999	1	G	1	4	1	Site Infrastructure	3	451.572174	1.243586	4	-0.028175	1	12	2	2
3	320600	647829	451.951999	5.184947	4	0.1	451.851999	1	G	1	4	1	Site Infrastructure	3	451.933855	1.243586	4	0.018144	1	12	2	2
4	320600	647819	452.242999	5.553481	4	0.1	452.142999	1	G	1	4	1	Site Infrastructure	3	452.22444	1.243586	4	0.018559	1	12	2	2
5	320600	647809	452.527997	5.715120	4	0.1	452.427997	1	G	1	4	1	Site Infrastructure	3	452.506957	1.243586	4	0.02104	1	12	2	2
6	320601	647801	452.742999	5.883552	4	0.01	452.732999	1	G	1	4	1	Site Infrastructure	3	452.794448	1.973704	4	-0.051449	1	12	2	2
7	320590	647799	452.963	5.495028	4	0.01	452.953	1	G	1	4	1	Site Infrastructure	3	452.944442	1.243586	4	0.018558	1	12	2	2
8	320580	647799	453.0995	5.113298	4	0.01	453.0895	1	G	1	4	1	Site Infrastructure	3	453.087468	1.243586	4	0.012032	1	12	2	2
9	320571	647799	452.963995	4.845244	4	0.1	452.863995	1	G	1	4	1	Site Infrastructure	3	453.292967	7.216419	4	-0.328972	1	12	2	2
10	320560	647798	452.795497	4.662092	4	0.01	452.785497	1	G	1	4	1	Site Infrastructure	3	453.292967	16.718346	3	-0.49747	1	9	1	1
11	320550	647799	452.461499	4.440003	4	0.01	452.451499	1	G	1	4	1	Site Infrastructure	3	450.663004	20.38378	3	1.798495	1	9	1	1
12	320600	647749	452.701497	6.035205	4	0.01	452.691497	1	G	1	4	1	Site Infrastructure	3	453.050661	25.807761	3	-0.349164	1	9	1	1
13	320600	647759	452.971503	6.123468	4	0.01	452.961503	1	G	1	4	1	Site Infrastructure	3	453.050661	16.285408	3	-0.079158	1	9	1	1
14	320600	647769	453.276495	6.211732	4	0.01	453.266495	1	G	1	4	1	Site Infrastructure	3	453.050661	8.024245	4	0.225834	1	12	2	2
15	320600	647779	453.348491	6.200034	4	0.01	453.338491	1	G	1	4	1	Site Infrastructure	3	453.325063	1.243586	4	0.023428	1	12	2	2
16	320600	647789	453.098	6.038396	4	0.01	453.088	1	G	1	4	1	Site Infrastructure	3	453.076958	1.243586	4	0.021042	1	12	2	2
17	320611	647799	452.662997	6.296661	4	0.01	452.652997	1	G	1	4	1	Site Infrastructure	3	452.659412	0.246386	4	0.003585	1	12	2	2
18	320620	647799	452.552496	6.640218	4	0.01	452.542496	1	G	1	4	1	Site Infrastructure	3	452.533874	1.243586	4	0.018622	1	12	2	2
19	320630	647799	452.178003	7.031631	4	0.1	452.078003	1	G	1	4	1	Site Infrastructure	3	452.533874	8.757197	4	-0.355871	1	12	2	2
20	320640	647799	451.577505	7.432728	4	0.01	451.567505	1	G	1	4	1	Site Infrastructure	3	452.209412	17.031897	3	-0.631907	1	9	1	1
21	320650	647799	450.894	7.833824	4	0.1	450.794	1	G	1	4	1	Site Infrastructure	3	452.209412	25.792005	3	-1.315412	1	9	1	1
22	320633	647833	451.458002	6.599620	4	0.01	451.448002	1	G	1	4	1	Site Infrastructure	3	451.454243	2.042475	4	0.003759	1	12	2	2
23	320644	647845	451.149501	6.460795	4	0.01	451.139501	1	G	1	4	1	Site Infrastructure	3	451.133896	2.439202	4	0.015605	1	12	2	2
24	320648	647881	451.571805	4.907776	4	0.2	451.371805	1	G	1	4	1	Site Infrastructure	3	451.456154	2.631332	4	0.115651	1	12	2	2
25	320662	647923	453.164796	3.566183	2	0.2	452.964796	1	G	1	2	1	Site Infrastructure	3	453.14358	1.287442	4	0.021216	1	12	2	2
26	320603	647887	449.746002	2.536218	2	0.01	449.736002	1	G	1	2	1	Site Infrastructure	3	449.687249	2.693382	4	0.058753	1	12	2	2
27	320687	648014	452.388007	7.699078	4	0.3	452.088007	1	G	1	4	1	Site Infrastructure	3	452.295283	0.758226	4	0.092724	1	12	2	2
28	320697	648063	448.839102	9.491308	6	0.1	448.739102	1	G	1	6	2	Site Infrastructure	3	451.795366	16.741461	3	-2.956264	1	9	1	2
29	320713	648053	452.321906	9.014473	6	0.3	452.021906	1	G	1	6	2	Site Infrastructure	3	451.965237	2.042475	4	0.356669	1	12	2	4
30	319346	646044	306.649106	8.722308	6	0.3	306.349106	1	R	1.5	9	2	Minor Water Feature	6	304.883571	21.012727	3	1.765535	1	18	2	4
31	319455	646056	316.933496	11.378684	6	0.2	316.733496	1	G	1	6	2	Roads and Tracks	3	313.060895	20.054309	3	3.872601	1	9	1	2
32	319466	645936	333.1243	13.213896	6	0.3	332.8243	1	G	1	6	2	Minor Water Feature	6	323.159327	76.656516	3	9.964973	1	18	2	4
33	319357	645937	321.1367	9.027253	6	0.2	320.9367	1	G	1	6	2	Minor Water Feature	6	319.408832	24.328689	3	1.727868	1	18	2	4
34	319260	645938	314.662999	10.407437	6	0.2	314.462999	1	G	1	6	2	Minor Water Feature	6	303.189769	73.86326	3	11.47323	2	36	4	8
35	319257	645836	341.253903	13.062089	6	0.1	341.153903	1	R	1.5	9	2	Minor Water Feature	6	312.445885	80.65237	3	28.808018	2	36	4	8
36	319356	645838	338.144711	10.815359	6	0.2	337.944711	1	G	1	6	2	Minor Water Feature	6	335.990089	10.295694	3	2.154622	1	18	2	4
37	319359	645742	364.881701	12.908590	6	0.1	364.781701	1	R	1.5	9	2	Minor Water Feature	6	356.012492	36.469309	3	8.869209	1	18	2	4
38	319256	645740	365.189496	14.502542	6	0.2	364.989496	1	G	1	6	2	Minor Water Feature	6	353.107161	133.441411	3	12.082335	2	36	4	8
39	319252	645642	389.915005	15.105936	8	0.2	389.715005	1	G	1	8	2	Minor Water Feature	6	369.052053	159.772191	3	20.862952	2	36	4	8
40	319365	645647	395.769997	15.303706	8	0.2	395.569997	1	G	1	8	2	Minor Water Feature	6	374.63422	60.435749	3	21.135777	2	36	4	8
41	319357	645537	428.80121	16.918550	8	0.4	428.40121	1	G	1	8	2	Minor Water Feature	6	376.538043	151.352133	3	52.263167	2	36	4	8
42	319362	645442	449.104198	15.075769	8	0.1	449.004198	1	G	1	8	2	Minor Water Feature	6	385.1827	239.30448	3	63.921498	2	36	4	8
43	319460	645436	457.071001	12.826909	6	0.2	456.871001	1	G	1	6	2	Minor Water Feature	6	385.1827	228.20938	3	71.888301	2	36	4	8
44	319554	645441	454.317498	14.026381	6	0.1	454.217498	1	R	1.5	9	2	Minor Water Feature	6	385.1827	245.573702	3	69.134798	2	36	4	8
45	319457	645541	432.543899	17.853047	8	0.5	432.043899	1	R	1.5	12	2	Minor Water Feature	6	385.1827	123.175914	3	47.361199	2	36	4	8
46	319556	645542	435.552299	16.496489	8	0.3	435.252299	1	G	1	8	2	Minor Water Feature	6	385.1827	160.83572	3	50.369599	2	36	4	8
47	319659	645561	424.169904	12.994417	6	0.4	423.769904	1	G	1	6	2	Minor Water Feature	6	406.429583	164.467414	3	17.740321	2	36	4	8
48	319652	645634	412.914394	8.105087	6	0.5	412.414394	1	G	1	6	2	Minor Water Feature	6	406.429583	196.557627	3	6.484811	1	18	2	4
49	319561	645638	409.465798	15.595584	8	0.3	409.165798	1	G	1	8	2	Minor Water Feature	6	385.1827	112.804124	3	24.283098	2	36	4	8
50	319454	645638	398.490698	17.097715	8	0.2	398.290698	1	G	1	8	2	Minor Water Feature	6	385.1827	26.186846	3	13.307998	2	36	4	8
51	319459	645739	366.127002	12.225954	6	0.2	365.927002	1	G	1	6	2	Minor Water Feature	6	355.442963	40.13611	3	10.684039	2	36	4	8
52	319556	645733	378.722997	16.262796	8	0.3	378.422997	1	G	1	8	2	Minor Water Feature	6	355.442963	109.869378	3	23.280034	2	36	4	8
53	319460	645838	346.917496	12.629822	6	0.1	346.817496	1	R	1.5	9	2	Minor Water Feature	6	345.833238	44.476377	3	1.084258	1	18	2	4
54	319552	645841	372.661812	18.294627	8	0.1	372.561812	1	R	1.5	12	2	Minor Water Feature	6	355.442963	114.053946	3	17.218849	2	36	4	8
55	319662	645841	402.942007	14.185596	6	0.1	402.842007	1	R	1.5	9	2	Minor Water Feature	6	355.442963	214.883375	3	47.499044	2	36	4	8
56	319655	645742	414.211998	12.205424	6	0.2	414.011998	1	G	1	6	2	Minor Water Feature	6	355.442963	202.179234	3	58.769035	2	36	4	8
57	319447	646132	306.94599	11.965173	6	0.1	306.84599	1	G	1	6	2	Roads and Tracks	3	315.636007	37.005501	3	-8.690017	1	9	1	2
58	319445	646238	297.149507	9.355300	6	0.1	297.049507	1	R	1.5	9	2	Minor Water Feature	6	294.691268	27.474281	3	2.458239	1	18	2	4
59	319632	646240	327.035986	10.339263	6	0.2	326.835986	1	R	1.5	9	2	Roads and Tracks	3	332.420996	34.077871	3	-5.38501	1	9	1	2
60	319763	646229	338.859695	10.016122	6	0.2	338.659695	1	G	1	6	2	Roads and Tracks	3	340.02286	9.619465	4	-1.163165	1	12	2	4
61	319858	646228	342.831997	10.632106	6	0.1	342.731997	1	G	1	6	2	Roads and Tracks	3	343.320866	4.331132	4	-0.488869	1	12	2	4
62	319967	646226	345.670797	12.301075	6	0.1	345.570797	1	G	1	6	2	Roads and Tracks	3	345.041211	3.13412	4	0.629586	1	12	2	4
63	320166	646249	354.380593	10.596791	6	0.4	353.980593	1	G	1	6	2	Roads and Tracks	3	350.151978	17.928795	3	4.228615	1	9	1	2
64	320359	646343	350.650896	6.510343	4	0.2	350.450896	1	G	1	4	1	Minor Water Feature	6	350.891747	14.137748	3	-0.240851	1	18	2	2
65	320456	646340	350.090509	9.225253	6	0.2	349.890509	1	G	1	6	2	Roads and Tracks	3	348.426482	9.044562	4	1.664027	1	12	2	4
66	320665	646336	373.349501	10.808897	6	0.2	373.149501	1	G	1	6	2	Roads and Tracks	3	381.820835	41.977105	3	-8.471334	1	9	1	2
67	320754	646337	383.709998	10.108647	6	0.1	383.609998	1	G	1	6	2	Site Infrastructure	3	386.798945	32.629596	3	-3.088947	1	9	1	2
68	320868	646342	390.912903	6.642881	4	0.1	390.812903	1	G	1	4	1	Roads and Tracks	3	390.726853	23.02584	3	0.18605	1	9	1	1
69	320962	646331	397.178705	1.672287	1	0.1	397.078705	1	G	1	1	1	Roads and Tracks	3	394.621513	55.018967	3	2.557192	1	9	1	1
70	321051	646334	401.272003	2.647877	2	0.2	401.072003	1	G	1	2	1	Roads and Tracks	3	395.200987	122.838332	3	6.071016	1	9	1	1
71	321150	646344	399.174998	4.374573	4	0.1	399.074998	1	G	1	4	1	Roads and Tracks	3	394.726534	164.963382	3	4.448464	1	9	1	1
72	321154	646241	397.06049	5.383505	4	0.2	396.86049	1	G	1	4	1	Roads and Tracks	3	394.74885	61.999283	3	2.31164	1	9	1	1
73	320453	645641	387.497	6.526222	4	0.4	387.097	1	G	1	4	1	Roads and Tracks	3	383.441432	14.524321	3	4.055568	1	9	1	1
74	320356	645638	401.693002	10.251747	6	0.4	401.293002	1	G	1	6	2	Roads and Tracks	3	384.406523	66.841703	3	17.286479	2	18	2	4
75	320254	645636	408.147194	14.816040	6	0.2	407.947194	1	G	1	6	2	Minor Water Feature	6	364.662545	144.54912	3	43.484649	2	36	4	8
76	320161	645633	405.618391	14.511674	6	0.3	405.318391	1	G	1	6	2	Minor Water Feature	6	378.87063	111.301565	3	26.747761	2	36	4	8
77	320214	645782	424.128805	3.987968	2	0.2	423.928805	1	G	1	2	1	Site Infrastructure	3	401.245302	214.946464	3	22.883503	2	18	2	2
78	320061	645643	397.438096	10.285599	6	1	396.438096	2	G	1	12	2	Minor Water Feature	6	385.762586	79.559269	3	11.67551	2	36	4	8
79	319957	645641	397.053705	9.204204	6	1.1	395.953705	3	G	1	18	3	Minor Water Feature	6	388.099829	74.487205	3	8.953876	1	18	2	6
80	320188	645873	418.785405	4.093540	4	0.1	418.685405	1	G	1	4	1	Site Infrastructure	3	401.245302	120.30834	3	17.540103	2	18	2	2
81	319755	645636	412.8735	4.568867	4	0.2	412.6735	1	G	1	4	1	Minor Water Feature	6	406.429583	121.588233	3	6.443917	1	18	2	2
82	319855	645641	406.879002	8.781856	6	0.1	406.779002	1	G	1	6	2	Minor Water Feature	6	405.198933	104.689905	3	1.680069	1	18	2	4
83	319854	645546	401.8245	6.429765	4	0.2	401.6245	1	G	1	4	1	Minor Water Feature	6	401.98971	12.167214	3	-0.16521	1	18	2	2
84	319951	645550	389.834996	6.460441	4	0.1	389.734996	1	R	1.5	6	2	Minor Water Feature	6	388.75966	20.724481	3	1.075336	1	18	2	4
85	320054	645539	382.904104	6.481432	4	0.4	382.504104	1	G	1	4	1	Minor Water Feature	6	382.901318	15.834024	3	0.002786	1	18	2	2
86	320170	645531	379.041995	4.861277	4	0.1	378.941995	1	G	1	4	1	Minor Water Feature	6	373.203272	21.837017	3	5.838723	1	18	2	2
87	320160	645541	381.699002	5.654950	4	0.2	381.499002	1	G	1	4	1	Minor Water Feature	6	374.575296	23.640459	3	7.123706	1	18	2	2
88	320256	645536	379.434698	8.912322	6	0.3	379.134698	1	G	1	6	2	Minor Water Feature	6	364.662545	48.966688	3	14.772153	2	36	4	8
89	320358	645532	370.093303	10.524929	6	0.3	369.793303	1	G	1	6	2	Minor Water Feature	6	361.781887	67.440932	3	8.311416	1	18	2	4
90	320354	645440	356.493002	7.829136	4	0.2	356.293002	1	G	1	4	1	Minor Water Feature	6	357.799316	9.315348	4	-1.306314	1	24	3	3
91	320265	645441	355.437498	5.061744	4	0.4	355.037498	1	G	1	4	1	Minor Water Feature	6	355.654281	3.285469	4	-0.216783	1	24	3	3
92	320153	645444	371.004904	5.284309	4	0.2	370.804904	1	G	1	4	1	Minor Water Feature	6	370.220204	9.619465	4	0.7847	1	24	3	3
93	320063	645441	381.181704	7.111882	4	0.3	380.881704	1	G	1	4	1	Minor Water Feature	6	380.031147	15.427926	3	1.150557	1	18	2	2
94	319960	645733	408.503003	8.468098	6	0.4	408.103003	1	G	1	6	2	Minor Water Feature	6	388.099829	164.761303	3	20.403174	2	36	4	8
95	320059	645725	410.744508	10.550231	6	0.2	410.544508	1	G	1	6	2	Minor Water Feature	6	386.042462	160.46406	3	24.702046	2	36	4	8
96	320147	645696	415.699011	12.859482	6	0.2	415.499011	1	G	1	6	2	Minor Water Feature	6	384.657396	161.591973	3	31.041615	2	36	4	8
97	320157	645725	419.664011	9.867080	6	0.2	419.464011	1	R	1.5	9	2	Minor Water Feature	6	384.657396	191.603007	3	35.006615	2	36	4	8
98	320250	645703	419.049989	9.597110	6	0.2	418.849989	1	G	1	6	2	Roads and Tracks	3	384.406523	190.957951	3	34.643466	2	18	2	4
99	320256	645732	420.962101	7.014837	4	0.2	420.762101	1	G	1	4	1	Roads and Tracks	3	384.406523	201.981754	3	36.555578	2	18	2	2
100	320351	645736	417.1217	8.728423	6	0.2	416.9217	1	G	1	6	2	Roads and Tracks	3	384.406523	142.741541	3	32.715177	2	18	2	4
101	320454	645741	410.072005	8.625771	6	0.2	409.872005	1	G	1	6	2	Roads and Tracks	3	382.319724	91.420162	3	27.752281	2	18	2	4
102	320554	645740	386.538493	6.704306	4	0.1	386.438493	1	G	1	4	1	Roads and Tracks	3	380.325719	23.494631	3	6.212774	1	9	1	1
103	320597	645740	378.458499	6.736077	4	0.4	378.058499	1	G	1	4	1	Roads and Tracks	3	379.606721	10.718643	3	-1.148222	1	9	1	1
104	320956	646244	396.070694	1.018384	1	0.1	395.970694	1	G	1	1	1	Roads and Tracks	3	396.070346	0.246386	4	0.000348	1	12	2	2
105	321052	646240	394.606506	3.515337	2	0.2	394.406506	1	G	1	2	1	Roads and Tracks	3	390.537722	35.966669	3	4.068784	1	9	1	1
106	320866	646237	394.450094	2.500935	2	0.4	394.050094	1	G	1	2	1	Roads and Tracks	3	394.39039	72.33703	3	0.059704	1	9	1	1
107	320755	646244	392.083498	7.197129	4	0.2	391.883498	1	G	1	4	1	Site Infrastructure	3	391.093031	24.043076	3	0.990467	1	9	1	1
108	320653	646248	386.396913	10.477927	6	0.1	386.296913	1	G	1	6	2	Roads and Tracks	3	380.707726	41.078896	3	5.689187	1	9	1	2
109	320555	646245	378.247498	11.566343	6	0.4	377.847498	1	G	1	6	2	Site Infrastructure	3	367.039818	44.530202	3	11.20768	2	18	2	4
110	320452	646231	370.852893	11.181657	6	0.9	369.952893	2	G	1	12	2	Site Infrastructure	3	373.799306	15.114288	3	-2.946413	1	9	1	2
111	320459	646240	369.176996	11.191140	6	0.9	368.276996	2	G	1	12	2	Site Infrastructure	3	372.041608	16.43112	3	-2.864612	1	9	1	2
112	320353	646237	364.641398	11.080692	6	0.4	364.241398	1	G	1	6	2	Minor Water Feature	6	352.784462	63.005177	3	11.856936	2	36	4	8
113	320256	646233	359.953009	10.044049	6	0.2	359.753009	1	G	1	6	2	Minor Water Feature	6	354.16963	43.780524	3	5.783379	1	18	2	4
114	320159	646230	357.697495	10.596791	6	0.2	357.497495	1	G	1	6	2	Roads and Tracks	3	351.352602	29.888103	3	6.344893	1	9	1	2
115	320163	646141	374.733693	11.042993	6	0.4	374.333693	1	G	1	6	2	Minor Water Feature	6	373.807303	28.406177	3	0.92639	1	18	2	4
116	320251	646142	376.835704	11.012779	6	0.4	376.435704	1	G	1	6	2	Minor Water Feature	6	374.60847	49.844989	3	2.227234	1	18	2	4
117	320352	646150	381.884503	10.952566	6	0.2	381.684503	1	G	1	6	2	Site Infrastructure	3	384.135688	14.336119	3	-2.251185	1	9	1	2
118	320442	646137	390.917696	10.815803	6	1	389.917696	2	G	1	12	2	Site Infrastructure	3	381.132688	44.414458	3	9.785008	1	9	1	2
119	320452	646135	392.712498	10.784369	6	0.3	392.412498	1	G	1	6	2	Site Infrastructure	3	397.519479	39.692711	3	-4.806981	1	9	1	2
120	320522	646151	395.728604	10.494133	6	0.2	395.528604	1	G	1	6	2	Site Infrastructure	3	397.177824	6.999765	4	-1.44922	1	12	2	4
121	320558	646143	400.009097	9.524644	6	0.2	399.809097	1	G	1	6	2	Site Infrastructure	3	399.796618	2.042475	4	0.212479	1	12	2	4
122	320662	646140	400.581998	5.663981	4	0.4	400.181998	1	G	1	4	1	Site Infrastructure	3	398.710446	24.715528	3	1.871552	1	9	1	1
123	320757	646144	399.00499	3.471513	2	0.4	398.60499	1	G	1	2	1	Site Infrastructure	3	393.212652	89.044674	3	5.792338	1	9	1	1
124	320867	646129	396.029996	2.850782	2	0.2	395.829996	1	G	1	2	1	Roads and Tracks	3	395.952175	144.481293	3	0.077821	1	9	1	1
125	320860	646136	396.547495	2.742860	2	0.5	396.047495	1	G	1	2	1	Roads and Tracks	3	395.93945	144.45634	3	0.608045	1	9	1	1
126	320959	646077	390.335896	4.176961	4	0.5	389.835896	1	R	1.5	6	2	Minor Water Feature	6	382.458769	79.405998	3	7.877127	1	18	2	4
127	321047	646036	379.971897	7.278866	4	0.3	379.671897	1	G	1	4	1	Minor Water Feature	6	379.959228	6.081176	4	0.012669	1	24	3	3
128	320964	646037	388.198999	5.535427	4	0.3	387.898999	1	R	1.5	6	2	Minor Water Feature	6	380.932073	63.577563	3	7.266926	1	18	2	4
129	320859	646033	398.710395	3.619858	2	0.2	398.510395	1	G	1	2	1	Roads and Tracks	3	397.382974	121.451109	3	1.327421	1	9	1	1
130	320766	646037	405.356695	3.058564	2	0.2	405.156695	1	G	1	2	1	Roads and Tracks	3	401.06771	71.915603	3	4.288985	1	9	1	1
131	320358	646036	403.590002	9.990878	6	0.1	403.490002	1	G	1	6	2	Site Infrastructure	3	403.816633	2.631332	4	-0.226631	1	12	2	4
132	320460	646040	405.719994	6.074488	4	0.2	405.519994	1	G	1	4	1	Site Infrastructure	3	403.699117	14.096202	3	2.020877	1	9	1	1
133	320562	646037	409.361005	2.434264	2	0.2	409.161005	1	G	1	2	1	Site Infrastructure	3	406.378967	40.253498	3	2.982038	1	9	1	1
134	320653	646040	408.687007	1.595825	1	0.2	408.487007	1	G	1	1	1	Roads and Tracks	3	407.670164	55.98628	3	1.016843	1	9	1	1
135	320953	645935	389.177995	6.981362	4	0.1	389.077995	1	G	1	4	1	Minor Water Feature	6	380.932073	115.294733	3	8.245922	1	18	2	2
136	320856	645943	396.977093	4.024128	4	0.1	396.877093	1	G	1	4	1	Roads and Tracks	3	393.854618	59.270518	3	3.122475	1	9	1	1
137	320764	645942	396.977003	4.864555	4	0.2	396.777003	1	G	1	4	1	Roads and Tracks	3	397.500464	7.389892	4	-0.523461	1	12	2	2
138	320661	645941	403.460499	8.383647	6	0.3	403.160499	1	G	1	6	2	Roads and Tracks	3	406.675859	43.041985	3	-3.21536	1	9	1	2
139	320561	645936	411.420799	6.841841	4	0.2	411.220799	1	G	1	4	1	Roads and Tracks	3	409.669849	43.041985	3	1.75095	1	9	1	1
140	320458	645941	416.996991	4.029998	4	0.1	416.896991	1	G	1	4	1	Roads and Tracks	3	411.670545	51.388422	3	5.326446	1	9	1	1
141	320358	645936	417.411298	5.660813	4	0.1	417.311298	1	R	1.5	6	2	Roads and Tracks	3	407.166461	78.47541	3	10.244837	2	18	2	4
142	320257	645840	424.864	2.435847	2	0.4	424.464	1	G	1	2	1	Site Infrastructure	3	401.245302	179.903592	3	23.618698	2	18	2	2
143	320355	645843	426.846988	6.042095	4	0.1	426.746988	1	G	1	4	1	Roads and Tracks	3	408.122525	169.950761	3	18.724463	2	18	2	2
144	320455	645838	420.61351	9.281551	6	0.1	420.51351	1	R	1.5	9	2	Roads and Tracks	3	412.247675	150.47129	3	8.365835	1	9	1	2
145	320557	645839	403.428691	8.388048	6	0.3	403.128691	1	R	1.5	9	2	Roads and Tracks	3	382.074357	65.96145	3	21.354334	2	18	2	4
146	320657	645840	380.654994	7.596718	4	0.5	380.154994	1	G	1	4	1	Roads and Tracks	3	383.368582	15.175714	3	-2.713588	1	9	1	1
147	320756	645839	386.491704	8.998509	6	0.2	386.291704	1	R	1.5	9	2	Roads and Tracks	3	391.347607	44.867368	3	-4.855903	1	9	1	2
148	320857	645837	389.241	6.901008	4	0.1	389.141	1	G	1	4	1	Roads and Tracks	3	392.180807	35.706177	3	-2.939807	1	9	1	1
149	320757	646452	368.896011	12.504034	6	0.2	368.696011	1	G	1	6	2	Site Infrastructure	3	354.29208	44.176318	3	14.603931	2	18	2	4
150	320760	646438	371.667006	12.327234	6	0.3	371.367006	1	G	1	6	2	Site Infrastructure	3	354.29208	53.649288	3	17.374926	2	18	2	4
151	320862	646433	389.889108	9.082327	6	0.3	389.589108	1	G	1	6	2	Site Infrastructure	3	390.670701	9.912644	4	-0.781593	1	12	2	4
152	320955	646450	398.195	7.157982	4	0.2	397.995	1	G	1	4	1	Site Infrastructure	3	396.415087	34.572039	3	1.779913	1	9	1	1
153	320956	646498	397.326991	8.934179	6	0.2	397.126991	1	G	1	6	2	Site Infrastructure	3	396.9186	4.869734	4	0.408391	1	12	2	4
154	321062	646438	401.838886	3.280143	2	0.1	401.738886	1	G	1	2	1	Site Infrastructure	3	397.288924	123.283655	3	4.549962	1	9	1	1
155	321151	646450	398.586992	4.156781	4	0.2	398.386992	1	G	1	4	1	Major Water Feature	8	394.572488	113.452687	3	4.014504	1	24	3	3
156	321254	646436	383.505695	6.654653	4	0.2	383.305695	1	G	1	4	1	Major Water Feature	8	394.572488	131.413968	3	-11.066793	1	24	3	3
157	321054	646540	398.735492	3.627914	2	0.3	398.435492	1	G	1	2	1	Site Infrastructure	3	397.014916	72.763416	3	1.720576	1	9	1	1
158	320960	646534	395.725998	10.128790	6	0.2	395.525998	1	G	1	6	2	Site Infrastructure	3	395.827428	1.243586	4	-0.10143	1	12	2	4
159	320855	646535	378.830002	14.612399	6	0.3	378.530002	1	G	1	6	2	Site Infrastructure	3	384.670514	26.260406	3	-5.840512	1	9	1	2
160	320762	646532	352.656012	15.129807	8	0.1	352.556012	1	G	1	8	2	Site Infrastructure	3	348.771899	10.949069	3	3.884113	1	9	1	2

