



An Càrr Dubh Wind Farm

March 2023

Design and Access Statement





Car Duibh Wind Farm Limited

An Càrr Dubh Wind Farm Design and Access Statement

Project Number
11260

Version	Status	Prepared	Checked	Approved	Date
1.	Final	LUC	LUC	LUC	01.03.2023

Bristol
Cardiff
Edinburgh
Glasgow
London
Manchester

Land Use Consultants Ltd
Registered in England
Registered number 2549296
Registered office:
250 Waterloo Road
London SE1 8RD

landuse.co.uk

100% recycled paper

Landscape Design
Strategic Planning & Assessment
Development Planning
Urban Design & Masterplanning
Environmental Impact Assessment
Landscape Planning & Assessment
Landscape Management
Ecology
Historic Environment
GIS & Visualisation



Contents

<hr/>		Illustrative Wireframes from Viewpoint 2 Dalavich Jetty	20
Chapter 1		Illustrative Wireframes from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)	22
Introduction		Illustrative Wireframes from Viewpoint 7 Core Path Above Inverinan	24
Introduction	1	Illustrative Wireframes from Viewpoint 14 A886 at Strachur	26
Purpose of the Design and Access Statement	1	Illustrative Wireframes from Viewpoint 16 B840, East of Ford	28
The Proposed Development	1	<hr/>	
The Applicant	2	Chapter 3	30
<hr/>		3 The Access Statement	
Chapter 2		Access to the Site	30
The Design Statement	3	Internal Access Tracks	30
The Site and its Surroundings	3	Access for All	30
Site Selection Process	4	Public Access	30
Design Strategy	6	<hr/>	
Site Design Principles and Constraints	7	Chapter 4	32
Site Infrastructure	15	Summary	
Design Evolution	16		
Design Conclusion	18		

Chapter 1

Introduction

Introduction

1.1 This Design and Access Statement (DAS) has been prepared by LUC on behalf of Car Duibh Wind Farm Limited (a company wholly owned by Statkraft UK Limited, hereafter referred to as 'the Applicant'), to accompany an application for consent to construct and operate an up to 13 turbine wind farm (with associated infrastructure, including an energy storage facility) known as An Càrr Dubh Wind Farm (hereafter referred to as 'the Proposed Development') in Argyll and Bute Council (ABC) administrative area. The nearest settlements are Inveraray, located to the east of the Proposed Development, Dalavich, located to the west, and Inverinan, located to the north, as shown in **Figure 1.1**.

1.2 As the Proposed Development has a generating capacity in excess of 50 megawatts (MW), consent is required from Scottish Ministers under Section 36 of the Electricity Act 1989 (hereafter referred to as 'the Act'), in consultation with relevant statutory consultees, including ABC. In addition, a request is being made by the Applicant that planning permission is deemed to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended. As such, the Design and Access Statement has been prepared in accordance with Regulation 13 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 (as amended) as required for all major developments.

1.3 The Design and Access Statement comprises two parts, namely:

- The Design Statement, which describes the Proposed Development and how it has evolved through the design process; and
- The Access Statement, detailing how the Site will be accessed during construction and operation of the Proposed Development, and how any specific access requirements for disabled people have been addressed.

1.4 This Design and Access Statement should be read in conjunction with the Environmental Impact Assessment Report (EIA Report) submitted to accompany the application for consent.

Purpose of the Design and Access Statement

1.5 The purpose of this Design and Access Statement is to provide information on the principles and approach that have guided the design process and to demonstrate observance of equal opportunity requirements for access. This Design and Access Statement demonstrates how the Site and its surroundings have been fully appraised to ensure that the final design solution achieves a balance across the range of factors which require to be addressed. It describes the starting point for the Proposed Development's design, the various factors which have driven the design process, and subsequent iterations to the layout that were made in response to the environmental and technical issues identified during the EIA process. Details are also provided on the access arrangements, both in terms of transport access for construction and maintenance works, and implications for public access and recreation, as well as any specific issues which might affect access to the Proposed Development for disabled people.

The Proposed Development

1.6 The Proposed Development is described in detail in **Chapter 2: The Design Statement**. In summary it will comprise:

- Up to 13 wind turbines (including internal transformers), each with a maximum tip height of up to 180m. The currently considered candidate turbine has a rated capacity of 6.6MW;
- Foundations supporting each wind turbine;

- Associated crane hardstandings and adjacent laydown areas at each turbine location;
- A network of onsite access tracks of approximately 23.1km (of which approximately 6.6km will be upgraded existing track and 16.5km will be new track);
- 105 watercourse crossings and associated infrastructure, i.e. culverts (31 upgraded existing crossing and 74 new crossings);
- A network of underground cables and cable trenches to connect the turbines to the onsite substation;
- A permanent anemometer (meteorological mast) of up to 102.5m in height and associated track;
- Vehicle turning heads;
- Onsite passing places (location and size to be determined by the turbine supplier);
- Site signage;
- A permanent compound containing the control building, substation and 20MW energy storage facility; and
- An Outline Restoration and Enhancement Plan (OREP) for peat, biodiversity, landscape and forestry (provided as **Appendix 8.5**).