1 TO 4	Negligible
5 TO10	Low
11 TO 16	Medium
17 TO 25	High

161	320762	646636	330.952601	10.787510	6	0.3	330.652601	1	G	1	6	2	Site Infrastructure	3	339.694159	33.804507	3	-8.741558	1	9	1	2
162	320649	646643	321.070002	4.030570	4	1.5	319.570002	3	G	1	12	2	Minor Water Feature	6	324.903634	49.010049	3	-3.833632	1	18	2	4
163	320663	646733	319.600489	1.787545	1	0.5	319.100489	1	G	1	1	1	Minor Water Feature	6	320.416132	19.888507	3	-0.815643	1	18	2	2
164	320760	646737	323.836497	5.374239	4	0.3	323.536497	1	G	1	4	1	Roads and Tracks	3	330.250813	60.407638	3	-6.414316	1	9	1	1
165	320865	646640	360.589996	14.700823	6	0.2	360.389996	1	G	1	6	2	Roads and Tracks	3	341.328408	49.588304	3	19.261588	2	18	2	4
166	320965	646635	383.439995	14.234082	6	0.2	383.239995	1	G	1	6	2	Site Infrastructure	3	384.347173	28.126427	3	-0.907178	1	9	1	2
167	321065	646639	391.709991	7.074830	4	0.2	391.509991	1	G	1	4	1	Site Infrastructure	3	386.374355	38.131844	3	5.335636	1	9	1	1
168	321108	646784	384.509002	9.621032	6	0.4	384.109002	1	G	1	6	2	Site Infrastructure	3	384.258341	1.757585	4	0.250661	1	12	2	4
169	321059	646740	381.438496	11.300736	6	0.3	381.138496	1	G	1	6	2	Site Infrastructure	3	383.976739	16.43112	3	-2.538243	1	9	1	2
170	320964	646738	367.681796	14.993438	6	0.2	367.481796	1	G	1	6	2	Site Infrastructure	3	384.985765	94.223176	3	-17.303969	1	9	1	2
171	320853	646739	334.681997	10.286667	6	0.4	334.281997	1	G	1	6	2	Site Infrastructure	3	332.098973	26.403297	3	2.583024	1	9	1	2
172	320762	646839	322.521603	4.032804	4	0.4	322.121603	1	G	1	4	1	Site Infrastructure	3	322.591946	30.050839	3	-0.070343	1	9	1	1
173	320653	646836	337.273496	10.292360	6	0.1	337.173496	1	G	1	6	2	Site Infrastructure	3	334.455502	7.677233	4	2.817994	1	12	2	4
174	320556	646833	358.8	15.095094	8	0.2	358.6	1	G	1	8	2	Site Infrastructure	3	339.315261	60.32426	3	19.484739	2	18	2	4
175	320453	646746	342.59401	11.073202	6	0.1	342.49401	1	G	1	6	2	Roads and Tracks	3	329.231179	37.000445	3	13.362831	2	18	2	4
176	320355	646747	341.365005	11.481445	6	0.1	341.265005	1	G	1	6	2	Site Infrastructure	3	336.981738	18.001658	3	4.383267	1	9	1	2
177	320261	646741	335.357496	8.888158	6	0.1	335.257496	1	G	1	6	2	Roads and Tracks	3	332.549616	21.960043	3	2.80788	1	9	1	2
178	320159	646743	348.318394	13.263531	6	0.2	348.118394	1	G	1	6	2	Site Infrastructure	3	340.208494	44.015882	3	8.1099	1	9	1	2
179	320062	646743	360.234297	14.620562	6	0.2	360.034297	1	G	1	6	2	Roads and Tracks	3	354.295048	23.970659	3	5.939249	1	9	1	2
180	320058	646835	380.381998	13.551397	6	0.2	380.181998	1	G	1	6	2	Roads and Tracks	3	360.106303	109.253442	3	20.275695	2	18	2	4
181	320153	646844	366.3241	15.040605	8	0.1	366.2241	1	G	1	8	2	Minor Water Feature	6	343.63649	103.515811	3	22.68761	2	36	4	8
182	320255	646842	349.877495	10.856309	6	0.2	349.677495	1	G	1	6	2	Minor Water Feature	6	348.981787	6.908524	4	0.895708	1	24	3	6
183	320361	646840	362.052504	13.575607	6	0.2	361.852504	1	G	1	6	2	Minor Water Feature	6	349.985403	94.84324	3	12.067101	2	36	4	8
184	320463	646833	366.189996	14.643007	6	0.2	365.989996	1	G	1	6	2	Site Infrastructure	3	380.700977	81.889692	3	-14.510981	1	9	1	2
185	320558	646740	331.926489	6.263256	4	0.3	331.626489	1	G	1	4	1	Site Infrastructure	3	331.864773	2.001626	4	0.061716	1	12	2	2
186	320758	646951	332.823393	7.766801	4	0.2	332.623393	1	G	1	4	1	Roads and Tracks	3	332.583169	2.631332	4	0.240224	1	12	2	2
187	320663	646954	361.931894	13.948162	6	0.2	361.731894	1	G	1	6	2	Roads and Tracks	3	331.342338	79.080915	3	30.589556	2	18	2	4
188	320561	646950	381.107996	12.188932	6	0.2	380.907996	1	G	1	6	2	Site Infrastructure	3	388.384794	46.22918	3	-7.276798	1	9	1	2
189	320457	646938	383.54869	12.426810	6	0.2	383.34869	1	G	1	6	2	Site Infrastructure	3	383.620703	1.287442	4	-0.072013	1	12	2	4
190	320355	646939	377.1405	13.377008	6	0.2	376.9405	1	G	1	6	2	Site Infrastructure	3	381.216148	41.549868	3	-4.075648	1	9	1	2
191	320259	646938	363.04149	12.631186	6	0.1	362.94149	1	G	1	6	2	Minor Water Feature	6	362.600283	12.799528	3	0.441207	1	18	2	4
192	320153	646944	381.684595	16.244120	8	0.3	381.384595	1	G	1	8	2	Minor Water Feature	6	362.280292	88.803069	3	19.404303	2	36	4	8
193	320062	646942	400.061706	13.350857	6	0.1	399.961706	1	G	1	6	2	Site Infrastructure	3	403.087847	65.788776	3	-3.026141	1	9	1	2
194	319958	646938	400.718012	8.725292	6	0.3	400.418012	1	G	1	6	2	Site Infrastructure	3	400.779704	2.042475	4	-0.061692	1	12	2	4
195	319857	646944	391.762704	10.005864	6	0.2	391.562704	1	G	1	6	2	Site Infrastructure	3	389.720252	10.757179	3	2.042452	1	9	1	2
196	319759	646941	373.504401	14.433262	6	0.1	373.404401	1	G	1	6	2	Site Infrastructure	3	380.561339	57.276401	3	-7.056938	1	9	1	2
197	319660	646939	355.218498	14.685221	6	0.2	355.018498	1	G	1	6	2	Site Infrastructure	3	380.561339	156.242905	3	-25.342841	1	9	1	2
198	319662	647038	344.712208	15.015995	8	0.2	344.512208	1	G	1	8	2	Minor Water Feature	6	317.798847	107.583733	3	26.913361	2	36	4	8
199	319763	647041	373.565309	16.705978	8	0.2	373.365309	1	G	1	8	2	Site Infrastructure	3	393.819638	99.959636	3	-20.254329	1	9	1	2
200	319860	647045	396.700005	13.048786	6	0.3	396.400005	1	G	1	6	2	Site Infrastructure	3	398.584736	19.521345	3	-1.884731	1	9	1	2
201	319959	647038	411.26529	6.988161	4	0.2	411.06529	1	G	1	4	1	Site Infrastructure	3	411.5161	2.472834	4	-0.25081	1	12	2	2
202	320054	647038	411.728903	9.267016	6	0.2	411.528903	1	G	1	6	2	Site Infrastructure	3	414.216768	47.920892	3	-2.487865	1	9	1	2
203	320160	647037	392.867001	18.265019	8	0.2	392.667001	1	G	1	8	2	Site Infrastructure	3	414.943152	87.050173	3	-22.076151	1	9	1	2
204	320258	647042	388.873693	16.367491	8	0.1	388.773693	1	G	1	8	2	Minor Water Feature	6	383.181788	60.954067	3	5.691905	1	18	2	4
205	320359	647041	396.240994	10.523039	6	0.2	396.040994	1	G	1	6	2	Minor Water Feature	6	383.181788	71.389181	3	13.059206	2	36	4	8
206	320458	647038	395.148504	10.182972	6	0.2	394.948504	1	G	1	6	2	Site Infrastructure	3	388.703336	39.093436	3	6.445168	1	9	1	2
207	320562	647031	389.524988	12.197110	6	0.3	389.224988	1	R	1.5	9	2	Site Infrastructure	3	389.000457	4.67319	4	0.524531	1	12	2	4
208	320656	647041	372.356998	12.523934	6	0.2	372.156998	1	G	1	6	2	Site Infrastructure	3	388.635647	79.781148	3	-16.278649	1	9	1	2
209	320758	647037	345.024002	10.672742	6	0.3	344.724002	1	G	1	6	2	Minor Water Feature	6	339.778063	24.286052	3	5.245939	1	18	2	4
210	320855	647036	327.410495	4.965050	4	0.2	327.210495	1	G	1	4	1	Minor Water Feature	6	327.534945	2.319764	4	-0.12445	1	24	3	3
211	320957	647136	330.099207	9.369390	6	0.1	329.999207	1	R	1.5	9	2	Site Infrastructure	3	332.982482	15.114288	3	-2.883275	1	9	1	2
212	320860	647138	340.638989	8.856592	6	0.3	340.338989	1	G	1	6	2	Roads and Tracks	3	339.792537	4.14923	4	0.846452	1	12	2	4
213	320757	647140	356.634001	11.802793	6	0.2	356.434001	1	G	1	6	2	Minor Water Feature	6	348.95984	34.737981	3	7.674161	1	18	2	4
214	320657	647138	373.309087	12.095335	6	0.1	373.209087	1	G	1	6	2	Minor Water Feature	6	364.610032	25.052196	3	8.699055	1	18	2	4
215	320557	647135	395.624503	12.153281	6	0.2	395.424503	1	G	1	6	2	Site Infrastructure	3	393.437783	17.970902	3	2.18672	1	9	1	2
216	320456	647140	412.343501	8.647449	6	0.2	412.143501	1	G	1	6	2	Site Infrastructure	3	416.21013	39.631138	3	-3.866629	1	9	1	2
217	320357	647141	411.889411	12.134177	6	0.2	411.689411	1	G	1	6	2	Site Infrastructure	3	413.904576	54.278253	3	-2.015165	1	9	1	2
218	320254	647134	412.240991	18.991974	8	0.2	412.040991	1	G	1	8	2	Site Infrastructure	3	418.493984	82.910508	3	-6.252993	1	9	1	2
219	320159	647138	419.453395	15.769407	8	0.2	419.253395	1	G	1	8	2	Site Infrastructure	3	419.480172	2.472834	4	-0.026777	1	12	2	4
220	320054	647141	425.069297	6.157471	4	0.1	424.969297	1	G	1	4	1	Site Infrastructure	3	425.654477	29.040904	3	-0.58518	1	9	1	1
221	319957	647139	415.023307	9.870240	6	0.3	414.723307	1	G	1	6	2	Site Infrastructure	3	415.587562	15.548791	3	-0.564255	1	9	1	2
222	319862	647138	392.511597	15.919152	8	0.2	392.311597	1	G	1	8	2	Site Infrastructure	3	408.146171	83.581394	3	-15.634574	1	9	1	2
223	319753	647136	364.866	19.130622	8	0.3	364.566	1	G	1	8	2	Minor Water Feature	6	331.377521	116.692926	3	33.488479	2	36	4	8
224	319660	647137	338.307001	12.837569	6	0.3	338.007001	1	G	1	6	2	Minor Water Feature	6	327.595641	50.115863	3	10.71136	2	36	4	8
225	319659	647239	331.3455	7.246919	4	0.1	331.2455	1	G	1	4	1	Minor Water Feature	6	332.605132	19.330062	3	-1.259632	1	18	2	2
226	319757	647241	356.581107	16.641850	8	0.3	356.281107	1	G	1	8	2	Minor Water Feature	6	344.43745	59.505065	3	12.143657	2	36	4	8
227	319860	647243	386.534506	16.681624	8	0.2	386.334506	1	G	1	8	2	Minor Water Feature	6	360.116229	114.704582	3	26.418277	2	36	4	8
228	319956	647197	414.600094	11.893900	6	0.2	414.400094	1	G	1	6	2	Site Infrastructure	3	421.333511	62.606133	3	-6.733417	1	9	1	2
229	319957	647235	411.964008	13.148676	6	0.1	411.864008	1	G	1	6	2	Minor Water Feature	6	417.532366	73.125517	3	-5.568358	1	18	2	4
230	320056	647239	429.280599	11.442174	6	0.5	428.780599	1	G	1	6	2	Site Infrastructure	3	431.249627	29.245217	3	-1.969028	1	9	1	2
231	320157	647238	436.848099	7.045965	4	0.3	436.548099	1	G	1	4	1	Site Infrastructure	3	436.901309	19.240491	3	-0.05321	1	9	1	1
232	320258	647239	438.308106	9.676132	6	0.3	438.008106	1	G	1	6	2	Site Infrastructure	3	442.680795	73.134213	3	-4.372689	1	9	1	2
233	320360	647239	431.738499	12.791504	6	0.4	431.338499	1	G	1	6	2	Site Infrastructure	3	425.406526	72.796384	3	6.331973	1	9	1	2
234	321271	648724	354.207495	6.595709	4	0.3	353.907495	1	G	1	4	1	Site Infrastructure	3	350.936057	32.135832	3	3.271438	1	9	1	1
235	320458	647242	426.806094	13.404394	6	0.1	426.706094	1	G	1	6	2	Site Infrastructure	3	430.004752	16.82921	3	-3.198658	1	9	1	2
236	320558	647240	402.992992	13.969721	6	0.2	402.792992	1	G	1	6	2	Minor Water Feature	6	397.119224	44.141675	3	5.873768	1	18	2	4
237	320658	647237	382.90199	12.158081	6	0.1	382.80199	1	G	1	6	2	Site Infrastructure	3	383.830224	7.058704	4	-0.928234	1	12	2	4
238	320762	647241	377.928698	14.011080	6	0.3	377.628698	1	G	1	6	2	Site Infrastructure	3	383.916057	34.748276	3	-5.987359	1	9	1	2
239	320860	647236	359.001501	16.823410	8	0.4	358.601501	1	G	1	8	2	Roads and Tracks	3	336.920701	63.180537	3	22.0808	2	18	2	4
240	320953	647233	331.4365	6.653023	4	0.3	331.1365	1	R	1.5	6	2	Minor Water Feature	6	330.554525	3.405981	4	0.881975	1	24	3	6
241	321263	649142	360.9717	4.690589	4	0.5	360.4717	1	G	1	4	1	Roads and Tracks	3	340.202964	360.157853	3	20.768736	2	18	2	2
242	321160	649137	368.557491	5.254898	4	0.2	368.357491	1	G	1	4	1	Minor Water Feature	6	337.342147	349.838865	3	31.215344	2	36	4	4