1.7 In addition to the above components of the operational Proposed Development, construction of the Proposed Development will also require the following components:

- One temporary construction compound;
- The creation of one temporary borrow pit for the extraction of stone, and the reopening/use of two existing borrow pits;
- A concrete batching area (location to be confirmed however this is likely to be in the new borrow pit, or construction compound, as identified by the Contractor and agreed in the CEMP).
- Junction widening and upgrades on the A83 and the A819, and an upgraded access off the A83 into site; and
- Felling of approximately 3.77 hectares (ha) of forestry to facilitate access during construction

1.8 Two blade transfer areas will also be required to facilitate construction of the Proposed Development; however, these do not form part of this application for consent, as there is a degree of uncertainty associated with the final locations and requirements. These are however described in **Chapter 4** of the EIA Report, as far as is possible, and considered in the ‘in combination’ assessment section of the relevant assessment chapters.

The Applicant

1.9 The application will be made by Car Duibh Wind Farm Ltd (a wholly owned subsidiary of Statkraft UK Ltd). Statkraft is a global company in energy market operations and is Europe’s largest generator of renewable energy, active in wind power, solar power and hydropower. Employing over 4,800 people, Statkraft is active in 20 countries. Statkraft is at the heart of the UK’ energy transition. Since 2006, Statkraft has gone from strength to strength in the UK, building experience across wind, solar, hydro, storage, grid stability, EV charging, green hydrogen and a thriving markets business. We’ve invested over £1.3 billion in the UK’s renewable energy infrastructure and facilitated over 4 gigawatts (GW) of new-build renewable energy generation through Power Purchase Agreements (PPA). Across our UK businesses, we employ over 300 staff in England, Scotland and Wales and play a key role in helping the global business reach its goal of 9GW of developed wind and solar power by 2025.

Chapter 2

The Design Statement

The Site and its Surroundings

2.1 The Site is located on the plateau between Loch Awe to the north-west and Loch Fyne to the south-east within the Argyll and Bute Council administrative area as shown on **Figure 1.1**. The Site rises to a height of 526m Above Ordnance Datum (AOD) at Ben Bhreac adjacent to the southern boundary of the Site. The Site is located within the 'Craggy Upland – Argyll Landscape Character Type' (LCT 40) and the 'Plateau Moor and Forest – Argyll' LCT (LCT 39), with the area where turbines are proposed to be sited comprising undulating moorland plateau with rocky outcrops, orientated north-east to south-west, with frequent lochans in lower lying areas. The ground cover is mainly moorland heath and heather, with exposure limiting tree cover.

2.2 Large areas of forestry are found adjacent to the Site, extending down the lower slopes to the east, south and west, with the access to the Site also passing through an area of forestry to the west of Inveraray.

2.3 Settlements nearby are generally located within the glens and between adjacent lochs, with the closest settlements to the Site comprising Inveraray (located to the east approximately 5.5km from the closest turbine), Dalavich (located to the west, on the other side of Loch Awe, approximately 4.5km from the closest turbine) and Inverinan (located to the north, approximately 5.3km from the closest turbine). A number of small clusters of residential properties are found scattered along the shores of Loch Awe, with the closest properties to the Site located at Ardchnonell and Blarghour, both of which are located over 2.5km from the closest turbines.

2.4 Carbon rich soils, deep peat and priority peatland habitat are present within the Site. The SNH (now NatureScot) Carbon and Peatland mapping indicates that the majority of the Proposed Development lies in Class 2 priority peatland. The Site is an upland area, where local topography varies considerably within the site, which affects the peat distribution. The topography of the site is shown in **Image 2.1**. Higher linear ridges are separated by low lying depressions, where watercourses, lochs and areas of deeper peat are present. Extensive peat surveys undertaken across the Site found that the peat depths showed significant variation across short distance, which has formed a key consideration for the design of the scheme. The peat depths were predominantly (~65% of surveyed points) between 0-1m with 35% of the surveyed points having a depth of >1m.

2.5 The Site is located within the Kames River, Allt Blarghour, River Aray and Douglas Water catchments. The Kames River and Allt Blarghour catchments drain in a westerly direction towards Loch Awe. The River Aray and Douglas Water catchments drain in an easterly direction towards Loch Fyne. There are many watercourses and lochans within the Site, including the Eas an Amair (a tributary of the Allt Blarghour), the Erallich Water and Allt Bail' a Ghobhainn (tributaries of the River Aray), and numerous smaller named and unnamed tributaries.

2.6 The eastern extents of the Site access are located within the West Loch Fyne Coast Area of Panoramic Quality (APQ) and also within the Inveraray Castle Garden and Designed Landscape (GDL); however, no turbines are located in this part of the Site. There are a number of other designated landscapes within the wider Study Area, including the Loch Lomond and the Trossachs National Park (LLTNP), National Scenic Areas (NSAs), Areas of Panoramic Quality (APQs), Special Landscape Areas (SLAs), and Gardens and Designed Landscapes (GDLs). Designated landscapes beyond 15km of the site boundary are unlikely to be significantly affected by the Proposed Development as detailed further in **Chapter 6 of the EIA Report: Landscape and Visual Amenity**. Given the relatively close proximity of some of these designated landscapes, and the extent of theoretical visibility of the Proposed Development from within them, an assessment of potential effects on specific relevant special qualities of the national and locally designated landscapes are included in Chapter 6 of the EIA Report. Potential effects on GDLs are considered in the cultural heritage assessment, as set out in **EIA Report Chapter 10: Cultural Heritage**.