243	321058	649138	372.371913	5.843664	4	0.3	372.071913	1	G	1	4	1	Minor Water Feature	6	350.981	330.808112	3	21.390913	2	36	4	4
244	321059	649037	380.9395	5.798662	4	0.3	380.6395	1	R	1.5	6	2	Roads and Tracks	3	368.048223	371.981055	3	12.891277	2	18	2	4
245	320961	649036	381.656407	7.187806	4	0.5	381.156407	1	G	1	4	1	Roads and Tracks	3	368.048223	282.981619	3	13.608184	2	18	2	2
246	320856	649029	381.234695	6.747484	4	0.3	380.934695	1	G	1	4	1	Roads and Tracks	3	368.048223	201.410486	3	13.186472	2	18	2	2
247	320781	649022	381.359896	7.487452	4	0.5	380.859896	1	G	1	4	1	Minor Water Feature	6	369.547669	152.805186	3	11.812227	2	36	4	4
248	320663	649043	375.607602	5.853665	4	0.6	375.007602	2	G	1	8	2	Minor Water Feature	6	369.859318	48.036327	3	5.748284	1	18	2	4
249	320558	649038	379.477998	7.245524	4	0.3	379.177998	1	G	1	4	1	Minor Water Feature	6	372.979988	29.62971	3	6.49801	1	18	2	2
250	320461	649124	385.166989	6.943929	4	0.3	384.866989	1	G	1	4	1	Site Infrastructure	3	385.140965	0.246386	4	0.026024	1	12	2	2
251	320370	649149	381.825003	8.915756	6	0.3	381.525003	1	R	1.5	9	2	Site Infrastructure	3	385.560478	34.639306	3	-3.735475	1	9	1	2
252	320274	649152	386.386005	9.317367	6	0.3	386.086005	1	R	1.5	9	2	Minor Water Feature	6	384.916254	48.103934	3	1.469751	1	18	2	4
253	320163	649136	405.733096	10.005940	6	0.2	405.533096	1	G	1	6	2	Minor Water Feature	6	405.881413	14.244013	3	-0.148317	1	18	2	4
254	320057	649140	417.272997	7.344507	4	0.1	417.172997	1	G	1	4	1	Minor Water Feature	6	415.219134	48.956116	3	2.053863	1	18	2	2
255	319958	649138	420.332295	8.907252	6	0.2	420.132295	1	R	1.5	9	2	Minor Water Feature	6	420.601635	127.671777	3	-0.26934	1	18	2	4
256	319961	649027	440.105996	9.224852	6	0.4	439.705996	1	G	1	6	2	Minor Water Feature	6	439.855975	51.887156	3	0.250021	1	18	2	4
257	319858	648938	443.512994	8.106096	6	0.1	443.412994	1	R	1.5	9	2	Minor Water Feature	6	450.987842	88.930983	3	-7.474848	1	18	2	4
258	319857	648836	450.498602	5.635773	4	0.2	450.298602	1	G	1	4	1	Minor Water Feature	6	450.987842	144.023021	3	-0.48924	1	18	2	2
259	319857	648735	443.931003	8.722459	6	0.2	443.731003	1	G	1	6	2	Minor Water Feature	6	421.063248	128.565245	3	22.867755	2	36	4	8
260	319857	648640	421.838992	12.279710	6	0.3	421.538992	1	G	1	6	2	Minor Water Feature	6	421.063248	40.272439	3	0.775744	1	18	2	4
261	319958	648534	394.9958	14.507714	6	0.9	394.0958	2	G	1	12	2	Minor Water Feature	6	398.82336	21.757139	3	-3.82756	1	18	2	4
262	319960	648639	426.774002	13.976354	6	0.3	426.474002	1	C	2	12	2	Minor Water Feature	6	408.183968	98.090563	3	18.590034	2	36	4	8
263	319953	648729	443.595399	11.485747	6	0.2	443.395399	1	G	1	6	2	Minor Water Feature	6	414.608164	167.35532	3	28.987235	2	36	4	8
264	319963	648832	454.906094	4.118308	4	0.3	454.606094	1	G	1	4	1	Minor Water Feature	6	451.474301	117.054489	3	3.431793	1	18	2	2
265	319962	648944	452.105993	8.624272	6	0.6	451.505993	2	G	1	12	2	Minor Water Feature	6	451.474301	5.097833	4	0.631692	1	24	3	6
266	320055	648940	449.1875	9.981311	6	0.1	449.0875	1	G	1	6	2	Minor Water Feature	6	441.013925	56.790844	3	8.173575	1	18	2	4
267	320066	649036	429.102206	9.059632	6	0.3	428.802206	1	R	1.5	9	2	Minor Water Feature	6	424.434638	19.693844	3	4.667568	1	18	2	4
268	320154	649030	425.708	8.900356	6	0.4	425.308	1	G	1	6	2	Minor Water Feature	6	427.593348	27.773651	3	-1.885348	1	18	2	4
269	320156	648939	440.575898	8.882150	6	0.1	440.475898	1	G	1	6	2	Site Infrastructure	3	440.572276	46.224925	3	0.003622	1	9	1	2
270	320252	648929	430.348399	7.560098	4	0.1	430.248399	1	G	1	4	1	Site Infrastructure	3	434.932474	36.44696	3	-4.584075	1	9	1	1
271	320262	649032	413.324795	9.117407	6	0.3	413.024795	1	G	1	6	2	Site Infrastructure	3	414.523883	78.964816	3	-1.199088	1	9	1	2
272	320353	649043	404.668991	8.424393	6	0.2	404.468991	1	R	1.5	9	2	Site Infrastructure	3	404.193627	3.405981	4	0.475364	1	12	2	4
273	320365	648940	415.525002	6.970086	4	0.1	415.425002	1	G	1	4	1	Site Infrastructure	3	415.382736	1.569683	4	0.142266	1	12	2	2
274	320460	648937	394.943994	7.975957	4	0.7	394.243994	2	G	1	8	2	Site Infrastructure	3	399.335559	18.282525	3	-4.391565	1	9	1	2
275	320558	648928	387.859702	6.878885	4	0.3	387.559702	1	G	1	4	1	Minor Water Feature	6	388.972537	9.129387	4	-1.112835	1	24	3	3
276	320659	648946	393.068008	12.878044	6	0.6	392.468008	2	G	1	12	2	Minor Water Feature	6	381.442652	66.853236	3	11.625356	2	36	4	8
277	320754	648945	395.809492	13.811589	6	0.3	395.509492	1	G	1	6	2	Minor Water Feature	6	378.060378	158.979142	3	17.749114	2	36	4	8
278	320850	648940	394.417503	12.174995	6	0.3	394.117503	1	G	1	6	2	Minor Water Feature	6	378.060378	253.545152	3	16.357125	2	36	4	8
279	320945	648915	399.305	9.878398	6	0.4	398.905	1	G	1	6	2	Roads and Tracks	3	368.048223	345.223643	3	31.256777	2	18	2	4
280	321037	648930	394.604506	8.629853	6	0.3	394.304506	1	R	1.5	9	2	Minor Water Feature	6	358.841987	336.080129	3	35.762519	2	36	4	8
281	321164	648928	375.442999	10.398150	6	0.1	375.342999	1	R	1.5	9	2	Roads and Tracks	3	350.787022	255.625136	3	24.655977	2	18	2	4
282	321059	647343	331.984603	3.795743	2	1	330.984603	2	G	1	4	1	Minor Water Feature	6	330.992902	33.190479	3	0.991701	1	18	2	2
283	320956	647342	356.783306	16.292246	8	0.1	356.683306	1	G	1	8	2	Roads and Tracks	3	344.967421	30.97933	3	11.815885	2	18	2	4
284	320854	647343	381.400692	14.406384	6	0.2	381.200692	1	G	1	6	2	Site Infrastructure	3	386.24706	20.909924	3	-4.846368	1	9	1	2
285	320757	647337	390.378412	12.052752	6	0.1	390.278412	1	G	1	6	2	Site Infrastructure	3	389.505047	9.019041	4	0.873365	1	12	2	4
286	320658	647338	404.328109	11.563270	6	0.2	404.128109	1	G	1	6	2	Site Infrastructure	3	384.942992	82.308619	3	19.385117	2	18	2	4
287	320557	647337	412.915602	14.627897	6	0.4	412.515602	1	G	1	6	2	Minor Water Feature	6	414.59621	9.822683	4	-1.680608	1	24	3	6
288	320456	647335	439.354004	12.953437	6	0.2	439.154004	1	G	1	6	2	Site Infrastructure	3	439.236095	0.988992	4	0.117909	1	12	2	4
289	320356	647340	447.884001	9.202233	6	0.3	447.584001	1	G	1	6	2	Site Infrastructure	3	454.0038	42.091853	3	-6.119799	1	9	1	2
290	320259	647339	449.176101	7.100766	4	0.2	448.976101	1	G	1	4	1	Site Infrastructure	3	449.043317	5.442362	4	0.132784	1	12	2	2
291	320161	647339	436.951098	15.439456	8	0.2	436.751098	1	G	1	8	2	Minor Water Feature	6	433.937076	38.838405	3	3.014022	1	18	2	4
292	320059	647339	415.441006	17.084393	8	0.1	415.341006	1	G	1	8	2	Minor Water Feature	6	410.796984	22.757137	3	4.644022	1	18	2	4
293	319960	647336	393.824002	14.943988	6	0.2	393.624002	1	G	1	6	2	Minor Water Feature	6	378.611176	58.054606	3	15.212826	2	36	4	8
294	319854	647340	367.247002	13.116096	6	0.1	367.147002	1	G	1	6	2	Minor Water Feature	6	360.600356	22.919745	3	6.646646	1	18	2	4
295	319754	647332	352.961301	8.604241	6	0.2	352.761301	1	G	1	6	2	Minor Water Feature	6	353.467683	13.151369	3	-0.506382	1	18	2	4
296	319655	647340	340.420006	7.727863	4	0.2	340.220006	1	G	1	4	1	Minor Water Feature	6	344.137285	79.338767	3	-3.717279	1	18	2	2
297	319655	647436	340.572504	11.193761	6	0.2	340.372504	1	G	1	6	2	Minor Water Feature	6	350.56859	150.727968	3	-9.996086	1	18	2	4
298	319754	647439	356.667602	10.049197	6	0.1	356.567602	1	G	1	6	2	Minor Water Feature	6	358.08578	97.210454	3	-1.418178	1	18	2	4
299	319860	647440	372.267494	14.360855	6	0.2	372.067494	1	G	1	6	2	Minor Water Feature	6	368.003253	66.367559	3	4.264241	1	18	2	4
300	319958	647438	384.911994	17.278632	8	0.2	384.711994	1	G	1	8	2	Minor Water Feature	6	377.52514	43.993803	3	7.386854	1	18	2	4
301	320060	647434	407.984003	20.364228	8	0.1	407.884003	1	G	1	8	2	Minor Water Feature	6	393.843147	55.666961	3	14.140856	2	36	4	8
302	320158	647439	433.820002	16.036164	8	0.2	433.620002	1	G	1	8	2	Site Infrastructure	3	433.365736	1.757585	4	0.454266	1	12	2	4
303	320254	647439	454.316599	8.136057	6	0.2	454.116599	1	G	1	6	2	Site Infrastructure	3	452.660007	9.20659	4	1.656592	1	12	2	4
304	320358	647438	459.223092	5.568803	4	0.3	458.923092	1	G	1	4	1	Site Infrastructure	3	456.572792	27.112317	3	2.6503	1	9	1	1
305	320459	647440	450.076508	10.328686	6	0.3	449.776508	1	G	1	6	2	Site Infrastructure	3	449.374058	7.306073	4	0.70245	1	12	2	4
306	320464	647427	448.322395	11.125950	6	0.3	448.022395	1	G	1	6	2	Site Infrastructure	3	448.324063	3.032739	4	-0.001668	1	12	2	4
307	320557	647439	439.985402	12.425907	6	0.3	439.685402	1	G	1	6	2	Minor Water Feature	6	422.871555	82.609024	3	17.113847	2	36	4	8
308	320660	647441	427.428995	10.259389	6	0.3	427.128995	1	G	1	6	2	Site Infrastructure	3	405.779627	100.42808	3	21.649368	2	18	2	4
309	320760	647437	411.65051	11.666979	6	0.2	411.45051	1	G	1	6	2	Site Infrastructure	3	408.71896	10.115073	3	2.93155	1	9	1	2
310	320857	647437	393.246208	12.641172	6	0.1	393.146208	1	G	1	6	2	Site Infrastructure	3	394.092856	6.108282	4	-0.846648	1	12	2	4
311	320958	647439	369.311001	18.576840	8	0.1	369.211001	1	G	1	8	2	Roads and Tracks	3	341.903871	72.261851	3	27.40713	2	18	2	4
312	321058	647435	332.685002	9.138727	6	1.2	331.485002	3	G	1	18	3	Roads and Tracks	3	334.148134	14.831538	3	-1.463132	1	9	1	3
313	321157	647441	330.741707	1.637267	1	1.5	329.241707	3	G	1	3	1	Roads and Tracks	3	330.727235	2.09993	4	0.014472	1	12	2	2
314	321060	647539	348.293509	14.882364	6	0.1	348.193509	1	G	1	6	2	Minor Water Feature	6	346.924071	21.236867	3	1.369438	1	18	2	4
315	321060	647539	348.293509	14.882364	6	0.1	348.193509	1	G	1	6	2	Minor Water Feature	6	346.924071	21.236867	3	1.369438	1	18	2	4
316	320936	647558	374.548007	13.699017	6	0.3	374.248007	1	G	1	6	2	Minor Water Feature	6	365.922539	25.982346	3	8.625468	1	18	2	4
317	320857	647540	401.125992	12.105313	6	0.1	401.025992	1	G	1	6	2	Site Infrastructure	3	402.889152	81.830791	3	-1.76316	1	9	1	2
318	320759	647536	426.090002	11.644200	6	0.3	425.790002	1	G	1	6	2	Site Infrastructure	3	407.291194	81.025231	3	18.798808	2	18	2	4
319	320659	647540	443.985005	8.721971	6	0.3	443.685005	1	G	1	6	2	Minor Water Feature	6	450.312766	81.011368	3	-6.327761	1	18	2	4
320	320556	647538	453.1714	8.442931	6	0.2	452.9714	1	G	1	6	2	Site Infrastructure	3	456.577498	96.635088	3	-3.406098	1	9	1	2
321	320453	647540	457.478497	6.309914	4	0.2	457.278497	1	G	1	4	1	Site Infrastructure	3	457.385343	2.001626	4	0.093154	1	12	2	2
322	320351	647532	462.03399	3.053538	2	0.5	461.53399	1	G	1	2	1	Site Infrastructure	3	457.063425	95.264773	3	4.970565	1	9	1	1
323	320258	647540	456.81799	5.580787	4	0.3	456.51799	1	G	1	4	1	Site Infrastructure	3	450.929689	62.095551	3	5.888301	1	9	1	1
324	320159	647537	444.886406	9.078192	6	0.4	444.486406	1	G	1	6	2	Site Infrastructure	3	445.272652	3.032739	4	-0.386246	1	12	2	4
325	320059	647536	426.636005	12.662517	6	0.2	426.436005	1	G	1	6	2	Site Infrastructure	3	435.718738	47.283487	3	-9.082733	1	9	1	2