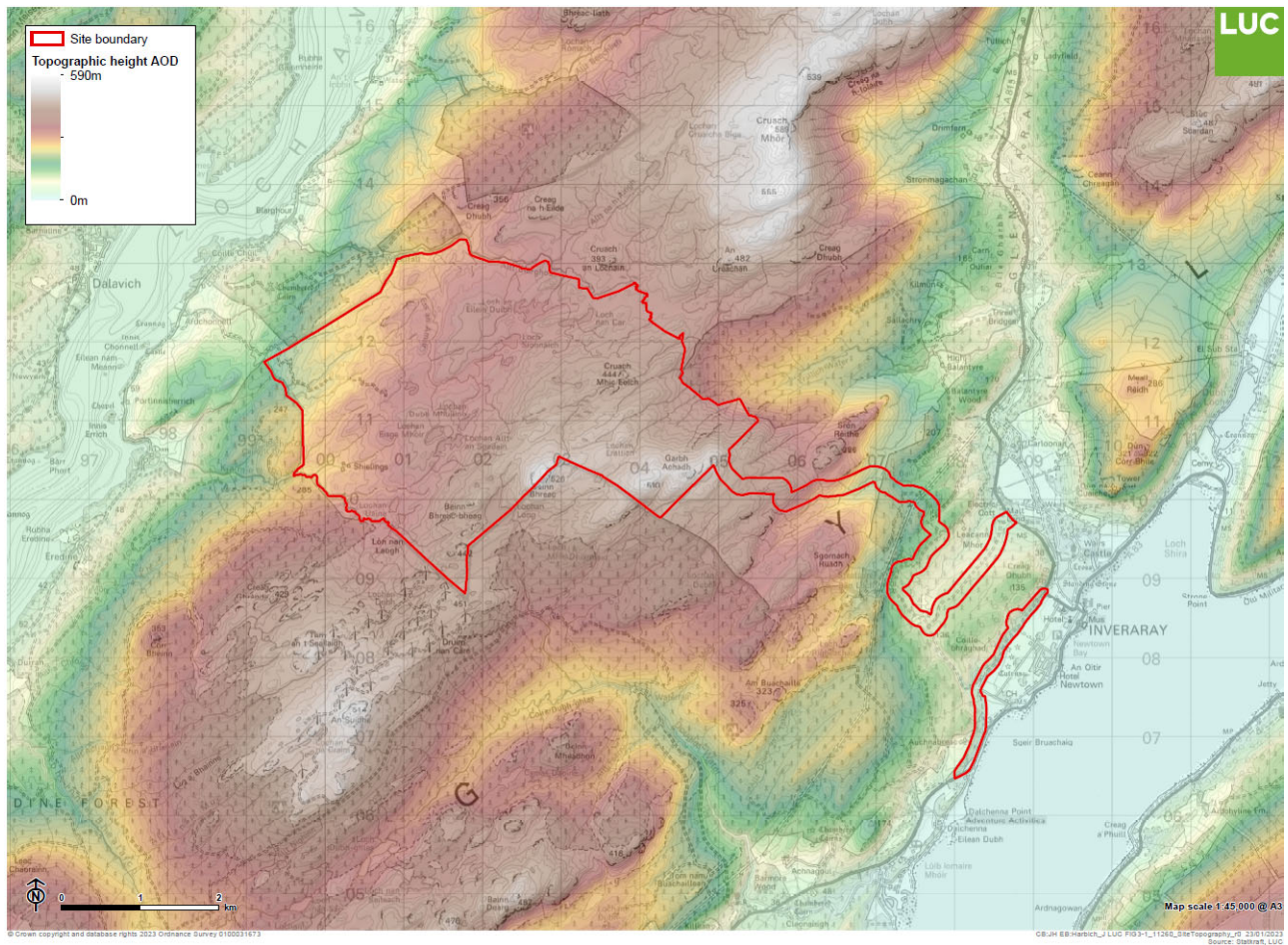


Image 2.1: Site Topography

Site Selection Process

2.7 National Planning Framework 4 (NPF4) was approved by the Scottish Parliament on 11th January 2023 and was adopted and published on 13th February 2023. However, the site selection exercise was undertaken under the planning policy in force at the time (i.e., Scottish Planning Policy (SPP) (June 2014)) which provided support for wind development in principle and encouraged local authorities to guide development towards appropriate locations within their boundaries. Paragraph 161 of SPP highlighted the requirement for planning authorities to define a “*spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms*” based on the following criteria (set out in SPP Table 1, Page 39):

Group 1: Areas where wind farms will not be acceptable

- National Parks and National Scenic Areas.