491	320357	647739	446.83069	6.594280	4	0.1	446.73069	1	G	1	4	1	Site Infrastructure	3	451.850314	106.985284	3	-5.019624	1	9	1	1
492	320260	647741	436.3685	9.410529	6	0.4	435.9685	1	G	1	6	2	Minor Water Feature	6	427.907955	56.703742	3	8.460545	1	18	2	4
493	320160	647746	426.426006	12.093772	6	0.2	426.226006	1	G	1	6	2	Minor Water Feature	6	429.832231	36.904895	3	-3.406225	1	18	2	4
494	320760	647738	430.97899	9.446073	6	0.5	430.47899	1	R	1.5	9	2	Minor Water Feature	6	433.012182	23.424135	3	-2.033192	1	18	2	4
495	320857	647737	416.695605	9.318941	6	0.1	416.595605	1	G	1	6	2	Minor Water Feature	6	420.184946	30.276659	3	-3.489341	1	18	2	4
496	320962	647743	414.758808	10.991680	6	0.2	414.558808	1	G	1	6	2	Minor Water Feature	6	399.270389	113.983128	3	15.488419	2	36	4	8
497	321063	647739	404.823311	11.770906	6	0.1	404.723311	1	G	1	6	2	Minor Water Feature	6	399.272375	109.6229	3	5.550936	1	18	2	4
498	321159	647740	387.908998	15.541110	8	0.4	387.508998	1	G	1	8	2	Minor Water Feature	6	399.272375	64.509385	3	-11.363377	1	18	2	4
499	321248	647738	368.542192	17.484892	8	0.4	368.142192	1	G	1	8	2	Roads and Tracks	3	343.893881	66.136682	3	24.648311	2	18	2	4
500	321341	647734	350.785999	14.027389	6	0.2	350.585999	1	G	1	6	2	Roads and Tracks	3	348.241644	9.961662	4	2.544355	1	12	2	4
501	321360	647939	367.116504	6.063822	4	0.2	366.916504	1	G	1	4	1	Site Infrastructure	3	357.416761	51.242917	3	9.699743	1	9	1	1
502	321259	647937	384.877693	7.841843	4	0.3	384.577693	1	G	1	4	1	Minor Water Feature	6	385.75644	46.441689	3	-0.878747	1	18	2	2
503	321158	647937	396.100003	9.749487	6	0.2	395.900003	1	G	1	6	2	Minor Water Feature	6	389.152644	33.374306	3	6.947359	1	18	2	4
504	321059	647940	420.955498	12.057875	6	0.4	420.555498	1	G	1	6	2	Minor Water Feature	6	391.510728	117.862194	3	29.44477	2	36	4	8
505	320956	647938	438.588905	14.872409	6	0.2	438.388905	1	R	1.5	9	2	Minor Water Feature	6	421.380124	208.400627	3	17.208781	2	36	4	8
506	320859	647942	452.487703	11.654917	6	0.1	452.387703	1	G	1	6	2	Minor Water Feature	6	421.380124	178.842426	3	31.107579	2	36	4	8
507	320756	647938	457.243692	6.024194	4	0.2	457.043692	1	G	1	4	1	Site Infrastructure	3	453.720265	89.697176	3	3.523427	1	9	1	1
508	321132	647543	331.271594	8.958563	6	1.3	329.971594	3	G	1	18	3	Site Infrastructure	3	332.153329	8.345149	4	-0.881735	1	12	2	6
509	321239	647338	368.969411	22.266424	8	0.1	368.869411	1	G	1	8	2	Site Infrastructure	3	369.695946	2.472834	4	-0.726535	1	12	2	4
510	321243	647238	380.432707	12.265100	6	0.2	380.232707	1	G	1	6	2	Site Infrastructure	3	374.924651	23.197494	3	5.508056	1	9	1	2
511	321242	647139	385.203003	7.999836	4	0.3	384.903003	1	G	1	4	1	Site Infrastructure	3	383.188367	71.219063	3	2.014636	1	9	1	1
512	321221	647040	389.728502	7.145013	4	0.4	389.328502	1	G	1	4	1	Site Infrastructure	3	388.665483	18.381107	3	1.063019	1	9	1	1
513	321211	646991	391.595199	7.411143	4	0.3	391.295199	1	G	1	4	1	Site Infrastructure	3	391.125321	5.144561	4	0.469878	1	12	2	2
514	321191	646938	389.977311	8.609189	6	0.3	389.677311	1	G	1	6	2	Site Infrastructure	3	389.286295	4.869734	4	0.691016	1	12	2	4
515	321185	646839	390.966495	9.416456	6	0.4	390.566495	1	G	1	6	2	Site Infrastructure	3	386.06769	30.459785	3	4.898805	1	9	1	2
516	321209	646738	398.810004	5.939814	4	0.3	398.510004	1	G	1	4	1	Site Infrastructure	3	385.190604	105.873008	3	13.6194	2	18	2	2
517	321161	646643	397.520305	4.984070	4	0.2	397.320305	1	G	1	4	1	Major Water Feature	8	394.686879	91.055617	3	2.833426	1	24	3	3
518	321169	647042	383.363603	7.913726	4	0.3	383.063603	1	G	1	4	1	Site Infrastructure	3	383.467081	3.032739	4	-0.103478	1	12	2	2
519	321159	646938	385.422108	8.252595	6	0.2	385.222108	1	G	1	6	2	Site Infrastructure	3	385.782903	2.472834	4	-0.360795	1	12	2	4
520	321120	646839	381.320494	8.668244	6	0.3	381.020494	1	G	1	6	2	Site Infrastructure	3	381.524528	1.243586	4	-0.204034	1	12	2	4
521	321063	646846	372.281008	8.615603	6	0.6	371.681008	2	G	1	12	2	Site Infrastructure	3	375.064741	26.575852	3	-2.783733	1	9	1	2
522	320959	646843	353.226797	11.337256	6	0.4	352.826797	1	R	1.5	9	2	Site Infrastructure	3	374.247806	108.409344	3	-21.021009	1	9	1	2
523	320866	646846	338.500998	9.855045	6	0.5	338.000998	1	G	1	6	2	Site Infrastructure	3	326.522614	65.129913	3	11.978384	2	18	2	4
524	320854	646937	331.935904	9.563933	6	0.1	331.835904	1	G	1	6	2	Site Infrastructure	3	328.699191	12.919385	3	3.236713	1	9	1	2
525	320901	647037	332.080906	10.083581	6	0.3	331.780906	1	G	1	6	2	Site Infrastructure	3	329.672845	16.350899	3	2.408061	1	9	1	2
526	320954	647078	339.1879	14.943238	6	0.2	338.9879	1	G	1	6	2	Site Infrastructure	3	333.233071	20.495534	3	5.954829	1	9	1	2
527	321064	647139	348.669604	16.190948	8	0.3	348.369604	1	G	1	8	2	Minor Water Feature	6	348.237159	9.20659	4	0.432445	1	24	3	6
528	321123	647115	370.339999	15.178832	8	0.1	370.239999	1	G	1	8	2	Site Infrastructure	3	374.755913	20.737756	3	-4.415914	1	9	1	2
529	321075	647034	374.027008	9.572568	6	0.3	373.727008	1	G	1	6	2	Minor Water Feature	6	375.647312	16.242953	3	-1.620304	1	18	2	4
530	321111	647191	355.832896	16.764123	8	0.2	355.632896	1	G	1	8	2	Site Infrastructure	3	355.344883	56.767944	3	0.488013	1	9	1	2
531	321062	647229	336.388008	12.032306	6	0.4	335.988008	1	R	1.5	9	2	Roads and Tracks	3	334.577801	7.652379	4	1.810207	1	12	2	4
532	321157	647345	337.517996	16.524236	8	0.4	337.117996	1	G	1	8	2	Site Infrastructure	3	338.510499	4.349863	4	-0.992503	1	12	2	4
533	319963	646148	364.822509	13.206098	6	0.1	364.722509	1	G	1	6	2	Roads and Tracks	3	364.491664	2.042475	4	0.330845	1	12	2	4
534	319861	646117	366.90959	12.098889	6	0.3	366.60959	1	G	1	6	2	Roads and Tracks	3	366.771328	61.434517	3	0.138262	1	9	1	2
535	319760	646099	366.606497	12.367398	6	0.2	366.406497	1	G	1	6	2	Roads and Tracks	3	340.103222	120.047734	3	26.503275	2	18	2	4
536	319658	646036	370.2004	14.713593	6	0.2	370.0004	1	G	1	6	2	Roads and Tracks	3	327.461756	151.917076	3	42.738644	2	18	2	4
537	319597	645940	376.195993	16.804617	8	0.2	375.995993	1	G	1	8	2	Roads and Tracks	3	314.652975	201.396269	3	61.543018	2	18	2	4
538	319557	646084	331.872997	14.724156	6	0.3	331.572997	1	G	1	6	2	Roads and Tracks	3	324.928987	66.922768	3	6.94401	1	9	1	2
539	319564	646147	327.461993	11.141107	6	0.2	327.261993	1	G	1	6	2	Roads and Tracks	3	326.344931	10.476283	3	1.117062	1	9	1	2
540	319555	646173	324.391507	10.691859	6	0.2	324.191507	1	G	1	6	2	Roads and Tracks	3	325.878975	14.013925	3	-1.487468	1	9	1	2
541	319656	646199	335.178804	11.632153	6	0.2	334.978804	1	G	1	6	2	Roads and Tracks	3	333.854832	10.044237	3	1.323972	1	9	1	2
542	319961	646110	372.973996	13.064697	6	0.1	372.873996	1	R	1.5	9	2	Roads and Tracks	3	366.953096	28.209149	3	6.0209	1	9	1	2
543	320059	646065	388.146999	11.889579	6	0.2	387.946999	1	G	1	6	2	Site Infrastructure	3	394.909109	31.039841	3	-6.76211	1	9	1	2
544	320060	646040	393.822502	11.087699	6	0.1	393.722502	1	G	1	6	2	Site Infrastructure	3	394.909109	6.086946	4	-1.086607	1	12	2	4
545	319959	645982	400.641602	10.857387	6	0.2	400.441602	1	G	1	6	2	Site Infrastructure	3	402.32223	28.381623	3	-1.680628	1	9	1	2
546	319879	645939	405.643903	11.193642	6	0.2	405.443903	1	G	1	6	2	Site Infrastructure	3	403.973534	110.127682	3	1.670369	1	9	1	2
547	319768	645836	414.591	8.112646	6	0.2	414.391	1	G	1	6	2	Site Infrastructure	3	403.973534	253.030705	3	10.617466	2	18	2	4
548	319728	645739	420.668902	2.915659	2	0.4	420.268902	1	G	1	2	1	Minor Water Feature	6	405.198933	225.039059	3	15.469969	2	36	4	4
549	319856	645692	413.269001	8.144294	6	0.2	413.069001	1	G	1	6	2	Minor Water Feature	6	405.198933	154.949275	3	8.070068	1	18	2	4
550	320055	645805	416.159996	3.210016	2	0.4	415.759996	1	G	1	2	1	Site Infrastructure	3	408.43859	149.046482	3	7.721406	1	9	1	1
551	320260	645908	420.334496	4.977551	4	0.3	420.034496	1	G	1	4	1	Roads and Tracks	3	398.535222	116.047956	3	21.799274	2	18	2	2
552	320256	646026	397.822597	11.130299	6	0.2	397.622597	1	G	1	6	2	Roads and Tracks	3	397.485686	3.050984	4	0.336911	1	12	2	4
553	320158	646032	394.712296	9.713491	6	0.1	394.612296	1	G	1	6	2	Site Infrastructure	3	397.059055	13.077282	3	-2.346759	1	9	1	2
554	320009	646008	398.063192	10.824634	6	0.3	397.763192	1	G	1	6	2	Site Infrastructure	3	397.961767	2.472834	4	0.101425	1	12	2	4
555	320217	648895	436.957999	6.731731	4	0.1	436.857999	1	g	1	4	1	Site Infrastructure	3	437.067017	1.2216	4	-0.109018	1	12	2	2
556	320217	648904	436.48301	7.075543	4	0.1	436.38301	1	G	1	4	1	Site Infrastructure	3	436.874679	5.016164	4	-0.391669	1	12	2	2
557	320217	648915	435.65	7.495757	4	0.1	435.55	1	G	1	4	1	Site Infrastructure	3	436.874679	15.976649	3	-1.224679	1	9	1	1
558	320218	648925	434.162993	7.861864	4	0.1	434.062993	1	g	1	4	1	Site Infrastructure	3	436.874679	26.0181	3	-2.711686	1	9	1	1
559	320217	648885	437.272002	6.349718	4	0.1	437.172002	1	g	1	4	1	Site Infrastructure	3	437.407999	1.2216	4	-0.135997	1	12	2	2
560	320208	648875	439.103493	6.072330	4	0.1	439.003493	1	G	1	4	1	Site Infrastructure	3	439.422664	2.001626	4	-0.319171	1	12	2	2
561	320194	648875	441.253999	6.235080	4	0.1	441.153999	1	G	1	4	1	Site Infrastructure	3	440.960363	2.439202	4	0.293636	1	12	2	2
562	320188	648875	442.141997	6.304830	4	0.01	442.131997	1	G	1	4	1	Site Infrastructure	3	442.441923	2.001626	4	-0.299926	1	12	2	2
563	320177	648874	443.619308	6.389445	4	0.1	443.519308	1	g	1	4	1	Site Infrastructure	3	443.708402	0.758226	4	-0.089094	1	12	2	2
564	320168	648876	444.597991	6.554949	4	0.1	444.497991	1	G	1	4	1	Site Infrastructure	3	443.708402	8.47242	4	0.889589	1	12	2	2
565	320157	648875	445.963504	6.600964	4	0.1	445.863504	1	G	1	4	1	Site Infrastructure	3	443.708402	19.266767	3	2.255102	1	9	1	1
566	320186	648438	420.606791	11.663224	6	0.1	420.506791	1	G	1	6	2	Site Infrastructure	3	419.542682	23.959931	3	1.064109	1	9	1	2
567	320187	648426	420.256007	11.061509	6	0.1	420.156007	1	G	1	6	2	Site Infrastructure	3	419.542682	11.982642	3	0.713325	1	9	1	2
568	320187	648414	419.680008	10.856417	6	0.1	419.580008	1	G	1	6	2	Site Infrastructure	3	419.542682	0.758226	4	0.137326	1	12	2	4
569	320188	648405	419.430997	10.693575	6	0.1	419.330997	1	g	1	6	2	Site Infrastructure	3	419.062673	2.001626	4	0.368324	1	12	2	4
570	320187	648395	418.750011	10.581824	6	0.1	418.650011	1	g	1	6	2	Site Infrastructure	3	418.561973	1.2216	4	0.188038	1	12	2	4
571	320190	648389	418.803995	10.423842	6	0.1	418.703995	1	g	1	6	2	Site Infrastructure	3	419.008896	1.243586	4	-0.204901	1	12	2	4
572	320187	648385	417.96749	10.437302	6	0.1	417.86749	1	G	1	6	2	Site Infrastructure	3	417.757722	1.2216	4	0.209768	1	12	2	4
573	320187	648376	417.166003	10.307232	6	0.01	417.156003	1	G	1	6	2	Site Infrastructure	3	416.869471	2.09993	4	0.296532	1	12	2	4
574	320187	648366	416.271996	10.641110	6	0.01	416.261996	1	G	1	6	2	Site Infrastructure	3	415.970039	2.09993	4	0.301957	1	12	2	4
575	320187	648352	414.897801	11.182957	6	0.1	414.797801	1	G	1	6	2	Site Infrastructure	3	414.989158	2.177178	4	-0.091357	1	12	2	4
576	320187	648337	412.961096	11.763508	6	0.01	412.951096	1	G	1	6	2	Site Infrastructure	3	413.955213	4.708408	4	-0.994117	1	12	2	4
577	320138	648382	407.945004	12.153990	6	0.1	407.845004	1	G	1	6	2	Site Infrastructure	3	407.694522	2.693382	4	0.250482	1	12	2	4
578	320138	648389	408.374994	12.178209	6	0.1	408.274994	1	g	1	6	2	Site Infrastructure	3	407.965157	1.757585	4	0.409837	1	12	2	4
579	320147	648391	410.531495	11.853706	6	0.01	410.521495	1	R	1.5	9	2	Site Infrastructure	3	410.279269	2.09993	4	0.252226	1	12	2	4
580	320158	648391	413.068501	11.448634	6	0.1	412.968501	1	R	1.5	9	2	Site Infrastructure	3	412.547229	2.631332	4	0.521272	1	12	2	4
581	320167	648391	414.872989	11.117211	6	0.1	414.772989	1	G	1	6	2	Site Infrastructure	3	414.622483	2.09993	4	0.250506	1	12	2	4
582	320177	648391	416.722995	10.772847	6	0.1	416.622995	1	G	1	6	2	Site Infrastructure	3	416.472489	2.09993	4	0.250506	1	12	2	4
583	320198	648391	420.270308	10.250300	6	0.1	420.170308	1	G	1	6	2	Site Infrastructure	3	419.818909	2.631332	4	0.451399	1	12	2	4
584	320207	648389	421.466701	10.019987	6	0.01	421.456701	1	G	1	6	2	Site Infrastructure	3	421.360755	0.758226	4	0.105946	1	12	2	4
585	320833	647465	398.584503	12.562772	6	0.01	398.574503	1	G	1	6	2	Site Infrastructure	3	397.439373	6.212367	4	1.14513	1	12	2	4
586	320832	647455	396.815002	12.597938	6	0.01	396.805002	1	G	1	6	2	Site Infrastructure	3	396.722669	1.2216	4	0.092333	1	12	2	4
587	320833	647445	395.590497	12.604284	6	0.1	395.490497	1	G	1	6	2	Site Infrastructure	3	395.586977	2.001626	4	0.00352	1	12	2	4
588	320833	647435	395.018497	12.625041	6	0.1	394.918497	1	G	1	6	2	Site Infrastructure	3	395.201052	2.001626	4	-0.182555	1	12	2	4
589	320833	647426	394.710197	12.643721	6	0.1	394.610197	1	G	1	6	2	Site Infrastructure	3	394.702484	2.631332	4	0.007713	1	12	2	4
590	320830	647415	393.995003	12.683697	6	0.1	393.895003	1	G	1	6	2	Site Infrastructure	3	393.784994	1.569683	4	0.210009	1	12	2	4
591	320834	647406	392.726996	12.824841	6	0.2	392.526996	1	G	1	6	2	Site Infrastructure	3	392.302346	2.977769	4	0.42465	1	12	2	4
592	320832	647395	391.867987	12.873854	6	0.1	391.767987	1	G	1	6	2	Site Infrastructure	3	391.858121	1.2216	4	0.009866	1	12	2	4
593	320832	647386	390.954995	12.945576	6	0.1	390.854995	1	G	1	6	2	Site Infrastructure	3	390.80324	2.09993	4	0.151755	1	12	2	4
594	320833	647376	389.654011	13.057708	6	0.1	389.554011	1	G	1	6	2	Site Infrastructure	3	389.617497	2.631332	4	0.036514	1	12	2	4
595	320832	647365	388.416	13.176117	6	0.1	388.316	1	G	1	6	2	Site Infrastructure	3	388.381911	1.2216	4	0.034089	1	12	2	4
596	320885	647424	387.458499	13.814828	6	0.1	387.358499	1	G	1	6	2	Site Infrastructure	3	391.375878	23.757136	3	-3.917379	1	9	1	2
597	320887	647416	386.175992	14.165810	6	0.1	386.075992	1	G	1	6	2	Site Infrastructure	3	390.236908	25.831467	3	-4.060916	1	9	1	2
598	320880	647415	387.220001	13.716377	6	0.1	387.120001	1	G	1	6	2	Site Infrastructure	3	390.236908	18.781584	3	-3.016907	1	9	1	2
599	320868	647414	389.100306	13.292146	6	0.1	389.000306	1	G	1	6	2	Site Infrastructure	3	390.236908	6.757226	4	-1.136602	1	12	2	4
600	320857	647414	390.940905	13.118070	6	0.2	390.740905	1	G	1	6	2	Site Infrastructure	3	391.066453	0.758226	4	-0.125548	1	12	2	4
601	320849	647415	392.11001	12.976066	6	0.2	391.91001	1	G	1	6	2	Site Infrastructure	3	391.78985	2.439202	4	0.32016	1	12	2	4
602	320837	647415	393.308995	12.791412	6	0.2	393.108995	1	G	1	6	2	Site Infrastructure	3	393.292118	1.2216	4	0.016877	1	12	2	4
603	320819	647416	394.8083	12.507982	6	0.1	394.7083	1	G	1	6	2	Site Infrastructure	3	394.607893	2.977769	4	0.200407	1	12	2	4
604	320808	647415	394.651491	12.339365	6	0.2	394.451491	1	G	1	6	2	Site Infrastructure	3	394.820616	2.001626	4	-0.169125	1	12	2	4
605	320797	647412	397.619999	12.173977	6	0.1	397.519999	1	G	1	6	2	Site Infrastructure	3	398.29464	2.177178	4	-0.674641	1	12	2	4
606	320787	647415	401.235495	12.009056	6	0.01	401.225495	1	G	1	6	2	Site Infrastructure	3	401.24117	1.2216	4	-0.005675	1	12	2	4
607	320778	647416	403.497	11.866555	6	0.1	403.397	1	G	1	6	2	Site Infrastructure	3	403.556768	2.631332	4	-0.059768	1	12	2	4
608	320784	647366	392.849994	12.172988	6	0.3	392.549994	1	G	1	6	2	Site Infrastructure	3	392.520123	2.977769	4	0.329871	1	12	2	4
609	320795	647352	390.610004	12.592846	6	0.1	390.510004	1	G	1	6	2	Site Infrastructure	3	390.750028	2.389918	4	-0.140024	1	12	2	4
610	320767	647297	385.670999	13.268510	6	0.1	385.570999	1	G	1	6	2	Site Infrastructure	3	385.899032	2.177178	4	-0.228033	1	12	2	4
611	320718	647268	384.625003	12.937538	6	0.1	384.525003	1	G	1	6	2	Site Infrastructure	3	384.857077	2.042475	4	-0.232074	1	12	2	4
612	320670	647253	384.79351	12.156348	6	0.1	384.69351	1	G	1	6	2	Site Infrastructure	3	384.862298	1.621452	4	-0.068788	1	12	2	4
613	320621	647221	386.409003	12.369673	6	0.1	386.309003	1	R	1.5	9	2	Site Infrastructure	3	386.258151	1.973704	4	0.150852	1	12	2	4
614	320606	647190	389.514005	12.708510	6	0.2	389.314005	1	G	1	6	2	Site Infrastructure	3	389.440318	0.988992	4	0.073687	1	12	2	4
615	320597	647150	390.220009	12.828166	6	0.1	390.120009	1	G	1	6	2	Site Infrastructure	3	390.320896	1.2216	4	-0.100887	1	12	2	4
616	320580	647086	390.713004	12.715822	6	0.1	390.613004	1	G	1	6	2	Site Infrastructure	3	391.816644	8.973478	4	-1.10364	1	12	2	4
617	320508	647002	390.608903	11.958173	6	0.1	390.508903	1	G	1	6	2	Site Infrastructure	3	390.806537	2.693382	4	-0.197634	1	12	2	4
618	320498	646974	388.390291	11.841681	6	0.1	388.290291	1	G	1	6	2	Site Infrastructure	3	388.385514	1.757585	4	0.004777	1	12	2	4
619	320478	646939	384.515697	12.327493	6	0.1	384.415697	1	G	1	6	2	Site Infrastructure	3	384.484969	1.757585	4	0.030728	1	12	2	4
620	320468	646939	384.22789	12.383565	6	0.01	384.21789	1	G	1	6	2	Site Infrastructure	3	384.145485	1.757585	4	0.082405	1	12	2	4
621	320448	646939	383.27159	12.440065	6	0.01	383.26159	1	G	1	6	2	Site Infrastructure	3	383.216957	1.757585	4	0.054633	1	12	2	4
622	320438	646940	383.04101	12.445664	6	0.1	382.94101	1	G	1	6	2	Site Infrastructure	3	382.858876	2.001626	4	0.182134	1	12	2	4
623	320425	646942	382.467	12.415571	6	0.1	382.367	1	G	1	6	2	Site Infrastructure	3	382.60601	2.389918	4	-0.13901	1	12	2	4
624	320418	646942	382.588404	12.362524	6	0.01	382.578404	1	G	1	6	2	Site Infrastructure	3	382.684048	2.693382	4	-0.095644	1	12	2	4
625	320408	646942	381.866013	12.286742	6	0.01	381.856013	1	G	1	6	2	Site Infrastructure	3	381.987896	2.693382	4	-0.121883	1	12	2	4
626	320398	646940	380.843994	12.267204	6	0.01	380.833994	1	G	1	6	2	Site Infrastructure	3	380.976153	3.381643	4	-0.132159	1	12	2	4
627	320386	646940	379.939	12.174753	6	0.1	379.839	1	G	1	6	2	Site Infrastructure	3	381.216148	11.011317	3	-1.277148	1	9	1	2
628	320378	646941	379.456294	12.086258	6	0.01	379.446294	1	G	1	6	2	Site Infrastructure	3	381.216148	18.494672	3	-1.759854	1	9	1	2
629	320425	646886	375.88849	13.450384	6	0.01	375.87849	1	G	1	6	2	Site Infrastructure	3	379.877768	28.068832	3	-3.989278	1	9	1	2
630	320424	646894	377.1695	13.332841	6	0.1	377.0695	1	G	1	6	2	Site Infrastructure	3	379.877768	20.166415	3	-2.708268	1	9	1	2
631	320421	646906	378.58399	13.143583	6	0.1	378.48399	1	G	1	6	2	Site Infrastructure	3	379.557747	8.044968	4	-0.973757	1	12	2	4
632	320420	646916	379.697002	13.000218	6	0.1	379.597002	1	G	1	6	2	Site Infrastructure	3	379.557747	2.319764	4	0.139255	1	12	2	4
633	320422	646923	380.594607	12.923563	6	0.01	380.584607	1	G	1	6	2	Site Infrastructure	3	380.663866	1.287442	4	-0.069259	1	12	2	4
634	320422	646935	381.990504	12.600275	6	0.1	381.890504	1	G	1	6	2	Site Infrastructure	3	381.849441	1.2216	4	0.141063	1	12	2	4
635	320424	646961	383.750703	11.842551	6	0.01	383.740703	1	G	1	6	2	Site Infrastructure	3	383.781585	2.977769	4	-0.030882	1	12	2	4
636	320425	646953	383.240501	12.087517	6	0.1	383.140501	1	G	1	6	2	Site Infrastructure	3	383.383103	1.621452	4	-0.142602	1	12	2	4
637	320424	646974	385.815003	11.455669	6	0.1	385.715003	1	G	1	6	2	Site Infrastructure	3	385.746347	2.24328	4	0.068656	1	12	2	4
638	320424	646986	388.035095	10.950529	6	0.01	388.025095	1	G	1	6	2	Site Infrastructure	3	386.504598	10.044058	3	1.530497	1	9	1	2
639	320424	646992	389.149006	10.691231	6	0.2	388.949006	1	G	1	6	2	Site Infrastructure	3	387.2646	14.60238	3	1.884406	1	9	1	2
640	320420	647088	406.864499	7.608194	4	0.1	406.764499	1	G	1	4	1	Site Infrastructure	3	408.21292	12.68401	3	-1.348421	1	9	1	1
641	320415	647132	413.102998	8.494873	6	0.1	413.002998	1	G	1	6	2	Site Infrastructure	3	413.334571	2.389918	4	-0.231573	1	12	2	4
642	320423	647182	418.725891	10.921514	6	0.1	418.625891	1	G	1	6	2	Site Infrastructure	3	418.782673	2.693382	4	-0.056782	1	12	2	4
643	320437	647236	427.478709	13.266020	6	0.1	427.378709	1	G	1	6	2	Site Infrastructure	3	427.144246	2.09993	4	0.334463	1	12	2	4
644	320454	647288	434.221293	13.613547	6	0.1	434.121293	1	G	1	6	2	Site Infrastructure	3	434.757194	2.947186	4	-0.535901	1	12	2	4
645	320465	647382	443.061005	12.829324	6	0.1	442.961005	1	G	1	6	2	Site Infrastructure	3	443.131443	2.389918	4	-0.070438	1	12	2	4
646	320465	647479	453.585994	8.707848	6	0.1	453.485994	1	G	1	6	2	Site Infrastructure	3	453.566677	1.243586	4	0.019317	1	12	2	4
647	320452	647484	454.222802	7.995654	4	0.1	454.122802	1	G	1	4	1	Site Infrastructure	3	454.02187	9.242992	4	0.200932	1	12	2	2
648	320421	647469	456.215997	7.338443	4	0.01	456.205997	1	G	1	4	1	Site Infrastructure	3	455.858663	4.964646	4	0.357334	1	12	2	2
649	320405	647434	455.294008	8.566421	6	0.1	455.194008	1	G	1	6	2	Site Infrastructure	3	455.681941	3.757327	4	-0.387933	1	12	2	4
650	320369	647406	455.608694	8.071030	6	0.1	455.508694	1	G	1	6	2	Site Infrastructure	3	455.133131	2.977769	4	0.475563	1	12	2	4
651	320323	647381	454.737012	6.272322	4	0.1	454.637012	1	G	1	4	1	Site Infrastructure	3	454.551687	2.631332	4	0.185325	1	12	2	2
652	320268	647376	452.650004	6.486357	4	0.1	452.550004	1	G	1	4	1	Site Infrastructure	3	452.37889	2.631332	4	0.271114	1	12	2	2
653	320231	647410	449.214497	10.877283	6	0.1	449.114497	1	G	1	6	2	Site Infrastructure	3	449.21577	0.988992	4	-0.001273	1	12	2	4
654	320226	648778	436.5307	3.199574	2	0.5	436.0307	1	R	1.5	3	1	Site Infrastructure	3	436.64644	1.069255	4	-0.11574	1	12	2	2
655	320236	648806	437.735	4.087811	4	0.3	437.435	1	G	1	4	1	Site Infrastructure	3	437.629932	1.973704	4	0.105068	1	12	2	2

656	320213	648823	440.907107	4.145024	4	0.3	440.607107	1	G	1	4	1	Site Infrastructure	3	441.080947	2.042475	4	-0.17384	1	12	2	2
657	320212	648836	440.374305	4.591443	4	0.1	440.274305	1	G	1	4	1	Site Infrastructure	3	440.579404	2.09993	4	-0.205099	1	12	2	2
658	320212	648845	439.955504	4.922455	4	0.3	439.655504	1	G	1	4	1	Site Infrastructure	3	440.115359	1.2216	4	-0.159855	1	12	2	2
659	320212	648863	439.129989	5.584480	4	0.1	439.029989	1	G	1	4	1	Site Infrastructure	3	439.190925	1.287442	4	-0.060936	1	12	2	2
660	320212	648854	439.539999	5.253468	4	0.1	439.439999	1	G	1	4	1	Site Infrastructure	3	439.653263	0.758226	4	-0.113264	1	12	2	2
661	320212	648875	438.491493	6.025830	4	0.01	438.481493	1	G	1	4	1	Site Infrastructure	3	438.658616	1.2216	4	-0.167123	1	12	2	2
662	320222	648875	437.041992	5.909580	4	0.1	436.941992	1	G	1	4	1	Site Infrastructure	3	437.17799	1.2216	4	-0.135998	1	12	2	2
663	320232	648876	435.947704	5.955433	4	0.1	435.847704	1	G	1	4	1	Site Infrastructure	3	436.085274	2.09993	4	-0.13757	1	12	2	2
664	320241	648875	435.048003	5.978777	4	0.1	434.948003	1	G	1	4	1	Site Infrastructure	3	435.564502	4.852742	4	-0.516499	1	12	2	2
665	320253	648875	433.566995	6.056831	4	0.1	433.466995	1	G	1	4	1	Site Infrastructure	3	434.817657	9.009135	4	-1.250662	1	12	2	2
666	320262	648875	432.342995	6.115371	4	0.1	432.242995	1	G	1	4	1	Site Infrastructure	3	434.543188	15.356051	3	-2.200193	1	9	1	1
667	320244	648709	432.016091	3.453139	2	0.2	431.816091	1	G	1	2	1	Site Infrastructure	3	431.894892	2.24328	4	0.121199	1	12	2	2
668	320250	648668	429.972507	3.376274	2	0.01	429.962507	1	G	1	2	1	Site Infrastructure	3	429.966865	1.621452	4	0.005642	1	12	2	2
669	320253	648637	428.859406	4.031781	4	0.6	428.259406	2	G	1	8	2	Site Infrastructure	3	428.935903	2.693382	4	-0.076497	1	12	2	4
670	320255	648609	428.968504	5.095050	4	0.01	428.958504	1	G	1	4	1	Site Infrastructure	3	429.03495	1.243586	4	-0.066446	1	12	2	2
671	320222	648534	427.91271	10.976897	6	0.1	427.81271	1	G	1	6	2	Roads and Tracks	3	430.086358	19.892308	3	-2.173648	1	9	1	2
672	320221	648490	426.864999	11.295221	6	0.1	426.764999	1	G	1	6	2	Minor Water Feature	6	419.5891	40.201158	3	7.275899	1	18	2	4
673	320223	648389	423.692191	9.639887	6	0.4	423.292191	1	G	1	6	2	Site Infrastructure	3	423.479219	1.757585	4	0.212972	1	12	2	4
674	320235	648392	425.020999	9.307869	6	0.4	424.620999	1	G	1	6	2	Site Infrastructure	3	425.28033	2.389918	4	-0.259331	1	12	2	4
675	320244	648393	425.891	9.057041	6	0.1	425.791	1	G	1	6	2	Site Infrastructure	3	426.169595	2.472834	4	-0.278595	1	12	2	4
676	320518	648518	450.136008	9.708152	6	0.2	449.936008	1	G	1	6	2	Site Infrastructure	3	452.04516	74.279504	3	-1.909152	1	9	1	2
677	320561	648478	449.924996	9.916012	6	0.1	449.824996	1	G	1	6	2	Site Infrastructure	3	452.04516	20.269665	3	-2.120164	1	9	1	2
678	320551	648439	442.839996	10.685598	6	0.1	442.739996	1	G	1	6	2	Site Infrastructure	3	443.349769	5.243063	4	-0.509773	1	12	2	4
679	320540	648439	441.567497	10.846806	6	0.1	441.467497	1	G	1	6	2	Site Infrastructure	3	443.349769	16.242953	3	-1.782272	1	9	1	2
680	320574	648443	445.633307	10.272583	6	0.2	445.433307	1	G	1	6	2	Site Infrastructure	3	446.015161	2.472834	4	-0.381854	1	12	2	4
681	320584	648445	446.919003	10.087083	6	0.1	446.819003	1	G	1	6	2	Site Infrastructure	3	446.982837	2.439202	4	-0.063834	1	12	2	4
682	320594	648446	448.044904	9.922714	6	0.2	447.844904	1	G	1	6	2	Site Infrastructure	3	447.951097	2.977769	4	0.093807	1	12	2	4
683	320592	648455	449.276497	9.780186	6	0.2	449.076497	1	G	1	6	2	Site Infrastructure	3	449.051101	1.2216	4	0.225396	1	12	2	4
684	320600	648433	446.553496	10.081782	6	0.1	446.453496	1	G	1	6	2	Site Infrastructure	3	446.817458	1.621452	4	-0.263962	1	12	2	4
685	320595	648422	444.354007	10.326392	6	0.2	444.154007	1	G	1	6	2	Site Infrastructure	3	444.786329	2.389918	4	-0.432322	1	12	2	4
686	320594	648411	442.572903	10.409557	6	0.1	442.472903	1	G	1	6	2	Site Infrastructure	3	443.258629	3.778903	4	-0.685726	1	12	2	4
687	320592	648399	440.227994	10.510706	6	0.1	440.127994	1	G	1	6	2	Site Infrastructure	3	442.796106	15.060342	3	-2.568112	1	9	1	2
688	320653	648451	452.118303	8.717116	6	0.2	451.918303	1	G	1	6	2	Site Infrastructure	3	451.80447	2.631332	4	0.313833	1	12	2	4
689	320643	648451	451.654095	8.953841	6	0.2	451.454095	1	G	1	6	2	Site Infrastructure	3	451.33435	2.631332	4	0.319745	1	12	2	4
690	320631	648450	450.701996	9.256203	6	0.1	450.601996	1	G	1	6	2	Site Infrastructure	3	450.604949	0.988992	4	0.097047	1	12	2	4
691	320623	648451	450.158993	9.408823	6	0.1	450.058993	1	G	1	6	2	Site Infrastructure	3	449.772439	2.631332	4	0.386554	1	12	2	4
692	320612	648447	448.8621	9.642644	6	0.1	448.7621	1	G	1	6	2	Site Infrastructure	3	449.118874	2.177178	4	-0.256774	1	12	2	4
693	320602	648448	448.786008	9.768761	6	0.2	448.586008	1	G	1	6	2	Site Infrastructure	3	448.908882	1.287442	4	-0.122874	1	12	2	4
694	320593	648466	450.989998	9.556294	6	0.01	450.979998	1	G	1	6	2	Site Infrastructure	3	450.605157	2.631332	4	0.384841	1	12	2	4
695	320593	648478	452.59609	9.268009	6	0.01	452.58609	1	G	1	6	2	Site Infrastructure	3	452.696563	2.042475	4	-0.100473	1	12	2	4
696	320592	648493	454.575091	8.700495	6	0.2	454.375091	1	G	1	6	2	Site Infrastructure	3	452.696563	13.979217	3	1.878528	1	9	1	2
697	320592	648504	456.04	8.273671	6	0.2	455.84	1	G	1	6	2	Site Infrastructure	3	454.448872	24.37318	3	1.591128	1	9	1	2
698	320513	648541	451.530305	10.204077	6	0.1	451.430305	1	G	1	6	2	Site Infrastructure	3	452.04516	92.173607	3	-0.514855	1	9	1	2
699	320482	648582	447.418607	12.017641	6	0.1	447.318607	1	G	1	6	2	Minor Water Feature	6	435.759002	74.110634	3	11.659605	2	36	4	8
700	320427	648628	434.204205	7.324946	4	1.6	432.604205	3	C	2	24	3	Minor Water Feature	6	433.273402	8.345149	4	0.930803	1	24	3	9
701	320444	648610	438.533501	9.006482	6	1	437.533501	2	C	2	24	3	Minor Water Feature	6	433.995352	31.106506	3	4.538149	1	18	2	6
702	320415	648639	432.966997	7.058478	4	0.3	432.666997	1	G	1	4	1	Minor Water Feature	6	433.065149	6.243037	4	-0.098152	1	24	3	3
703	320416	648611	435.514001	6.595184	4	1.7	433.814001	3	G	1	12	2	Minor Water Feature	6	435.443293	5.144561	4	0.070708	1	24	3	6
704	320440	648637	434.367502	9.000864	6	1	433.367502	2	G	1	12	2	Minor Water Feature	6	432.943413	15.454375	3	1.424089	1	18	2	4
705	320389	648668	430.932008	6.365505	4	0.6	430.332008	2	G	1	8	2	Minor Water Feature	6	432.73515	41.790739	3	-1.803142	1	18	2	4
706	320380	648708	427.376997	5.697800	4	0.1	427.276997	1	G	1	4	1	Roads and Tracks	3	421.165186	56.689145	3	6.211811	1	9	1	1
707	320364	648768	419.325402	6.184399	4	0.01	419.315402	1	R	1.5	6	2	Roads and Tracks	3	419.513725	14.115272	3	-0.188323	1	9	1	2
708	320583	647920	448.887999	3.030239	2	0.9	447.987999	2	G	1	4	1	Roads and Tracks	3	449.510992	13.712713	3	-0.622993	1	9	1	1
709	320582	647929	448.505001	3.371282	2	1.2	447.305001	3	G	1	6	2	Roads and Tracks	3	448.71241	14.24296	3	-0.207409	1	9	1	2
710	320583	647940	447.418997	3.720448	2	1	446.418997	2	G	1	4	1	Roads and Tracks	3	448.71241	17.189168	3	-1.293413	1	9	1	1
711	320581	647950	446.094499	3.974012	2	1	445.094499	2	G	1	4	1	Roads and Tracks	3	448.143477	21.101685	3	-2.048978	1	9	1	1
712	320581	647963	445.467797	4.354084	4	0.7	444.767797	2	G	1	8	2	Roads and Tracks	3	447.566377	25.551425	3	-2.09858	1	9	1	2
713	320580	647971	444.997495	4.545560	4	1	443.997495	2	G	1	8	2	Roads and Tracks	3	447.566377	28.839215	3	-2.568882	1	9	1	2
714	320580	647977	444.785989	4.696949	4	1.2	443.585989	3	G	1	12	2	Roads and Tracks	3	447.566377	31.799445	3	-2.780388	1	9	1	2
715	320570	647976	444.640001	4.384949	4	1	443.640001	2	G	1	8	2	Roads and Tracks	3	447.566377	40.014314	3	-2.926376	1	9	1	2
716	320560	647978	444.642004	4.304610	4	1.6	443.042004	3	C	2	24	3	Roads and Tracks	3	447.566377	50.0	3	-2.924373	1	9	1	3
717	320550	647977	445.228497	4.151592	4	1.3	443.928497	3	G	1	12	2	Roads and Tracks	3	447.566377	59.0	3	-2.33788	1	9	1	2
718	320541	647980	445.620992	4.143330	4	1.2	444.420992	3	G	1	12	2	Roads and Tracks	3	447.566377	68.5	3	-1.945385	1	9	1	2
719	320532	647979	445.918691	4.002525	4	1.1	444.818691	3	G	1	12	2	Roads and Tracks	3	447.566377	76.9	3	-1.647686	1	9	1	2
720	320581	648031	441.971997	5.950043	4	0.01	441.961997	1	R	1.5	6	2	Roads and Tracks	3	444.950858	50.3	3	-2.978861	1	9	1	2
721	320583	648019	442.283601	5.626951	4	0.1	442.183601	1	G	1	4	1	Roads and Tracks	3	445.351542	43.1	3	-3.067941	1	9	1	1
722	320582	648009	442.748007	5.390543	4	0.3	442.448007	1	G	1	4	1	Roads and Tracks	3	445.351542	40.5	3	-2.603535	1	9	1	1
723	320582	647998	443.608512	5.183407	4	0.3	443.308512	1	G	1	4	1	Roads and Tracks	3	446.119929	37.0	3	-2.511417	1	9	1	1
724	320582	647988	444.473301	4.995102	4	1	443.473301	2	G	1	8	2	Roads and Tracks	3	446.119929	34.5	3	-1.646628	1	9	1	2
725	320590	647977	445.151505	5.152032	4	2	443.151505	3	G	1	12	2	Roads and Tracks	3	447.069453	22.7	3	-1.917948	1	9	1	2
726	320605	647978	445.767012	5.854907	4	1	444.767012	2	G	1	8	2	Roads and Tracks	3	447.069453	10.9	3	-1.302441	1	9	1	2
727	320617	647979	446.625698	6.422740	4	0.01	446.615698	1	G	1	4	1	Roads and Tracks	3	446.119929	5.1	4	0.505769	1	12	2	2
728	320625	647980	447.400002	6.809282	4	0.2	447.200002	1	G	1	4	1	Roads and Tracks	3	446.119929	9.6	4	1.280073	1	12	2	2
729	320636	647980	448.770995	6.584503	4	0.2	448.570995	1	G	1	4	1	Site Infrastructure	3	450.101452	10.3	3	-1.330457	1	9	1	1
730	320197	647456	444.552697	12.083185	6	0.01	444.542697	1	G	1	6	2	Site Infrastructure	3	444.185396	2.1	4	0.367301	1	12	2	4
731	320200	647528	450.368495	7.149340	4	0.2	450.168495	1	G	1	4	1	Site Infrastructure	3	448.611996	12.5	3	1.756499	1	9	1	1
732	320189	647528	448.768996	7.703643	4	0.1	448.668996	1	G	1	4	1	Site Infrastructure	3	448.144662	4.8	4	0.624334	1	12	2	2
733	320181	647532	447.785005	8.153108	6	0.1	447.685005	1	G	1	6	2	Site Infrastructure	3	447.662149	3.0	4	0.122856	1	12	2	4
734	320168	647527	445.529908	8.637417	6	0.2	445.329908	1	G	1	6	2	Site Infrastructure	3	445.40071	2.7	4	0.129198	1	12	2	4
735	320159	647528	444.289708	8.958860	6	0.1	444.189708	1	G	1	6	2	Site Infrastructure	3	444.681485	2.5	4	-0.391777	1	12	2	4
736	320150	647527	442.926007	9.253785	6	0.1	442.826007	1	G	1	6	2	Site Infrastructure	3	443.243792	2.4	4	-0.317785	1	12	2	4
737	320152	647540	443.919995	9.368226	6	0.2	443.719995	1	G	1	6	2	Site Infrastructure	3	443.793007	1.2	4	0.126988	1	12	2	4
738	320153	647552	444.238013	9.499939	6	0.1	444.138013	1	G	1	6	2	Site Infrastructure	3	443.997427	2.7	4	0.240586	1	12	2	4
739	320152	647562	444.196299	9.677795	6	0.2	443.996299	1	G	1	6	2	Site Infrastructure	3	443.997427	8.0	4	0.198872	1	12	2	4
740	320153	647572	444.131106	9.779044	6	0.1	444.031106	1	G	1	6	2	Site Infrastructure	3	443.997427	18.0	3	0.133679	1	9	1	2
741	320152	647581	443.474409	10.058815	6	0.1	443.374409	1	G	1	6	2	Site Infrastructure	3	443.997427	27.0	3	-0.523018	1	9	1	2
742	320101	647531	434.484106	11.042319	6	0.2	434.284106	1	G	1	6	2	Site Infrastructure	3	435.295648	5.6	4	-0.811542	1	12	2	4
743	320112	647528	436.27989	10.600125	6	0.1	436.17989	1	G	1	6	2	Site Infrastructure	3	436.227951	1.3	4	0.051939	1	12	2	4
744	320124	647533	438.949792	10.248791	6	0.1	438.849792	1	G	1	6	2	Site Infrastructure	3	439.46195	2.5	4	-0.512158	1	12	2	4
745	320133	647529	440.320705	9.868462	6	0.2	440.120705	1	G	1	6	2	Site Infrastructure	3	439.997703	1.8	4	0.323002	1	12	2	4
746	320141	647528	441.618994	9.577317	6	0.1	441.518994	1	G	1	6	2	Site Infrastructure	3	441.731095	1.1	4	-0.112101	1	12	2	4
747	320155	647519	443.123003	9.624492	6	0.1	443.023003	1	G	1	6	2	Site Infrastructure	3	443.311421	1.2	4	-0.188418	1	12	2	4
748	320154	647505	442.122005	11.000721	6	0.3	441.822005	1	G	1	6	2	Site Infrastructure	3	442.43357	2.4	4	-0.311565	1	12	2	4
749	320154	647495	441.132497	11.956513	6	0.2	440.932497	1	G	1	6	2	Site Infrastructure	3	441.447245	2.4	4	-0.314748	1	12	2	4
750	320154	647484	439.634985	13.007885	6	0.1	439.534985	1	G	1	6	2	Site Infrastructure	3	440.08976	2.2	4	-0.454775	1	12	2	4
751	320150	647474	437.325006	14.208652	6	0.2	437.125006	1	G	1	6	2	Site Infrastructure	3	437.579781	1.2	4	-0.254775	1	12	2	4
752	320206	647312	442.345601	10.439944	6	0.2	442.145601	1	G	1	6	2	Site Infrastructure	3	442.440797	9.5	4	-0.095196	1	12	2	4
753	320152	647274	437.94771	10.395881	6	0.1	437.84771	1	G	1	6	2	Site Infrastructure	3	437.934593	10.0	4	0.013117	1	12	2	4
754	320102	647237	434.030389	9.469191	6	0.3	433.730389	1	G	1	6	2	Site Infrastructure	3	434.298768	5.2	4	-0.268379	1	12	2	4
755	320054	647190	429.037997	7.949221	4	0.1	428.937997	1	G	1	4	1	Site Infrastructure	3	429.155405	2.4	4	-0.117408	1	12	2	2
756	320010	647135	422.504997	6.257416	4	0.1	422.404997	1	G	1	4	1	Site Infrastructure	3	422.523163	1.6	4	-0.018166	1	12	2	2
757	320001	647083	418.444695	6.056921	4	0.1	418.344695	1	G	1	4	1	Site Infrastructure	3	418.50586	1.1	4	-0.061165	1	12	2	2
758	319964	647028	411.085998	6.483722	4	0.2	410.885998	1	G	1	4	1	Site Infrastructure	3	411.336883	2.5	4	-0.250885	1	12	2	2
759	319966	647017	410.441796	6.290636	4	0.2	410.241796	1	G	1	4	1	Site Infrastructure	3	410.645987	2.1	4	-0.204191	1	12	2	2
760	319962	647007	409.202005	6.449382	4	0.1	409.102005	1	G	1	4	1	Site Infrastructure	3	409.320606	2.2	4	-0.118601	1	12	2	2
761	319964	646998	408.396003	6.326697	4	0.2	408.196003	1	G	1	4	1	Site Infrastructure	3	408.586801	2.5	4	-0.190798	1	12	2	2
762	319965	646986	407.109998	6.256392	4	0.1	407.009998	1	G	1	4	1	Site Infrastructure	3	406.9368	2.3	4	0.173198	1	12	2	2
763	319967	646979	406.394693	6.198542	4	0.2	406.194693	1	G	1	4	1	Site Infrastructure	3	406.374699	0.8	4	0.019994	1	12	2	2
764	319973	646976	406.252299	6.097846	4	0.3	405.952299	1	G	1	4	1	Site Infrastructure	3	405.967784	2.6	4	0.284515	1	12	2	2
765	319982	646981	407.121997	6.519759	4	0.2	406.921997	1	G	1	4	1	Site Infrastructure	3	406.872964	2.1	4	0.249033	1	12	2	2
766	319995	646983	407.782005	7.367097	4	0.2	407.582005	1	G	1	4	1	Site Infrastructure	3	407.942969	1.6	4	-0.160964	1	12	2	2
767	320004	646982	407.823699	8.009625	6	0.1	407.723699	1	G	1	6	2	Site Infrastructure	3	408.035234	3.4	4	-0.211535	1	12	2	4
768	320011	646979	407.522895	8.621159	6	0.1	407.422895	1	G	1	6	2	Site Infrastructure	3	407.453711	9.8	4	0.069184	1	12	2	4
769	319964	646930	399.919998	9.538811	6	0.01	399.909998	1	G	1	6	2	Site Infrastructure	3	399.866485	2.4	4	0.053513	1	12	2	4
770	319967	646942	401.519306	8.755606	6	0.2	401.319306	1	G	1	6	2	Site Infrastructure	3	401.740484	2.2	4	-0.221178	1	12	2	4
771	319968	646953	402.974105	7.918183	4	0.1	402.874105	1	G	1	4	1	Site Infrastructure	3	403.056109	2.0	4	-0.082004	1	12	2	2
772	319966	646960	403.894006	7.352421	4	0.1	403.794006	1	G	1	4	1	Site Infrastructure	3	403.767606	1.0	4	0.1264	1	12	2	2
773	319968	646972	405.624509	6.416269	4	0.1	405.524509	1	G	1	4	1	Site Infrastructure	3	405.803745	2.7	4	-0.179236	1	12	2	2
774	319957	646980	406.161497	6.398729	4	0.2	405.961497	1	G	1	4	1	Site Infrastructure	3	406.024798	1.2	4	0.136699	1	12	2	2
775	319948	646981	405.655002	6.596293	4	0.1	405.555002	1	G	1	4	1	Site Infrastructure	3	405.322729	2.6	4	0.332273	1	12	2	2
776	319937	646981	404.702011	6.825396	4	0.1	404.602011	1	G	1	4	1	Site Infrastructure	3	404.447346	2.1	4	0.254665	1	12	2	2
777	319927	646980	403.726004	6.996249	4	0.1	403.626004	1	G	1	4	1	Site Infrastructure	3	403.567342	1.2	4	0.158662	1	12	2	2
778	319918	646981	403.068712	7.474772	4	0.1	402.968712	1	G	1	4	1	Site Infrastructure	3	403.199429	3.5	4	-0.130717	1	12	2	2
779	319908	646981	402.087899	8.045406	6	0.2	401.887899	1	G	1	6	2	Site Infrastructure	3	403.199429	8.8	4	-1.11153	1	12	2	4
780	319917	646898	393.034009	10.043444	6	0.01	393.024009	1	G	1	6	2	Site Infrastructure	3	400.059703	45.3	3	-7.025694	1	9	1	2
781	319891	646828	379.796207	13.620124	6	0.3	379.496207	1	G	1	6	2	Site Infrastructure	3	374.985624	24.0	3	4.810583	1	9	1	2
782	319907	646787	371.444107	14.594322	6	0.1	371.344107	1	G	1	6	2	Site Infrastructure	3	371.92158	2.2	4	-0.477473	1	12	2	4
783	321118	647057	377.60799	10.851726	6	0.1	377.50799	1	G	1	6	2	Site Infrastructure	3	378.528057	15.0	3	-0.920067	1	9	1	2
784	321130	647057	378.885995	10.354468	6	0.1	378.785995	1	G	1	6	2	Site Infrastructure	3	379.3964	6.6	4	-0.510405	1	12	2	4
785	321141	647059	379.868596	9.864693	6	0.1	379.768596	1	G	1	6	2	Site Infrastructure	3	379.890114	0.2	4	-0.021518	1	12	2	4
786	321149	647058	380.675998	9.350590	6	0.1	380.575998	1	G	1	6	2	Site Infrastructure	3	380.834766	2.5	4	-0.158768	1	12	2	4
787	321158	647060	381.422501	8.908879	6	0.2	381.222501	1	G	1	6	2	Site Infrastructure	3	381.304767	2.0	4	0.117734	1	12	2	4
788	321167	647062	382.185995	8.414714	6	0.2	381.985995	1	G	1	6	2	Site Infrastructure	3	382.01225	2.2	4	0.173745	1	12	2	4
789	321166	647072	381.599998	8.708920	6	0.1	381.499998	1	G	1	6	2	Site Infrastructure	3	381.516038	2.1	4	0.08396	1	12	2	4
790	321166	647084	380.619498	9.164647	6	0.2	380.419498	1	G	1	6	2	Site Infrastructure	3	380.646631	0.2	4	-0.027133	1	12	2	4
791	321163	647094	379.153701	9.883325	6	0.3	378.853701	1	G	1	6	2	Site Infrastructure	3	378.930743	1.8	4	0.222958	1	12	2	4
792	321164	647101	378.535001	10.098240	6	0.4	378.135001	1	G	1	6	2	Site Infrastructure	3	379.02074	3.0	4	-0.485739	1	12	2	4
793	321163	647109	378.049296	10.562418	6	0.3	377.749296	1	G	1	6	2	Site Infrastructure	3	378.403843	10.1	3	-0.354547	1	9	1	2
794	321215	647065	387.412498	7.193902	4	0.3	387.112498	1	G	1	4	1	Site Infrastructure	3	386.447997	17.6	3	0.964501	1	9	1	1
795	321201	647065	385.716998	7.456330	4	0.3	385.416998	1	G	1	4	1	Site Infrastructure	3	384.577986	9.8	4	1.139012	1	12	2	2
796	321190	647064	384.428996	7.656585	4	0.2	384.228996	1	G	1	4	1	Site Infrastructure	3	384.577986	1.2	4	-0.14899	1	12	2	2
797	321180	647062	383.436003	7.823948	4	0.2	383.236003	1	G	1	4	1	Site Infrastructure	3	383.455335	2.4	4	-0.019332	1	12	2	2
798	321171	647061	382.617999	8.148270	6	0.2	382.417999	1	G	1	6	2	Site Infrastructure	3	382.735334	2.0	4	-0.117335	1	12	2	4
799	321168	647050	382.863004	8.109166	6	0.2	382.663004	1	G	1	6	2	Site Infrastructure	3	382.74477	2.0	4	0.118234	1	12	2	4
800	321170	647028	384.414996	7.637631	4	0.2	384.214996	1	G	1	4	1	Site Infrastructure	3	384.471363	1.6	4	-0.056367	1	12	2	2
801	321170	647017	385.195003	7.603909	4	0.2	384.995003	1	G	1	4	1	Site Infrastructure	3	385.180604	2.4	4	0.014399	1	12	2	2
802	321170	647006	385.971504	7.629019	4	0.4	385.571504	1	G	1	4	1	Site Infrastructure	3	386.240601	2.3	4	-0.269097	1	12	2	2
803	320932	646560	389.83999	13.548675	6	0.1	389.73999	1	G	1	6	2	Site Infrastructure	3	389.849044	1.2	4	-0.009054	1	12	2	4
804	320946	646563	391.457905	12.552821	6	0.1	391.357905	1	G	1	6	2	Site Infrastructure	3	391.368867	1.1	4	0.089038	1	12	2	4
805	320958	646561	393.1137	11.462168	6	0.2	392.9137	1	G	1	6	2	Site Infrastructure	3	393.128094	2.6	4	-0.014394	1	12	2	4
806	320970	646549	395.290004	10.015162	6	0.1	395.190004	1	G	1	6	2	Site Infrastructure	3	395.398146	1.2	4	-0.108142	1	12	2	4
807	320982	646543	396.837101	8.978642	6	0.2	396.637101	1	G	1	6	2	Site Infrastructure	3	396.701537	1.3	4	0.135564	1	12	2	4
808	320992	646540	397.724495	8.243564	6	0.1	397.624495	1	G	1	6	2	Site Infrastructure	3	397.014916	10.8	3	0.709579	1	9	1	2
809	320923	646553	389.420002	13.744460	6	0.1	389.320002	1	G	1	6	2	Site Infrastructure	3	389.013854	2.0	4	0.406148	1	12	2	4
810	320919	646536	390.816997	12.860203	6	0.2	390.616997	1	G	1	6	2	Site Infrastructure	3	391.377098	3.0	4	-0.560101	1	12	2	4
811	320930	646542	391.710004	12.654865	6	0.2	391.510004	1	G	1	6	2	Site Infrastructure	3	391.648698	2.4	4	0.061306	1	12	2	4
812	320942	646579	388.941092	13.669775	6	0.1	388.841092	1	G	1	6	2	Site Infrastructure	3	388.841604	0.8	4	0.099488	1	12	2	4
813	320940	646589	387.218495	14.217191	6	0.2	387.018495	1	G	1	6	2	Site Infrastructure	3	387.400621	1.2	4	-0.182126	1	12	2	4
814	320925	646580	386.279999	15.195297	8	0.2	386.079999	1	G	1	8	2	Site Infrastructure	3	386.642617	1.6	4	-0.362618	1	12	2	4
815	320913	646577	384.748098	15.250368	8	0.1	384.648098	1	G	1	8	2	Site Infrastructure	3	384.108428	2.7	4	0.63967	1	12	2	4
816	320901	646575	382.76001	15.372962	8	0.1	382.66001	1	G	1	8	2	Site Infrastructure	3	383.916209	5.3	4	-1.156199	1	12	2	4
817	320938	646513	394.895996	10.557557	6	0.1	394.795996	1	G	1	6	2	Site Infrastructure	3	394.629802	2.0	4	0.266194	1	12	2	4
818	320920	646485	394.497505	9.853478	6	0.1	394.397505	1	G	1	6	2	Site Infrastructure	3	394.204833	3.9	4	0.292672	1	12	2	4
819	320892	646446	393.313894	8.884311	6	0.2	393.113894	1	G	1	6	2	Site Infrastructure	3	393.118128	3.1	4	0.195766	1	12	2	4
820	320865	646398	390.603996	8.304915	6	0.9	389.703996	2	G	1	12	2	Site Infrastructure	3	390.186116	3.9	4	0.41788	1	12	2	4