Group 2: Areas of significant protection

- Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.
- Group 2 areas include World Heritage Sites; Natura 2000 and Ramsar sites; Sites of Special Scientific Interest; National Nature Reserves; Sites identified in the Inventory of Gardens and Designed Landscapes; Sites identified in the Inventory of Historic Battlefields; areas of wild land as shown on the 2014 SNH map of wild land areas; carbon rich

soils, deep peat and priority peatland habitat; and an area not exceeding 2km around cities, towns and villages identified in the local development plans.

Group 3: Areas with potential for wind farm development

- Beyond groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria.

2.8 SNH's (now NatureScot) Guidance 'Siting and Designing Wind Farms in the Landscape'¹ states that "*Developers and those involved in wind farm design should also refer to the Spatial Frameworks being developed by planning authorities in response to Scottish Planning Policy (SPP). When considering an individual application, the adopted development plan, relevant supplementary guidance, wind energy capacity studies and SPP provide the framework within which the application should be considered*".

2.9 The statutory Development Plan for the Proposed Development comprises The Argyll and Bute Local Development Plan ('the LDP') (adopted April 2015); and The LDP Supplementary Guidance (SG) (Adopted March 2016). The SG includes the Spatial Framework for Onshore Wind Energy (Adopted March 2016) to provide further information and detail in respect of the main wind energy related policy of the LDP. The Spatial Framework for Onshore Wind Energy identifies the Site as being located within an area of significant protection (Group 2) due to the presence of carbon rich soils, deep peat and priority peatland habitat.

2.10 It should be noted that the next LDP (LDP2) was put forward for examination by the Scottish Government in May 2022 and is expected to be adopted in Spring 2023. In LDP2, the Site is located in a 'Remote Countryside Area' and 'Policy 02 – Outwith Settlement Areas' states that, within these areas, only specific categories of development are considered appropriate, including renewable energy related development.

2.11 In line with the identification of the Site as a Group 2 area under the now superseded SPP, the presence of peat and peatland habitat has formed a key consideration in the design process as detailed further below. However, it is considered that by avoiding deeper peat areas through the design, by application of embedded mitigation and good practice during construction, and by implementation of the Restoration and Enhancement Plan (see **Appendix 8.5** of the EIA Report), significant effects on peat can be overcome (see EIA Report **Chapter 7: Geology, Hydrology, Hydrogeology and Peat**).

2.12 It should also be noted that Policy 5 c) ii) of NPF4 explicitly supports renewable energy on peatland, carbon rich soils and priority peatland habitat for "*The generation of energy from renewable sources that optimises the contribution of the area to greenhouse gas emissions reductions targets*". The Policy goes on to set out the requirements of assessments for development on peatland, all of which have been undertaken for the Proposed Development (i.e. identifying the baseline depth, habitat condition, quality and stability of carbon rich soils; identifying the likely effects of the Proposed Development on peatland, including soil disturbance; and identifying the effects on climate emissions and loss of carbon). These aspects are considered within the EIA Report in **Chapter 7** and **Chapter 14: Other Issues**.

2.13 It should be noted that, in relation to NPF4, the site is not located within either a National Park or National Scenic Area, which are the only areas where NPF4 states explicitly that proposals for wind farms will not be supported (Policy 11). Further details in relation to the planning policy context associated with the Proposed Development are set out in the EIA Report **Chapter 5: Statutory and Policy Framework**. Compliance with planning policy is discussed in the Planning Statement which accompanies the application for consent.

2.14 Further characteristics of the Site that make it suitable for a wind farm include the following:

- The Site has a good wind resource and is available for wind energy development.

¹ Scottish Natural Heritage (2017) Siting and Designing Windfarms in the Landscape (Version 3a)

- With the exception of some small pockets of Ancient Woodland located along the Site access, there are no international or national designations for landscape or nature conservation within the Site.
- Knowledge of the Site's conditions show that there are no key environmental constraints that would preclude development, or which cannot be avoided through design.
- The size of the Site allows for good opportunities to explore and provide extensive habitat management and enhancement, particularly for degraded peatland habitats thus also providing carbon sequestration benefits. Further details are set out in **Appendix 8.5**.
- The closest turbines are located over 2.5km from the nearest residential receptors thereby avoiding unacceptable noise and residential visual amenity effects.
- The closest settlements of Dalavich, Inverinan and Inveraray are approximately 4.5km, 5.3km and 5.5km away from the nearest turbines respectively.
- The surrounding landscape is, in part, defined by the existence of the nearby wind farms including the operational An Suidhe Wind Farm to the south-west, and the consented Bhlargour Wind Farm to the north.
- As noted above, there are no planning policies which, in principle, preclude wind energy development.
- There is a feasible grid connection available, as advised by the network operator SSEN. The grid connection will be the subject of a separate application by SSEN.
- The Site is accessible for construction traffic and turbine deliveries.

Design Strategy

2.15 The design strategy sets out the overall approach to the design of the Proposed Development. It describes the starting point for design and subsequent alterations to the layout that were made in response to landscape and visual, hydrological, archaeological, ecological, ornithological, wind yield and ground condition considerations, as information emerged through the EIA process.