986	320323	646715	329.806003	6	9.258109	6	0.1	329.706003	1	G	1	6	2	Site Infrastructure	3	330.209794	4.4	4	-0.403791	1	12	2	4								
987	320313	646722	330.57601	9.293454	6	0.1	330.47601	1	G	1	6	2	Roads and Tracks	3	330.693643	2.7	4	-0.117633	1	12	2	4									
988	320237	646697	330.219201	8.973731	6	0.1	330.1192	1	G	1	6	2	Site Infrastructure	3	330.492678	2.2	4	-0.273477	1	12	2	4									
989	320138	646683	339.009803	14.226736	6	0.1	338.909803	1	G	1	6	2	Site Infrastructure	3	339.505609	2.0	4	-0.495806	1	12	2	4									
990	320136	646662	332.451512	13.833236	6	0.1	332.351512	1	G	1	6	2	Site Infrastructure	3	333.082644	2.1	4	-0.631132	1	12	2	4									
991	320103	646703	347.829593	14.538746	6	0.1	347.729593	1	G	1	6	2	Site Infrastructure	3	348.258036	2.0	4	-0.428443	1	12	2	4									
992	320104	646690	344.121503	14.965787	6	0.1	344.021503	1	G	1	6	2	Site Infrastructure	3	343.653923	2.4	4	0.46758	1	12	2	4									
993	319988	646717	356.123094	15.409954	8	0.1	356.023094	1	G	1	8	2	Site Infrastructure	3	356.481047	2.7	4	-0.357953	1	12	2	4									
994	319944	646764	362.345295	14.700831	6	0.1	362.245295	1	G	1	6	2	Site Infrastructure	3	362.241823	2.2	4	0.103472	1	12	2	4									
995	319939	646756	362.217802	14.797861	6	0.1	362.117802	1	G	1	6	2	Site Infrastructure	3	361.832181	3.0	4	0.385621	1	12	2	4									
996	319887	646769	366.466301	14.735679	6	0.01	366.456301	1	G	1	6	2	Site Infrastructure	3	367.895347	10.5	3	-1.429046	1	9	1	2									
997	319873	646808	374.513998	13.816398	6	0.1	374.413998	1	G	1	6	2	Site Infrastructure	3	374.594846	2.0	4	-0.080848	1	12	2	4									
998	319868	646806	373.704005	13.737902	6	0.1	373.604005	1	G	1	6	2	Site Infrastructure	3	373.154843	2.6	4	0.549162	1	12	2	4									
999	319849	646865	381.638992	11.245285	6	0.1	381.538992	1	G	1	6	2	Site Infrastructure	3	381.236556	2.9	4	0.402436	1	12	2	4									
1000	319842	646863	380.635405	11.286814	6	0.1	380.535405	1	G	1	6	2	Site Infrastructure	3	380.677954	1.3	4	-0.042549	1	12	2	4									
1001	319833	646861	379.245493	11.300260	6	0.1	379.145493	1	G	1	6	2	Site Infrastructure	3	378.776506	2.6	4	0.468987	1	12	2	4									
1002	319831	646910	383.956001	11.101305	6	0.01	383.946001	1	G	1	6	2	Site Infrastructure	3	383.890864	1.0	4	0.065137	1	12	2	4									
1003	319838	646909	385.000699	10.777753	6	0.01	384.990699	1	G	1	6	2	Site Infrastructure	3	384.715685	1.8	4	0.285014	1	12	2	4									
1004	319844	646915	386.65	10.445143	6	0.01	386.64	1	G	1	6	2	Site Infrastructure	3	386.05322	2.9	4	0.59678	1	12	2	4									
1005	319829	646948	385.751689	11.932483	6	0.1	385.741689	1	G	1	6	2	Site Infrastructure	3	386.401244	2.5	4	-0.649555	1	12	2	4									
1006	319841	646946	388.65401	11.100610	6	0.01	388.64401	1	G	1	6	2	Site Infrastructure	3	388.553905	2.0	4	0.100105	1	12	2	4									
1007	319869	647001	397.497091	10.990871	6	0.01	397.487091	1	G	1	6	2	Site Infrastructure	3	396.938215	3.4	4	0.558876	1	12	2	4									
1008	319860	647008	396.085992	11.740489	6	0.01	396.075992	1	G	1	6	2	Site Infrastructure	3	396.343035	1.6	4	-0.257043	1	12	2	4									
1009	319929	647070	409.173006	9.726592	6	0.01	409.163006	1	G	1	6	2	Site Infrastructure	3	408.146171	11.9	3	1.026835	1	9	1	2									
1010	319926	647080	408.9765	10.246820	6	0.01	408.9665	1	G	1	6	2	Site Infrastructure	3	409.089667	4.0	4	-0.113167	1	12	2	4									
1011	319921	647084	408.098113	10.731790	6	0.01	408.088113	1	G	1	6	2	Site Infrastructure	3	408.146171	5.0	4	-0.048058	1	12	2	4									
1012	319977	647121	417.564999	7.721229	4	0.01	417.554999	1	G	1	4	1	Site Infrastructure	3	416.938233	6.5	4	0.626766	1	12	2	4									
1013	319976	647129	417.755005	8.050870	6	0.01	417.745005	1	G	1	6	2	Site Infrastructure	3	417.788234	0.2	4	-0.033229	1	12	2	4									
1014	320015	647157	424.182997	7.337864	4	0.1	424.082997	1	G	1	4	1	Site Infrastructure	3	424.416469	2.4	4	-0.233472	1	12	2	4									
1015	321190	647344	348.415506	20.883512	8	0.1	348.315506	1	G	1	8	2	Site Infrastructure	3	348.890974	1.2	4	-0.475468	1	12	2	4									
1016	321213	647276	368.591301	16.052416	8	0.1	368.491301	1	G	1	8	2	Site Infrastructure	3	368.237288	2.6	4	0.354013	1	12	2	4									
1017	321197	647408	338.154194	19.387873	8	0.1	338.054194	1	G	1	8	2	Site Infrastructure	3	337.302089	4.0	4	0.852105	1	12	2	4									
1018	321091	647297	332.972694	9.828743	6	0.1	332.872694	1	R	1.5	9	2	Roads and Tracks	3	332.707389	2.1	4	0.265305	1	12	2	4									
1019	321117	647274	343.555706	16.055296	8	0.1	343.455706	1	R	1.5	12	2	Site Infrastructure	3	344.604337	4.2	4	-1.048631	1	12	2	4									
1020	321317	648335	345.209998	3.543444	2	2.2	343.009998	3	G	1	6	2	Minor Water Feature	6	345.506299	72.2	3	-0.296301	1	18	2	4									
1021	321317	648385	347.159995	3.241599	2	3.3	343.859995	8	G	1	16	3	Roads and Tracks	3	354.247397	83.4	3	-7.087402	1	9	1	3									
1022	321267	648385	348.605504	8.579258	6	2.2	346.405504	3	G	1	18	3	Site Infrastructure	3	355.11701	36.3	3	-6.511506	1	9	1	3									
1023	321317	648435	345.815002	3.350429	2	4	341.815002	8	G	1	16	3	Roads and Tracks	3	354.536896	86.9	3	-8.721894	1	9	1	3									
1024	321317	648485	345.575006	3.463416	2	4.6	340.975006	8	R	1.5	24	3	Roads and Tracks	3	352.752281	76.3	3	-7.177275	1	9	1	3									
1025	321267	648485	348.146007	8.698336	6	3.1	345.046007	8	G	1	48	4	Roads and Tracks	3	352.752281	27.3	3	-4.606274	1	9	1	4									
1026	321317	648535	344.841998	3.717467	2	2	342.841998	3	G	1	6	2	Roads and Tracks	3	350.995151	70.0	3	-6.153153	1	9	1	2									
1027	321317	648585	345.031503	4.329033	4	1	344.031503	2	G	1	4	1	Roads and Tracks	3	350.46111	60.9	3	-5.429607	1	9	1	2									
1028	321317	648635	346.523991	5.529534	4	0.8	345.723991	2	R	1.5	12	2	Minor Water Feature	6	347.084436	21.9	3	-0.560445	1	18	2	4									
1029	321317	648685	347.619493	7.196542	4	0.1	347.519493	1	G	1	4	1	Minor Water Feature	6	346.489266	16.5	3	1.130227	1	18	2	4									
1030	321273	648665	350.899997	6.738800	4	0.1	350.799997	1	G	1	6	2	Site Infrastructure	3	351.285847	4.4	4	-0.38585	1	12	2	4									
1031	321267	648585	349.103499	7.891758	4	0.1	349.003499	1	R	1.5	6	2	Roads and Tracks	3	350.46111	11.5	3	-1.357611	1	9	1	2									
1032	321247	648484	351.558994	11.289059	6	0.2	351.358994	1	G	1	6	2	Site Infrastructure	3	353.815482	10.8	3	-2.256488	1	9	1	2									
1033	321234	648433	353.837997	13.079369	6	0.01	353.827997	1	G	1	6	2	Site Infrastructure	3	355.473248	7.8	4	-1.635251	1	12	2	4									
1034	321237	648385	353.761995	12.732373	6	0.01	353.751995	1	G	1	6	2	Site Infrastructure	3	355.11701	8.3	4	-1.355015	1	12	2	4									
1035	321248	648334	352.648007	11.325823	6	0.01	352.638007	1	G	1	6	2	Roads and Tracks	3	354.268157	6.8	4	-1.62015	1	12	2	4									
1036	321257	648286	352.244307	9.955218	6	0.01	352.234307	1	G	1	6	2	Site Infrastructure	3	354.336024	10.9	3	-2.091717	1	9	1	2									
1037	320698	648305	430.1625	9.592157	6	0.01	430.1525	1	G	1	6	2	Site Infrastructure	3	427.202307	16.1	3	2.960193	1	9	1	2									
1038	320714	648294	432.893106	9.493377	6	0.1	432.793106	1	G	1	6	2	Site Infrastructure	3	430.637523	10.3	3	2.255583	1	9	1	2									
1039	320767	648285	440.455495	6.070940	4	0.1	440.355495	1	G	1	4	1	Site Infrastructure	3	440.597253	4.1	4	-0.141758	1	12	2	2									
1040	320740	648288	436.921498	8.369676	6	0.01	436.911498	1	G	1	4	1	Site Infrastructure	3	433.668213	19.6	3	3.253285	1	9	1	2									
1041	320772	648308	442.011399	6.098298	4	0.1	441.911399	1	G	1	4	1	Site Infrastructure	3	442.000675	1.3	4	0.010724	1	12	2	2									
1042	320777	648348	444.875889	5.818510	4	0.1	444.775889	1	G	1	4	1	Site Infrastructure	3	444.929572	1.3	4	-0.053683	1	12	2	2									
1043	320770	648375	446.802498	5.742959	4	0.1	446.702498	1	G	1	4	1	Site Infrastructure	3	446.769786	1.6	4	0.032712	1	12	2	2									
1044	320751	648370	445.473492	6.929496	4	0.1	445.373492	1	G	1	4	1	Site Infrastructure	3	445.923353	10.3	3	-0.449861	1	9	1	1									
1045	320779	648377	447.2593	5.323104	4	0.1	447.1593	1	G	1	4	1	Site Infrastructure	3	446.769786	8.3	4	0.489514	1	12	2	2									
1046	320722	648391	445.568006	7.749908	4	0.1	445.468006	1	G	1	4	1	Site Infrastructure	3	445.352712	2.1	4	0.215294	1	12	2	2									
1047	320733	648407	447.580196	6.544972	4	0.1	447.480196	1	G	1	4	1	Site Infrastructure	3	447.708909	2.7	4	-0.128713	1	12	2	2									
1048	320733	648431	449.38629	5.765983	4	0.3	449.086229	1	G	1	4	1	Site Infrastructure	3	448.257184	16.8	3	1.129106	1	9	1	1									
1049	320801	648385	448.296498	4.730472	4	0.1	448.196498	1	G	1	4	1	Site Infrastructure	3	446.769786	31.7	3	1.526712	1	9	1	1									
1050	320785	648392	448.656007	4.639659	4	0.1	448.556007	1	G	1	4	1	Site Infrastructure	3	447.283897	20.4	3	1.37211	1	9	1	1									
1051	320794	648371	447.122998	5.231589	4	0.1	447.022998	1	G	1	4	1	Site Infrastructure	3	445.819543	21.4	3	1.303455	1	9	1	1									
1052	320708	648426	448.5216	7.069186	4	0.01	448.5116	1	G	1	4	1	Site Infrastructure	3	448.365489	2.6	4	0.156111	1	12	2	2									
1053	320692	648396	444.646303	8.645606	6	0.01	444.636303	1	G	1	6	2	Site Infrastructure	3	445.21279	3.1	4	-0.566487	1	12	2	2									
1054	320689	648457	453.318299	7.481613	4	0.1	453.218299	1	G	1	4	1	Site Infrastructure	3	453.59034	3.4	4	-0.272041	1	12	2	2									
1055	320642	648397	443.271093	9.802212	6	0.1	443.171093	1	G	1	6	2	Site Infrastructure	3	443.633037	2.2	4	-0.361944	1	12	2	2									
1056	320801	648345	445.276999	5.261121	4	0.1	445.176999	1	G	1	4	1	Site Infrastructure	3	444.407264	24.8	3	0.869735	1	9	1	1									
1057	320750	648192	438.337999	6.282837	4	0.1	438.237999	1	G	1	4	1	Site Infrastructure	3	437.549137	4.3	4	0.788862	1	12	2	2									
1058	320734	648198	435.138298	7.659277	4	0.1	435.038298	1	G	1	4	1	Site Infrastructure	3	435.479153	2.5	4	-0.340855	1	12	2	2									
1059	320502	649170	378.391493	7.120708	4	0.01	378.381493	1	G	1	4	1	Site Infrastructure	3	377.770801	4.1	4	0.620692	1	12	2	2									
1060	320547	649201	374.616404	5.602260	4	0.1	374.516404	1	G	1	4	1	Site Infrastructure	3	374.776157	2.1	4	-0.159753	1	12	2	2									
1061	320539	649257	369.874893	5.716519	4	0.1	369.774893	1	G	1	4	1	Site Infrastructure	3	369.799993	3.0	4	0.0749	1	12	2	2									
1062	320592	649232	371.952603	4.261984	4	0.01	371.942603	1	G	1	4	1	Site Infrastructure	3	372.086001	3.1	4	-0.133398	1	12	2	2									
1063	320539	649148	379.561889	6.018703	4	0.01	379.551889	1	G	1	4	1	Site Infrastructure	3	379.25166	2.5	4	0.310229	1	12	2	2									
1064	320641	649265	367.412494	4.085645	4	0.2	367.212494	1	G	1	4	1	Site Infrastructure	3	367.72613	13.3	3	-0.313636	1	9	1	1									
1065	320754	649508	353.664396	4.054137	4	0.1	353.564396	1	G	1	4	1	Site Infrastructure	3	354.322931	22.2	3	-0.658535	1	9	1	1									
1066	320781	649481	354.549997	2.596026	2	0.1	354.449997	1	G	1	2	1	Site Infrastructure	3	354.66699	10.2	3	-0.116993	1	9	1	1									
1067	320947	649700	345.968498	3.720521	2	0.01	345.958498	1	G	1	2	1	Site Infrastructure	3	346.478025	7.0	4	-0.509537	1	12	2	2									
1068	320928	649709	345.969995	3.508686	2	0.01	345.959995	1	G	1	2	1	Site Infrastructure	3	346.520737	9.6	4	-0.550742	1	12	2	2									
1069	322067	649635	310.3965	2.254033	2	0.01	310.3865	1	G	1	2	1	Minor Water Feature	6	310.189765	12.3	3	0.206735	1	18	2	2									
1070	321310	648724	351.253503	7.097390	4	0.1	351.153503	1	G	1	4	1	Roads and Tracks	3	350.787022	5.1	4	0.466481	1	12	2	2									
1071	321319	648708	348.862994	7.219636	4	0.01	348.852994	1	G	1	4	1	Roads and Tracks	3	349.277992	2.9	4	-0.414998	1	12	2	2									
1072	320725	648046	454.196991	8.580247	6	0.4	453.796991	1	R	1.5	9	2	Site Infrastructure	3	452.612447	11.9	3	1.584544	1	9	1	2									
1073	320635	649336	361.49751	4.897156	4	0.5	360.99751	1	G	1	4	1	Site Infrastructure	3	361.639048	2.3	4	-0.141538	1	12	2	2									
1074	320603	649361	360.742898	6.096078	4	0.3	360.442898	1	G	1	4	1	Site Infrastructure	3	360.297115	13.4	3	0.445783	1	9	1	1									
1075	320616	649379	359.12021	6.186639	4	0.1	359.02021	1	G	1	4	1	Site Infrastructure	3	358.739644	10.2	3	0.380566	1	9	1	1									
1076	320638	649369	359.187997	5.404387	4	0.4	358.787997	1	G	1	4	1	Site Infrastructure	3	359.207189	1.8	4	-0.019192	1	12	2	2									
1077	320655	649358	359.929497	4.690781	4	0.6	359.329497	2	G	1	8	2	Site Infrastructure	3	359.923451	1.6	4	0.006046	1	12	2	4									
1078	320666	649380	358.900998	4.589963	4	0.9	358.000998	2	G	1	8	2	Site Infrastructure	3	358.985034	1.0	4	-0.084036	1	12	2	4									
1079	320648	649393	357.324903	5.465557	4	0.4	356.924903	1	G	1	4	1	Site Infrastructure	3	357.312493	2.0	4	0.01241	1	12	2	2									
1080	320624	649408	357.183109	6.418675	4	0.4	356.783109	1	G	1	4	1	Site Infrastructure	3	357.910022	18.6	3	-0.726913	1	9	1	1									
1081	320640	649433	353.023991	6.220560	4	0.3	352.723991	1	C	2	8	2	Site Infrastructure	3	354.532259	18.5	3	-1.508268	1	9	1	2									
1082	320657	649448	352.210999	5.870307	4	0.6	351.610999	2	C	2	16	3	Site Infrastructure	3	354.532259	24.0	3	-2.32126	1	9	1	3									
1083	320675	649436	353.992995	5.446013	4	0.6	353.392995	2	G	1	8	2	Site Infrastructure	3	354.6444	18.2	3	-0.651405	1	9	1	2									
1084	320664	649415	355.586494	5.415842	4	0.3	355.286494	1	G	1	4	1	Site Infrastructure	3	355.770973	2.4	4	-0.184479	1	12	2	2									
1085	320685	649401	357.670996	4.368255	4	0.6	357.070996	2	R	1.5	12	2	Site Infrastructure	3	357.897068	2.3	4	-0.226072	1	12	2	4									
1086	320698	649417	356.231012	4.079422	4	0.2	356.031012	1	G	1	4	1	Site Infrastructure	3	356.84708	14.2	3	-0.616068	1	9	1	1									
1087	320704	649407	357.388996	3.673495	2	0.4	356.988996	1	C	2	4	1	Site Infrastructure	3	358.167078	8.4	4	-0.778082	1	12	2	2									
1088	320696	649392	358.776908	3.781821	2	0.5	358.276908	1	C	2	4	1	Site Infrastructure	3	358.604004	2.1	4	0.172904	1	12	2	2									
1089	320680	649369	360.074499	3.990675	2	0.5	359.574499	1	G	1	2	1	Site Infrastructure	3	360.037593	1.2	4	0.034906	1	12	2	2									
1090	320665	649350	361.294998	4.321413	4	0.5	360.794998	1	G	1	4	1	Site Infrastructure	3	361.431236	1.6	4	-0.136238	1	12	2	2									