2.16 The design strategy for the Proposed Development aimed to provide a balance between achieving the maximum energy yield possible from the Site and creating a layout which relates to the landform and scale of the Site and surrounding area and has a positive relationship with the adjacent wind farms.

2.17 The starting point for the design was to maximise the potential output from the Site, which was then subsequently informed by landscape and visual considerations, therefore considering landform, scale, land use (including cumulative wind farm context) and key visual receptors. These factors will influence how the Proposed Development will be perceived by people within the surrounding area, and to what extent the landscape is capable of accommodating the Proposed Development (including in comparison with the adjacent operational and consented wind farms). The design strategy also comprised a number of design objectives which are set out below. The design of the Proposed Development has aimed to meet the guidance contained within NatureScot's Siting and Designing Wind Farms in the Landscape, as far as possible.

2.18 During each design iteration, careful consideration was given to minimising effects on environmental features, whilst maximising renewable energy generation potential of the Site and maintaining the objectives of the design strategy.

2.19 The design strategy for the Proposed Development was also informed by the key landscape and visual sensitivities identified in the decision of the 2015 appeal (DPEA Reference: PPA-130-2045) for the proposed Ardchnonnel Wind Farm which was proposed at the same site by RWE. As such, whereas the Ardchnonnel layout was designed so that when viewed together with An Suidhe from key viewpoints, they appear as one relatively compact group of turbines, the design of the Proposed Development has sought to increase the separation between the two wind farms. The difference in the scale of the turbines and rotational speeds of their blades is therefore less obvious, and the Proposed Development appears coherent in its own right.

2.20 The overarching objectives of the design strategy were as follows:

- To maximise the potential energy yield of the Site whilst ensuring a cohesive and sensitive layout which will be legible in key views in the surrounding area, including from the settlements of Dalavich, Inverinan and Strachur and key locations within Loch Lomond and the Trossachs National Park (LLTNP).
- To produce a layout and use a turbine size that relates to the landscape scale of the Site.
- To develop a layout that relates to other existing and proposed wind farms within the vicinity of the Site, including the adjacent operational An Suidhe Wind Farm and the adjacent consented Blarghour Wind Farm which is at Scoping stage (previously consented at a lower tip height), and achieves good overall composition with these schemes within the landscape and from key views.
- To ensure all elements of the Proposed Development infrastructure (including tracks, borrow pits etc.) are considered in terms of locational and design choice to minimise visual effects, especially from nearby and sensitive visual receptors.
- To explore opportunities within the Site to restore and enhance landscape and biodiversity.
- To develop a layout that fulfils the above objectives whilst respecting other environmental and technical constraints including ecological, ornithological; hydrological and ground conditions (including peat) related constraints identified during the EIA process.

2.21 During the design process, computer modelling was used as a tool to aid design. In particular, Zone of Theoretical Visibility (ZTV) models were generated and used to aid understanding of potential visual effects, including cumulative visual effects of the Proposed Development with other wind farms within the surrounding area. Wireframes were generated to illustrate views from key locations around the Site and to illustrate the cumulative effects with other nearby wind farm developments. Wireframes were also generated alongside photomontage visualisations to illustrate changes to views. Photomontages involved overlaying computer-generated perspectives of the Proposed Development over the photographs of the existing situation to illustrate how the views will change against the current baseline.

2.22 The main components of the Proposed Development considered in the initial design iterations were the turbines. The location of other infrastructure components was largely dictated by the positioning of the turbines, and designed around onsite environmental constraints. Later iterations to the turbine layout, following detailed engineering review, involved further alterations to turbine and infrastructure locations, which were reviewed against all constraints. For example, opportunities were taken to re-position turbine hardstandings and access tracks in areas where detailed peat probing has identified deeper peat deposits, to reduce the likelihood of peat disturbance onsite.

Site Design Principles and Constraints

2.23 The final design of the scheme takes into account the design aspirations and key considerations discussed above. A number of environmental and technical constraints have been considered in the iterative design process and have guided the positioning of both turbines and infrastructure. These include, but are not limited to:

- Key landscape and visual considerations as noted above in relation to the overall design strategy.
- Peat (avoiding deeper (>0.5m) peat where possible).
- Hydrology and the presence of ground water dependent terrestrial ecosystems (GWDTEs), including distance to watercourses (maintaining a 50m buffer where possible).
- Ornithology (buffers of 500m around breeding locations for protected or notable species, including black grouse (lekking sites), red-throated divers and scarce raptors). The turbine layout has also been informed by the results of Golden Eagle Topographical (GET) modelling for golden eagle.
- Ecology (avoidance of most ecologically important habitats and protected species resting sites, including buffers where appropriate).

- Cultural Heritage, including designing to avoid known heritage assets, and considering intervisibility with key assets in terms of their setting.
- Residential properties (maintaining at least a 2km buffer between turbines and inhabited and non-involved properties);
- Topography (including avoiding slope angles of more than 14 degrees and reducing the need for significant cut and fill engineering works) (**Image 2.1** shows the topography of the site).

2.24 An illustrative constraints plan is shown in **Figure 2.1** simply to demonstrate the design process. This plan does not include all constraints that have informed the design (e.g. confidential information on certain protected species for example) and is not presented at the level of detail at which certain constraints were reviewed. Furthermore, various key potential environmental effects of the Proposed Development, including landscape and visual effects, effects upon the settings of cultural heritage assets and effects on ornithology, could not influence design directly via constraints mapping. These effects influenced the design instead by iterative assessment (e.g., the generation of wireline visualisations and GET modelling).

2.25 A number of the key constraints and considerations which fed into the design process are detailed below, including an explanation of where some compromises had to be made to design a viable scheme. Again, it should be noted that this information is simply intended to provide some illustrative examples of the changes made to the Proposed Development through the extensive design work undertaken and is not an exhaustive list. It provides a 'snapshot' of the design work and numerous modifications made in light of the constraints on Site which were identified as the EIA progressed, and which were discussed by the relevant members of the team at a number of design workshops held throughout the EIA process.

Landscape and Visual Amenity

2.26 The landscape and visual effects formed a key element of the design process and overall design strategy as noted above. A key aim of this process was to minimise potentially significant landscape and visual impacts of the Proposed Development, whilst avoiding other key constraints on site including those relating to peat, ornithology, hydrology, and ecology.

2.27 Views from the settlement of Dalavich on the west side of Loch Awe were an important consideration during the design process. The main aim was to create a layout which appears evenly spaced, avoids the stacking of turbines and the isolation of outlying turbines, and is set back from Loch Awe. The layout sought to locate turbines behind the foreground ridge enclosing the loch, to prevent the appearance of turbines encroaching down the enclosing slopes, and to help maximise the perceived sense of separation between the Proposed Development and Dalavich/Loch Awe. Furthermore, the layout was designed to avoid high landform within the site, which was particularly challenging given the variation in topography within the site as noted above. The objective behind this was to remove visibility of hubs above the ridge skyline in views from the east, around Loch Fyne, such as at the small settlements of St. Catherines and Strachur.

2.28 Additionally, the interactions and compatibility with nearby existing and proposed wind farms was a key consideration during design, and care was given to selecting an appropriate wind turbine for the Site (i.e., in terms of tower height and rotor diameter). The Proposed Development was designed to be compatible with the adjacent Blarghour Wind Farm (scoping stage; previously consented) and whilst the Proposed Development was originally scoped with turbines up to 200m to blade tip, the final candidate turbine selected is up to 180m to blade tip, which is the same height as the turbines proposed at Blarghour Wind Farm. Given the difference in scale between the Proposed Development and An Suidhe wind farm, the layout sought to maximise the separation between these two developments. This help ensure they appear as distinctly separate developments and avoids visual confusion arising from differences in rotational speeds of their blades.

2.29 From designated landscapes such as the LLTNP and Ben Lui Wild Land Area, the iterative design process sought to achieve a layout which does not sit above the horizon in distant views and makes use of intervening landform to provide additional screening of the Proposed Development. The layout of the Proposed Development achieves this by appearing backclothed by distant landform in views from popular hill summits within these designations.

2.30 To illustrate the changes that were made to the design of the Proposed Development and how this relates to potential effects on landscape and visual amenity, comparative wireframes are provided at the end of this chapter for five key layouts as detailed below (provided as **Images 2.8a-e** to **2.12a-e**). The wireframes are presented from the following five key viewpoints (VPs):

- VP2: Dalavich Jetty;
- VP4: Folly at Dùn na Cuaiche (Inveraray Castle Garden and Designed Landscape);
- VP7: Core Path above Inverinan;
- VP14: A886 at Strachur; and
- VP16: B840, east of Ford.

Peat

2.31 Phase 1 and Phase 2 peat surveys were undertaken across the Site, and then specifically at the infrastructure locations, in line with good practice guidance². This confirmed that the peatland conditions are particularly complex, with numerous hagged and eroded areas present, and highly variable peat depths across relatively small distances, as evidenced in initial Phase 2 peat probing undertaken at 10m intervals. Given the variability of the peat depths identified during initial Phase 2 peat probing, it was decided to increase the separation distance between the probes from 10m to 20m for the majority of the Phase 2 peat probing. This was to allow a larger area to be covered at the infrastructure locations therefore giving more flexibility in the options for the final infrastructure locations. This is considered to be a robust approach which has provided a comprehensive data set to inform the final design.

2.32 The final layout has taken into consideration the pockets of deeper peat (>0.5m) and has avoided siting turbines and associated infrastructure at these locations where feasible, although this has not been possible at all infrastructure locations due to the variability in peat depths and the need to consider other constraints. Extensive design work was undertaken to optimise the layout for peat, including adjustments to the locations of turbines, realigning tracks and flipping hardstandings. **Image 2.2** below shows turbine 12 overlaid on the peat data, illustrating where the hardstanding has been rearranged over several design iterations to minimise impacts on peat following the detailed Phase 2 peat probing surveys.