Slope angles

	Co-eff.	
0	2.0	1.0
2	4.0	2.0
4	8.0	4.0
8	15.0	6.0
15	35.0	8.0

Peat depths

	Co-eff.	
0	0.5	1.0
0.51	1.0	2.0
1.01	3.0	3.0
3.01	6.0	8.0

Substrate

	Co-eff.
G	1.0
R	1.5
C	2.0
not proven	2.0
slip material	5.0

Receptor

	Co-eff
Roads and Tracks	3.0
Minor Water Feature	6.0
Dwelling	6.0
Major Water Feature	8.0
Site Infrastructure	3.0
important Habitat	8.0

Receptor Dist.

		Co-eff.
0	10.0	4.0
10	100.0	3.0
100	1000.0	2.0
1000	2000.0	1.0

Receptor Elev.

		Co-eff.
0	10.0	1.0
10	50.0	2.0
50	100.0	3.0
100	200.0	4.0

risk rating normalisation

0	5.0	1.0
5	15.0	2.0
15	31.0	3.0
31	50.0	4.0
50	100.0	5.0

impact rating normalisation

0	10.0	1.0
10	20.0	2.0
20	30.0	3.0
30	50.0	4.0
50	100.0	5.0

CLOICH FOREST WIND FARM
SUPPLEMENTARY ENVIRONMENTAL INFORMATION

VOLUME 3: SEI REPORT TECHNICAL APPENDICIES

TECHNICAL APPENDIX A9.2:
OUTLINE PEAT MANAGEMENT PLAN

NOVEMBER 2022

Prepared By:

Arcus Consultancy Services

7th Floor
144 West George Street
Glasgow
G2 2HG

T +44 (0)141 221 9997 | **E** info@arcusconsulting.co.uk
w www.arcusconsulting.co.uk

Registered in England & Wales No. 5644976

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1 INTRODUCTION

1.1 Background

Arcus Consultancy Services Ltd (Arcus) were commissioned by Cloich Windfarm Partnership LLP, wholly owned by EDF Energy Renewables UK Limited, ('the Applicant') to carry out an Outline Peat Management Plan (oPMP) for the amendments to the proposed Cloich Forest Wind Farm (the SEI Layout) for the proposed Cloich Forest Wind Farm ('the Development') located in the Scottish Borders, centred at approximately (NGR) 320648, 647881, 5.5 kilometres (km) north-west of Peebles ('the Site').

This Supplementary Environmental Information (SEI) Report provides further, and updated, environmental information in light of revisions to the Development. The Applicant has revised the Development by:

- Relocating Turbine 8 (T8) and its associated infrastructure to ensure that it is sufficiently removed from Whaup Law Cairn;
- Provision for an additional control building at the substation compound. It is expected that the grid operator (SPT) will request a separate control building to the wind farm's control building.
- The addition of a new SPT Temporary Construction Compound (TCC) in the north of the Site.

Additional felling is required for due to these changes. This oPMP will provide estimated peat excavation and re-use potential, and the proposed peat and soils management methodologies to be employed during construction of the Development.

This oPMP has been prepared to be a Technical Appendix to **Chapter 9: Geology, Ground Conditions & Peat** of the SEI Report. This oPMP will ensure the Development complies with good practice in accordance with Scottish Renewables (SR) and Scottish Environment Protection Agency (SEPA) guidance.

The purpose of the oPMP is to:

- Define the materials that will be excavated as a result of the Development, focusing specifically on the excavation of peat;
- Report on detailed investigations into peat depths within the Development;
- Detail proposals for the management of excavated peat and other soils;
- Consider the potential effect of the Development on Ground Water Dependent Ecosystems (GWDTEs);
- Determine volumes of excavated arisings, the cut/fill balance of the Development and proposals for re-use or reinstatement using excavated materials; and
- Detail management techniques for handling, storing and depositing peat for reinstatement.

The oPMP has been produced in accordance with best practice guidance and legislation as detailed in Section 2.1 of this oPMP. This oPMP is intended to be a document that will evolve during the different phases of the Development and as such, will be subject to continued review to address:

- Requirements to discharge future Planning Conditions;
- Detailed ground investigations and detailed design of the Development;
- Unforeseen conditions encountered during construction;
- Changes in best practice during the operational lifetime of the Development; and
- Changes resulting from the construction methods used by the Contractor(s).

Whilst this oPMP provides a base standard for good practice, where avoidance or further minimisation of risks to the environment can be demonstrated through use of alternative methods or improvements to current practices, the Contractor (once appointed) will

implement these wherever possible and will correspond with SEPA and Scottish Borders Council ('the Council').

This oPMP is accompanied by the following appendices:

- Appendix A – Figures; and
- Appendix B – Peat Excavation and Re-use Calculations.

1.2 The Site

The land within the site boundary ('the Site') which contains the turbines and associated infrastructure covers an area of 1,080 hectares (ha), centred on National Grid Reference (NGR) 320648, 647881. The Site is located approximately 5.5 km north-west of Peebles. The Site is located wholly within the administrative boundary of the Scottish Borders Council and lies adjacent to the A703 on the east side of the Site.

The topography of the Site and the immediate vicinity is complex, with elevations ranging from approximately 280 m Above Ordnance Datum (AOD) in the north-east part of the Site to approximately 476 m AOD at the peak of Crailzie Hill in the south. The Site encompasses the rolling Cloich Hills, including Peat Hill (466m AOD), Ewe Hill (462m AOD), White Rig (325m AOD), and Crailzie Hill (476m AOD). The hills are dissected by a number of watercourses, including Middle Burn, Flemington Burn, Martyr's Dean, Courhope Burn and Harehope Burn. All watercourses eventually feed into the River Tweed. There are no waterbodies within the Site.

Coniferous plantation, at various stages of the planting, growing and felling cycle, is the primary land use within the Site; however the area around Courhope in the south of the Site consists of improved upland pasture, utilised for sheep grazing, and improved grassland which remains clear of forestry.

In addition to the operational commercial forest of Cloich Forest, the Site and immediate vicinity consists of further areas of forestry and rural farmland, primarily used for grazing and other farmland activities.

The Site contains two public roads which form the Site access from the A703; these public roads are as follows:

- D17 Whim – Shiplaw; and
- D18 Cloich.

There are no residential properties within the Site; however, Cloich Farm is located adjacent to the Site, at approximate NGR 321655, 649105, approximately 1.2 km north-west from the closest turbine (T10).

1.3 The Development

The revised Development will consist of the following key infrastructure:

The SEI Layout is illustrated in Figure 9.2.1 in Appendix A of this oPMP and will consist of the following key infrastructure with changes incorporated within the SEI Layout shown in bold:

- Up to 12 wind turbines three-bladed turbines, **including the relocation of T8 150 m to the south,** with a maximum tip height of up to 149.9 m;
- Widening works along public roads 'D17 Whim – Shiplaw' & 'D18 Cloich';
- Access tracks linking the turbine locations;
- Network of underground cabling running adjacent to the access tracks where possible;
- Substation compound incorporating **two** single storey control **buildings**, external electrical infrastructure, BESS components, recycling and storage, and vehicle parking etc.;

- Crane hardstandings and an external transformer for each turbine;
- Temporary Construction Compound (TCC);
- Two Borrow Pits;
- **Scottish Power Transmission (SPT)TCC**.
- An approximate 20 MW battery energy storage system (BESS); and
- Forestry felling, **including an additional area required due to the relocation of T8 and additional TCC**.

1.4 Consultation

Peat management within the Site, both excavation/disturbance and the reinstatement /restoration, was considered throughout the EIA for the Development and the outcomes of studies are reported in the EIA Report. The EIA Report forms part of the planning application submitted to the Scottish government's Energy Consent Unit (ECU) and made available to all consultees, including SEPA.

Further consultation beyond scoping took place between Arcus and SEPA regarding the methodology for investigating the peat depths during the Phase 2 Peat Probing. SEPA acknowledged the approach proposed and highlighted the need for the Development to avoid the deepest peat areas where possible and the requirement for detailed peat probing. This oPMP considers assessments included in the EIA Report while responding to the consultees scoping responses.

Considerations given to the management of peat during the EIA were also applied to the revisions made to the design within the SEI Layout. Additional peat probing was carried out at the revised location of T8 and additional TCC location. This survey followed the same methodology as was used in the EIA phase 2 peat probing survey. The results gathered supplemented the EIA survey results to assess the volume of peat excavated and reinstatement potential for the SEI Layout, included within Appendix B of this oPMP.

SEPA's response to the EIA included a request for a detailed PMP as follows:

Detailed Peat Management Plan (PMP) to be submitted to the satisfaction of the determining authority in consultation with SEPA; This is to be submitted at least 3 months prior to construction commencing on site and to be agreed with the determining authority in consultation with SEPA.

Reason: To ensure minimisation and mitigation of peat disturbance and degradation.

2 OBJECTIVES

2.1 Introduction

Desk-based assessments, detailed peat survey work, and completion of technical assessments such as the Peat Slide Risk Assessment (PSRA) for the SEI Report allows a consistent approach for managing peat.

The preparation of an oPMP responds to the 2019 Scoping Responses (Oct 2019 – Dec 2019) and the intent to deliver a construction project that complies with good practice in accordance with SR and SEPA guidance.

In addition to the assessments, an outline civil design of the Development has been undertaken. With respect to geology, ground conditions and peat, the overall objective of the design of the Development has been to minimise the excavation of peat where possible. While the revisions incorporated within SEI Layout were not related to reducing the impacts on geology, ground conditions and peat, consideration of the SEI Layout still required assessment.

Due to the nature of the underlying ground conditions on the Site, tracks were designed to be as close as possible to existing levels. This is considered to provide the best

opportunity for a design which achieves reinstatement or restoration in accordance with good practice and the methods set out in the outline Habitat Management Plan (HMP - as included in **Chapter 7: Ecology** of the EIA Report) while removing the need for off-site waste management controls.

This objective of the oPMP is achieved through:

- Ensuring the characteristics of the Site are understood through extensive peat probing and assessing the Site topography;
- Understanding the extent of SEI Layout and how excavations will take place;
- Modelling the peat depth profile based on probing and a digital terrain modelling in 3D;
- Considering the best practice advice for peat reinstatement; and
- Developing practical peat restoration opportunities for improvement of habitats and peatlands.

This oPMP has been compiled in accordance with the following best practice guidance:

- Guidance on Developments on Peatland: Peatland Survey[1];
- Guidance on Developments on Peatland: Guidance on the Assessment of Peat Volumes, Re-use of Excavated Peat and Minimisation of Waste[2];
- Floating Roads on Peat Guidance[3];
- Good Practice During Wind Farm Construction[4]; and
- SEPA Regulatory Position Statement – Developments on Peat[5].

2.2 Approach to Minimising Peat Excavation

The following steps have been taken during the development of the design of the SEI Layout to minimise the effect on peat:

- The development of an access track design which avoids any deeper peat where practicable; and
- The design and orientation of turbines and crane hardstandings considering local topographical, peat and other environmental constraints.

These steps will be further supplemented by taking the following measures to minimise disturbance:

- Maximisation of batter angles in cuttings;
- Utilisation of existing tracks; and
- The use of appropriate construction plant to avoid unnecessary disturbance of the ground surface.

The fundamental principle upon which this oPMP is based is that achieving a successful materials strategy is contingent on gaining a thorough understanding of the Site through investigation and developing a design that achieves the materials management

[1]SNH (2017) Guidance on Developments on Peatland: Peatland Survey (2017) [Online] Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatland-survey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf (Accessed 05/05/21)

[2] Scottish Government (2014) Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste [Online] Available at: https://www.gov.scot/publications/assessment-of-peat-volumes-reuse-of-excavated-peat-and-minimisation-of-waste-guidance/ (Accessed 05/05/21)

[3] SNH (2010) Floating Roads on Peat [Online] Available at: http://www.roadex.org/wp-content/uploads/2014/01/FCE-SNH-Floating-Roads-on-Peat-report.pdf (Accessed 05/05/21)

[4] Scottish Renewables et al. (2019) Good Practice during Wind Farm Construction [Online] Available at: https://www.nature.scot/sites/default/files/2020-12/Good%20Practice%20during%20wind%20farm%20construction%20-%204th%20Ed.pdf (Accessed 05/05/21)

[5] SEPA (2010) SEPA Regulatory Position Statement – Developments on Peat [Online] Available at: https://www.sepa.org.uk/media/143822/peat_position_statement.pdf (Accessed 05/05/21)

objectives. For the Development, this principle is achieved by undertaking significant peat probe investigations prior to preparing the outline civil engineering design layout in 3D and the development of this oPMP based on the available information.

2.3 Aims and Objectives

2.3.1 Need for a Peat Management Plan

The significance of peatlands is most evident in their protection by various legislation, policy and local, national or international initiatives including but not limited to;

- United Kingdom Biodiversity Action Plan (UKBAP)[6];
- Scotland's National Peatland Plan (SNH, 2015)[7];
- European Council Habitats Directive 92/43/EEC (Council of the European Communities, 1992)[8];
- Scottish Biodiversity List (SBL) (Scottish Government, 2013)[9];
- Scottish Government discussion paper on the Management of Carbon-Rich Soils (Scottish Government, 2010)[10];
- Scottish Soil Framework (Scottish Government, 2009)[11]; and
- Climate Change Plan (2017-2032) (Scottish Government et al., 2017)[12].

SEPA has a statutory and legislative duty to ensure that where peat spoil is generated during construction, it is stored, re-used, treated or disposed of correctly, which may require authorisation or permits.

SEPA's policy on the management of peat is set out within SEPA Regulatory Position Statement – Developments on Peat[13]. This highlights that the best management option for peat spoil is the prevention of its production, by seeking to minimise peat excavation and disturbance. Where this is unavoidable, developers should attempt to re-use as much of the peat produced on-site as is possible, in justifiable and environmentally beneficial ways.

This oPMP is prepared to demonstrate to the Council, SEPA, and other consultees that the construction of the Development will progress in a manner that is planned, in accordance with good practice, and achieves the aim of being environmentally sustainable.

This oPMP is therefore prepared in accordance with the SR and SEPA guidance. It details how:

- The Development has been structured and designed so far as practicably possible to reduce the volumes of peat excavated;
- Volumes of peat excavated during the course of the works have been considered in the design; and
- Excavated peat will be managed.

[6] https://jncc.gov.uk/our-work/uk-bap/

[7] https://www.nature.scot/scotlands-national-peatland-plan-working-our-future

[8] https://www.legislation.gov.uk/eudr/1992/43/contents

[9] https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list

[10] https://www.gov.scot/publications/low-carbon-scotland-meeting-emissions-reduction-targets-2010-2022-report/pages/10/

[11] https://www.gov.scot/publications/scottish-soil-framework/

[12] https://www.gov.scot/publications/draft-climate-change-plan-draft-third-report-policies-proposals-2017/

[13] SEPA Regulatory Position Statement – Developments on Peat Microsoft Word - Peat Position Statement - update 290310.doc (sepa.org.uk)

2.3.2 Objectives of the oPMP

The main objective of the oPMP is to outline how peat and peaty soils proposed to be excavated will be managed and re-used during the construction of the Development and proposed restoration plans.

This is achieved through responding of the following objectives:

- Providing details of the extent and depth of the peat on Site and how this was determined;
- Estimation of peat volumes to be excavated and re-used;
- Classification of excavated materials;
- Consideration of the use of appropriate construction methods;
- Describing how excavated peat will be handled to ensure suitability for re-use;
- Determining if temporary storage of peat will be required during construction and how this will be done to ensure suitability for re-use; and
- Considering the potential volume of peat which may not be suitable for re-use and any requirement for a Waste Management Plan for the Development.

The response to these objectives is provided in the following sections.

3 PEAT INVESTIGATIONS, EXCAVATION, RE-USE AND MANAGEMENT

3.1 Peat Classification and Published Geology

3.1.1 General Peat Classification

Acrotelmic peat is the upper layer of peat consisting of living and partially decayed materials with a higher hydraulic conductivity and a variable water table. These deposits are generally found to exist in the upper 0.5 m of peat deposits and are typically suitable for reinstatement because they contain viable plant life to assist in the regeneration of peatland vegetation and carbon sequestration.

Catotelmic peat is variable in characteristics, with decomposition of fibres generally increasing with depth. Water content can be highly variable and affects the structural strength of the material. Suitability for re-use generally depends on fibre and water content. The upper catotelm is commonly deemed as being appropriate for re-use in restoration due to its relatively high fibre content.

Generally, excavated semi fibrous catotelmic peat from the Site will have sufficient structural strength to be able to be used in the lower layers of verge restoration as it will not be 'fluid'.

The catotelmic peat would be capped with a surface layer of actrotelm to re-establish the peat vegetation. If any fluid like wet catotelmic peat is encountered then it would be placed in more appropriate locations such as low-lying section of the borrow pits or concave deposition areas.

The following assumptions have been made in classifying peat excavated during the construction work:

- Where the total peat depth was found to be less than 0.5 m, this peat material is assumed to be 100% acrotelmic;
- Where the total peat depth is between 0.5 m and 1.0 m, the upper acrotelmic peat is at least 0.5 m deep; and
- Where the total peat depth is found to be greater than 1.0 m, acrotelmic peat is assumed to account for at least 30% of total depth but generally applying minimum of 0.5 m thick.

Existing topography and permitted track gradients drive the design of the infrastructure with due consideration given to potential construction risk and effects on environmentally sensitive receptors including deep peat, watercourse buffers and any GWDTEs. Further micro-siting post-consent would take place in such a way as to avoid where possible the excavation of deep peat.

3.1.2 Published Geology

Available British Geological Survey (BGS) mapping indicates a large proportion of the Site to be devoid of superficial soils while the remainder of site is underlain almost entirely by Devensian Till, with two small localised pockets of peat in the centre of the Site and to the east in areas which are topographically flatter than their surrounds.

Published bedrock geology mapping indicates the entire Site to be underlain by Wacke (a variety of Sandstone?) of the Kirkcolm Formation. No faulting exists on the Site.

3.1.3 Investigations

The existing peat depths across the Site have been determined through a phased survey approach. The survey was initiated to inform the EIA, subsequent SEI and design work while supporting the PSRA. The survey comprised a total of 1,129 probes, 1,082 of which

were recorded during the EIA and a further 47 in response to the modifications incorporated within the SEI Layout.

Peat depths ranged from 0 m to 4.6 m thickness across the Site. Areas of deeper peat were shown as localised and isolated zones, with the deepest peat encountered in a pocket situated in the eastern area of the Site. The remainder of deeper pockets of peat were located in the central site area and generally had a depth below 3 m.

Initial Phase 1 peat depth surveys were undertaken in March 2020 comprising a 100 m grid throughout the developable site area, with the exception of areas inaccessible due to dense forestry. This rationale of probing is in accordance with the phase 1 approach as detailed in the Scottish Government guidance for investigating peat.

For the EIA, further peat depth surveys (phase 2a and b) were undertaken across a series of visits between November 2020 and April 2021.The probe positions for this visit were focussed on the proposed turbine, access tracks, and other key infrastructure. Peat depths were measured along the proposed access tracks at 50 m centres with offsets of 25 m on either side of the centre line, and 10 m cross-hair at turbines across the Site. Slight variations to this methodology were necessary due to dense forestry.

Additional peat depth surveys were carried out in June 2022 and August 2022 for the SEI Layout. The updated T8 location was targeted in the first of these surveys, in a crosshair of 10 m centres and probes relating to the associated infrastructure, such as hardstanding and spur track. The additional TCC area was probed in a 25 m x 25 m grid formation during the second additional survey.

The peat depths are illustrated in Figure 9.2.2 - Recorded Peat Depths within Appendix A of this oPMP.

3.1.4 Summary of Peat Depths

Throughout the peat surveys to date, a total of 1,129 probes were progressed. 97% of these probes recorded no peat or peat less than 1.0 m. Thick peat (where the depth was greater than >1.0 m) was recorded at 3% of locations. The majority of thick peat was recorded at depths between 1.0 m – 2.0 m with around 1% of all probes recording depths in excess of 2.0 m. Whilst deep peat was recorded in the 3% of the total probes, the design of the Site layout has avoided impact on these areas.

The maximum peat depth recorded was 4.6 m in the eastern Site area. Generally, deeper peat was encountered in small isolated pockets in areas of flat topography and proposed roads and infrastructure have been avoided in these areas as far as possible.

Peat over the remainder of the Site was typically measured as being less than 0.5 m with the average peat depth across the Site being <0.3 m.

Figure 9.2.3 - Interpolated Peat Depths included in Appendix A.

Prior to commencing works on Site, the Contractor (once appointed), will undertake further ground investigation to establish peat characteristics and surcharging strategies if required.

3.2 Excavation and Re-use Calculation

Excavated peat volumes have been estimated through the production of a peat levels 3D surface derived from the peat depth data from probing survey and compared with a 3D surface developed from the outline civil design of site infrastructure, whilst some assumptions have been adopted.

The estimated peat excavation volumes are included in Table 3.1 using the anticipated construction activities that will generate excavated soils, although it should be noted that the estimates of excavated peat provided in this report are likely to be higher than actually

occur, as micro-siting during construction will allow for the avoidance of localised pockets of deeper peat .

Table 3.1: Peat Excavation Volumes Based on Construction Activity

Development Component	Estimated Volume of Excavated Peat (m^3)	Estimated Volume of Acrotelmic Peat (m^3)	Estimated Volume of Catotelmic Peat (m^3)
Turbines and associated earthworks	21,046	21,046	0
New windfarm tracks, turning heads, passing places, existing rack upgrades and associated earthworks	18,239	18,239	0
Construction Compounds	579	579	0
Substation	889	889	0
Borrow Pits	5,234	5,234	0
SUB-TOTAL	**45,987**	**45,987**	**0**
+10% Bulk Factor Contingency	4,599	4,599	0
TOTAL	**50,586**	**50,586**	**0**

A detailed assessment of excavated volumes by location within the Site is provided in Appendix B of this oPMP.

3.2.1 Estimation of Peat Re-use Requirements

The principles of reinstating peat and peat soils should be adhered to for all elements of the infrastructure, comprising of the below:

- Peat and peaty soils will be reinstated on track and infrastructure verges with turves placed on the upper horizons encouraging revegetation;
- All peat, soil and turves excavated from beneath infrastructure will be reinstated in the vicinity of its original location; and
- Restoration activities will be overseen by the Ecological Clerk of Works (ECoW) to ensure methods are properly adhered to.

3.2.2 Peatland Restoration Potential

The outline objectives in proposing utilisation of those presently identified is to:

- Ensure residual volumes of excavated peat from the Development are re-used in areas where ecological benefits and maintained, or increased carbon sequestration can be delivered;
- Promote the re-use of excavated peat materials and avoid their disposal to landfill;
- Promote use of best practices and guidance to ensure that benefit is made from reusing peat and peaty soils for ecological enhancement; and
- Complement planned mitigation identified in the oHMP.