2.33 As noted above, a number of hagged, eroded and degraded areas of peat were identified through the peat surveys. To seek to improve these areas and provide an environmental benefit and enhancement as part of the Proposed Development, an Outline Restoration and Enhancement Plan (OREP) for peat, biodiversity, landscape and forestry, has been prepared and is provided as **Appendix 8.5 of the EIA Report**. This identifies measures to benefit peat and habitats as well as ornithology and other ecological protected species where possible.

² Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey. Guidance on Developments on Peatland, on-line version only). 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>

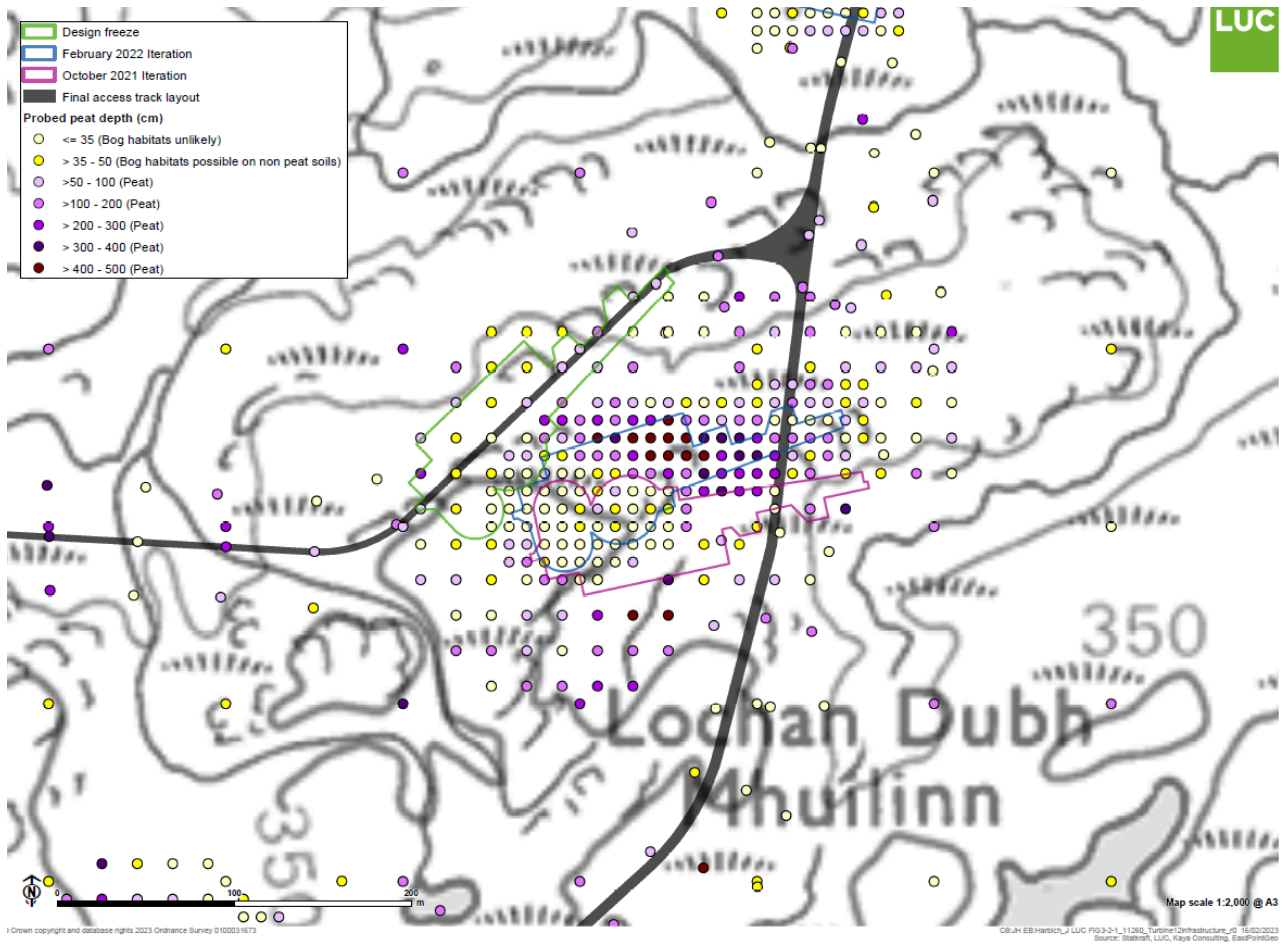


Image 2.2: Relocation of Turbine 12 Infrastructure for Peat Depth

Hydrology

2.34 As noted above, from the outset of the design process, a 50m buffer was applied to all mapped watercourses and water bodies across the Site. Where possible, this has been maintained for the siting of all turbines and infrastructure (with the exception of watercourse crossings). There are a number of locations where it has not been possible to maintain the 50m buffer due to the presence of other constraints on the Site; these locations are detailed in **Chapter 7** of the EIA Report and are also shown on **Figure 7.2**. Where considered necessary, additional mitigation is proposed in some of these locations to protect the watercourses as set out in **Chapter 7**. Details are provided below of two locations where it has not been possible to maintain the 50m watercourse buffer due to the presence of other constraints.