Table 3.2 shows the opportunities for re-use of peat with the Site including the demand for peat re-use, while Table 3.3 summarises the total peat balance estimated during construction of the Development.

Table 3.2: Peat Re-use Volumes Based on Construction Activity

Development Area	Total Demand Estimate (m^3)	Acrotelm Demand (m^3)	Catotelm Demand (m^3)	Reinstatement Thickness (max) (m)	Assumptions
Turbines and associated earthworks	18,723.8	18,723.8	0	0.3	Turbines and associated earthworks will be dressed off with up to 0.3m of peat and peaty soils, with catotelm placed in the lower regions and acrotelm and turves placed nearer surface.
New windfarm tracks, turning heads, passing places, existing rack upgrades and associated earthworks	21,911	21,911	0	0.3	Where new windfarm tracks are proposed, peat will be reinstated along verges and associated earthwork banking with peat up to 0.6m thick with verges not expected to exceed 2.5m on either side.
Construction Compounds	1,623.6	1,623.6	0	Up to 0.3	It is assumed that the construction compound will be completely reinstated across the entire disturbed area with peat up to depths of that encountered during any excavations to re-establish the conditions existed previously.
Substation	75	75	0	Up to 0.3	It is assumed that the substation will be reinstated in areas of earthworks banking and verges with peat up to depths of 0.5m, similar to that encountered during any excavations to re-establish the

Development Area	Total Demand Estimate (m³)	Acrotelm Demand (m³)	Catotelm Demand (m³)	Reinstatement Thickness (max) (m)	Assumptions
					conditions existed previously.
Borrow Pits	9,902	9,902	0	Up to 0.3	Peat reinstatement thicknesses will be up to 0.30m
Total	**50,586**	**50,586**	**0**		

Table 3.2 is presented as a summary of the assessment of peat reinstatement volumes. A detailed assessment is provided in Appendix B of this oPMP.

The following assumptions have been made in assessing peat re-use:

- New access track sections assume verges and earthworks on both sides of track with widths of approximately 2.5 m based on topography. As the access track edges will have graded slopes, peat depths will vary across the profile to tie into existing ground levels but are generally assumed not to exceed 0.6 m thick;
- Verges along the access tracks could consist of up to 0.6 m thick peat;
- No peat will be placed on access track verges where the local topography is steep and/or a watercourse is in close proximity;
- Peat will be laid only to a thickness that maintains hydrological conditions to avoid drying out. Peat will not be used as a thin layer or on steeper non-peat slopes. Low verges and landscaping will be formed to permit surface water to drain off the access tracks; and
- Reinstatement at substation and construction compound assumes a maximum peat depth thickness of 0.25 m. This will include the re-use of acrotelmic peat soils and turves.

Peat across the site was relatively thin and no extensive peat excavations will take place. Any excavated peat will be temporarily placed adjacent to where it is excavated, where possible for suitable re-use. It is therefore considered that designated peat storage areas will not be required. These are areas of previous disturbance area where peat was less than 0.5 m, areas out with 50 m buffer of watercourses and where topography permits.

Table 3.3: Peat Balance Calculations

Peat Description	Total Peat Demand Estimate for Reinstatement (m³)	Total Peat Supply from Excavation (m³)	Surplus (+) or Deficit (-) (m³)
Acrotelm	50,586	50,586	0
Catotelm	0	0	0
Total	**50,586**	**50,586**	**0**

Table 3.3 demonstrates that all excavated materials will be suitably re-used when adopting the outline approach as detailed above. These volumes should be considered in the context of the total excavated peat during construction. It is likely that balance would be achieved once total excavated peat is established by the appointed Contractor and reinstatement depths are adjusted accordingly.

3.2.3 Handling and Storage of Peat

It will be necessary for the Contractor to prescribe methods and timing involved in excavating, handling and storing peat for use in reinstatement. The Contractor will be

responsible for appointing a chartered geotechnical engineer who will monitor any potential stability risks. Construction methods will be based on the following principles, although it should be noted that no catotelmic peat is anticipated to be excavated during the construction of this project, however best practice has been retained should the material arise on site:

- The surface layer of peat (acrotelm) and vegetation will be stripped separately from the catotelmic peat. This will typically be an excavation depth of up to 0.5 m;
- Acrotelmic material will be stored separately from catotelmic material;
- Careful handling is essential to retain any existing structure and integrity of the excavated materials and thereby maximise the potential for excavated material to be re-used;
- Less humified catotelmic peat which maintains its structure upon excavation should be kept separate from any highly humified amorphous or wet catotelmic peat;
- Acrotelmic material will be replaced as intact as possible once construction progresses / as it is complete;
- To minimise handling and transportation of peat, acrotelmic and catotelmic will be replaced, as far as is reasonably practicable, in the locality from which it was removed. Acrotelmic material is to be placed on the surface of reinstatement areas;
- Temporary storage of peat will be minimised, with restoration occurring in parallel with other works;
- Suitable areas should be sited in locations with lower ecological value, low stability risk and at a suitable distance from water courses;
- Reinstatement will, in all instances, be undertaken at the earliest opportunity to minimise storage of turves and other materials;
- Managing the construction work as much as possible to avoid periods when peat materials are likely to be wetter i.e. high rainfall events;
- Temporary storage and replacement of any peat excavated from the borrow pit should occur adjacent to and within the source pit; and
- Transport of peat on Site from excavation to temporary storage and restoration Site should be minimised.

3.2.4 Waste Management Plan Requirements

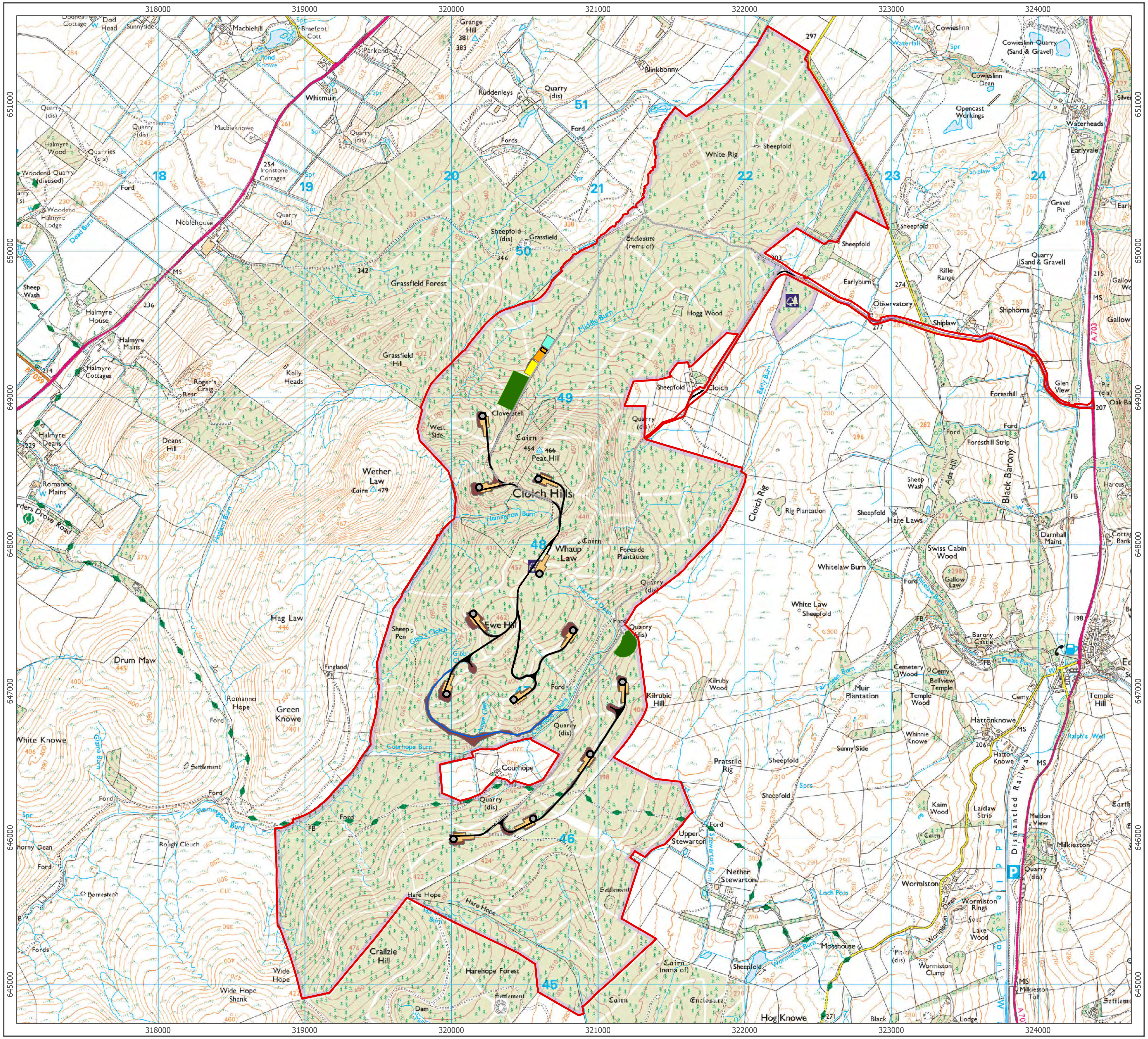
Based on the calculations carried out, the total peat volumes excavated will be fully incorporated in to the reinstatement proposed, therefore waste management and associated licensing in relation to peat does not require further consideration.

4 CONCLUSION

The following conclusions are drawn regarding the management of peat and excavated materials within the Site:

- As a result of the peat excavation and re-use estimates, it is demonstrated that all excavated peat can be suitably re-used on Site;
- Excavated peat will be used for the reinstatement of access track verges, cut and fill embankment slopes, reinstatement of turbine hardstandings, reinstatement of substation and compound areas, and in borrow pits following extraction;
- The estimates of excavated peat provided in this report are likely to be higher than actually occur, as micro-siting during construction will allow for the avoidance of localised pockets of deeper peat; and
- Sufficient methods have been defined to ensure that peat can be sensitively handled and stored on Site to allow for effective re-use.

APPENDIX A - FIGURES



edf renewables

ARCUS
An ERM Group Company

- Site Boundary
- Turbine Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

1:25,000 Scale @ A3

0 0.45 0.9 km

NORTH

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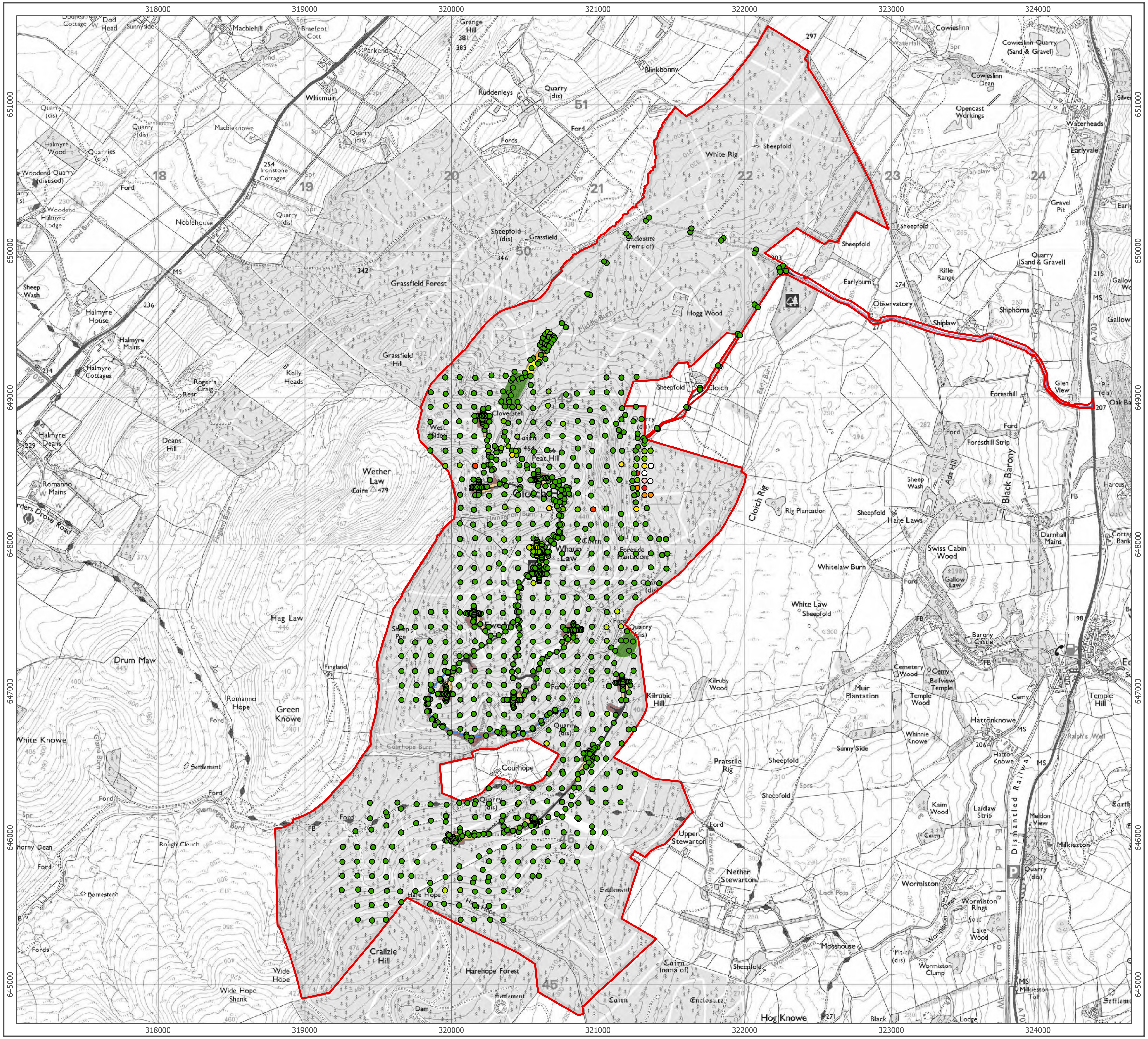
Site Layout Plan
Figure 9.2.1

Cloich Forest Wind Farm SEI
Technical Appendix 9.2:
Outline Peat Management Plan

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-011 Fig01 Site Layout Plan



edf renewables

ARCUS
An ERM Group Company

Site Boundary
Turbine Locations
Site Infrastructure
Borrow Pit
Construction Compound
Crane Hardstanding
BESS Location
Substation Compound
New Access Track (Construction Traffic Only)
New Access Track
Existing Track (Subject to Localised Upgrades)
Public Road
Public Road Widening Works
Earthworks
SPT Temporary Construction Compound

Peat Depth (m)
0.00 - 0.50
0.51 - 1.00
1.01 - 1.50
1.51 - 2.00
2.01 - 2.50
2.51 - 3.00
3.01 - 3.50
3.51 - 4.00
4.01 +

1:25,000 Scale @ A3
0 0.45 0.9 km
NORTH

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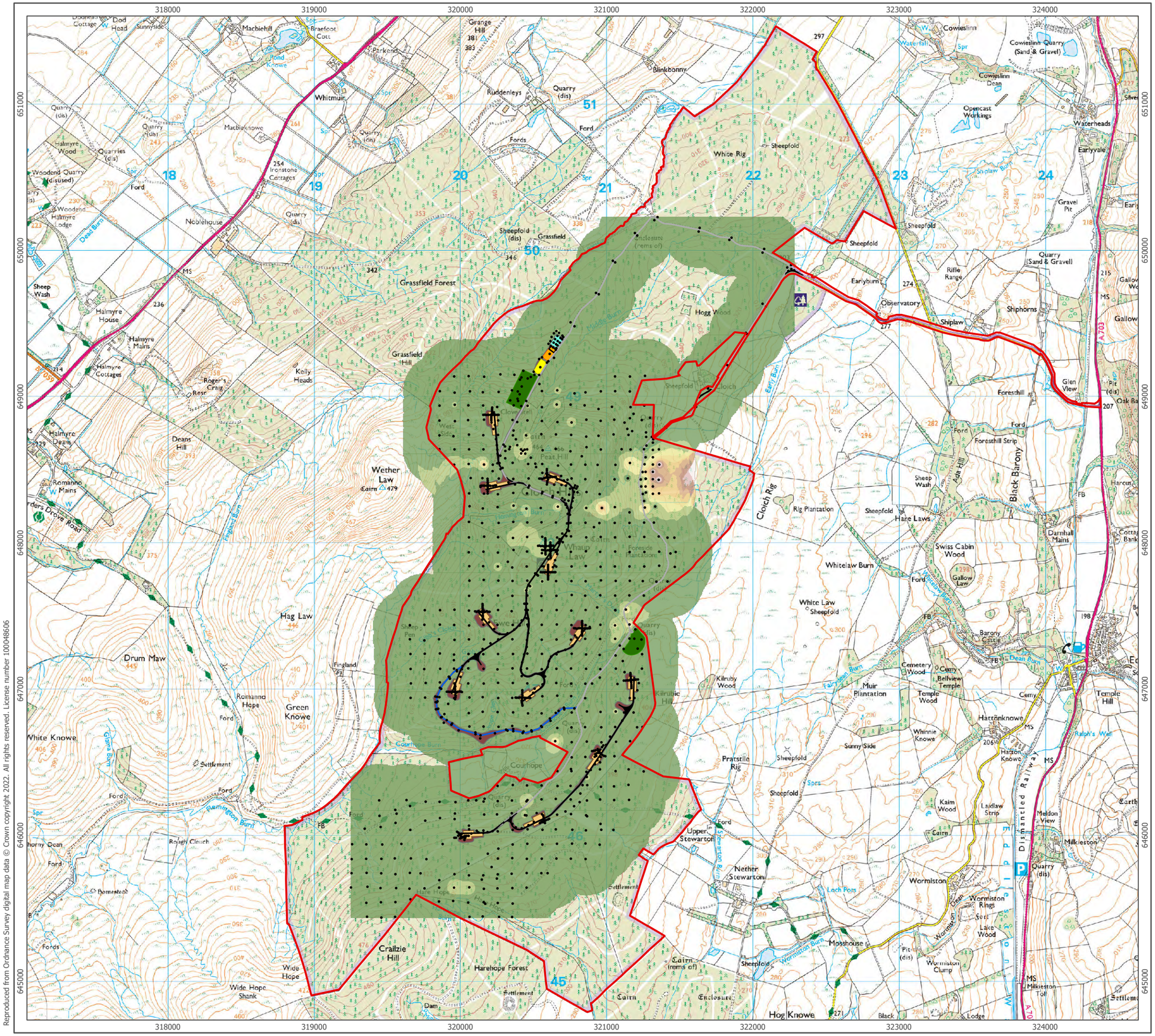
Checked By: DB	Date: 11/17/2022

Recorded Peat Depths
Figure 9.2.2

Cloich Forest Wind farm SEI
Technical Appendix 9.2:
Outline Peat Management Plan

Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-012 Fig02 Recorded Peat Depths



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Y:\GIS\Engineering\Projects\4519 Cloich SEI\4519 Cloich SEI.aprx\4519-REP-013 Fig03 Interpolated Peat Depths

EDF renewables

ARCUS
An ERM Group Company

- Site Boundary
- Peat Probe Locations

Site Infrastructure

- Borrow Pit
- Construction Compound
- Crane Hardstanding
- BESS Location
- Substation Compound
- New Access Track (Construction Traffic Only)
- New Access Track
- Existing Track (Subject to Localised Upgrades)
- Public Road
- Public Road Widening Works
- Earthworks
- SPT Temporary Construction Compound

Peat Depths (m)

- 0.00 - 0.50
- 0.51- 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 3.50
- 3.51 - 4.00
- 4.01 +

1:25,000 Scale @ A3

0 0.45 0.9 km

NORTH

Produced By: CS	Ref: 4519-REP-013
Checked By: DB	Date: 11/17/2022

Interpolated Peat Depths
Figure 9.2.3

Cloich Forest Wind Farm SEI Technical Appendix 9.2: Outline Peat Management Plan

APPENDIX B – CALCULATIONS

4519 -Cloich - Peat Excavation and Re-Use Calculations

Infrastructure	Total Area of Infrastructure inc EW.	Peat Cut Volume	Total Acrotelm Excavation Est.	Total Catotelm Excavation Est.	Areas of Reinstament	Total Peat Re-use Est.	Total Acrotelm Re-use Est.	Total Catotelm Re-use Est.
Turbines								
T1	12580	1773	1773	0	7122	2008.4	2008.4	0
T2	10855	1768	1768	0	5397	1349.3	1349.3	0
T3	9052	2441	2441	0	3594	1073.5	1073.5	0
T4	10534	1755	1755	0	5076	1522.8	1522.8	0
T5	10226	2671	2671	0	4768	1430.4	1430.4	0
T6	13440	1828	1828	0	7982	2394.6	2394.6	0
T7	8477	822	822	0	3019	905.7	905.7	0
T8 (Revised Location)	7681	768	768	0	2223	666.9	666.9	0
T9	12484	1535	1535	0	7026	2107.8	2107.8	0
T10	10054	1694	1694	0	4596	1378.8	1378.8	0
T11	13976	1792	1792	0	8518	2555.4	2555.4	0
T12	9892	2199	2199	0	4434	1330.2	1330.2	0
SUB-TOTAL	**129251**	**21046**	**21046**	**0**	**63755**	**18723.8**	**18723.8**	**0**
Tracks								
New Tracks/PPs	89022	14028	14028	0	63022	18906.6	18906.6	0
Turning Heads	9799	2981	2981	0	6599	1979.7	1979.7	0
Tracks - Upgrade	24600	1230	1230	0	4100	1025	1025	0
SUB-TOTAL	**123421**	**18239**	**18239**	**0**	**73721**	**21911**	**21911**	**0**
Construction Compound								
WF Construction Compound	5674	453	453	0	5674	1418.5	1418.5	0
SST Construction Compound	5412	126	126	0	5412	1623.6	1623.6	0
SUB-TOTAL	**5412**	**579**	**579**	**0**	**5412**	**1623.6**	**1623.6**	**0**
Substation								
Substation Compound	5249	889	889	0	249	74.7	74.7	0
SUB-TOTAL	**5249**	**889**	**889**	**0**	**249**	**74.7**	**74.7**	**0**
Borrow Pits								
Borrow Pit 1	18610	2876	2876	**0**	18610	4652.5	4652.5	0
Borrow Pit 2	14399	2358	2358	**0**	14399	3599.75	3599.75	0
SUB-TOTAL	**33009**	**5234**	**5234**	**0**	**33009**	**8252.25**	**8252.25**	**0**
TOTAL Excavation /Re-use Volume		**45987**	**45987**	**0**	**176146**	**50586**	**50586**	**0**
. +10% contingency for Bullking		**4599**	**4599**	**0**				
TOTAL Habitat Management - Peat Restoration and Ditch Blocking						**0**	**0**	**0**
Deduction For floating Tracks						0	0	0
SUB-TOTAL After Deduction						**0**	**0**	**0**
TOTAL PEAT EXCAVATION and REUSE		**50586**	**50586**	**0**		**50586**	**50586**	**0**