2.35 **Image 2.3** shows the approach to T4 which has resulted in a ~64m length of proposed track, temporary hardstanding and clearance area encroaching to within 31m of a small unnamed watercourse to the north due to other constraints (including localised areas of deep peat and engineering constraints associated with the alignment of the access track) (encroachment B). As it was considered that potential effects on the watercourse could be mitigated (**Chapter 7** confirms there are no significant effects on this watercourse), it was agreed during the design process that avoiding the deeper area of peat and ensuring the ability to engineer and construct the track in this location would take priority over maintaining the 50m buffer.

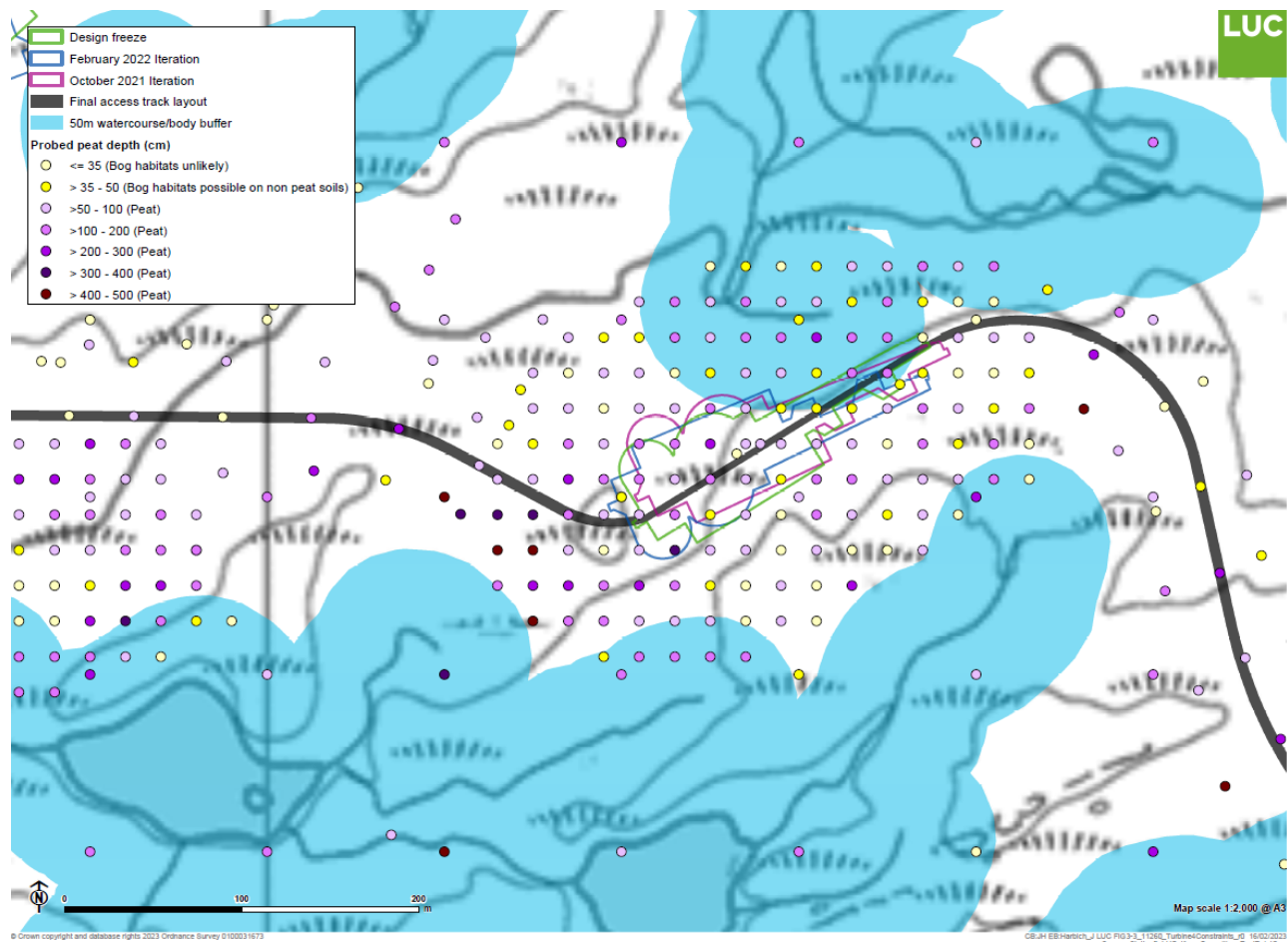


Image 2.3: Hydrology and Peat Constraints on Access approach to T4

2.36 **Image 2.4** below shows the location of watercourse encroachment C as detailed in **Chapter 7** of the EIA Report. As explained in **Chapter 7**, the track has had to pass between the 50m watercourse buffer and a GWDTE (within the 100m buffer of M32 spring). In addition, the track had to avoid localised areas of deep peat identified through the peat probing survey. The competing constraints in this location made it particularly difficult to identify an alternative route for the access track.

Furthermore, as embedded and additional mitigation will ensure no significant effects on either hydrology, peat or GWDEs, this is considered an appropriate solution in this location.

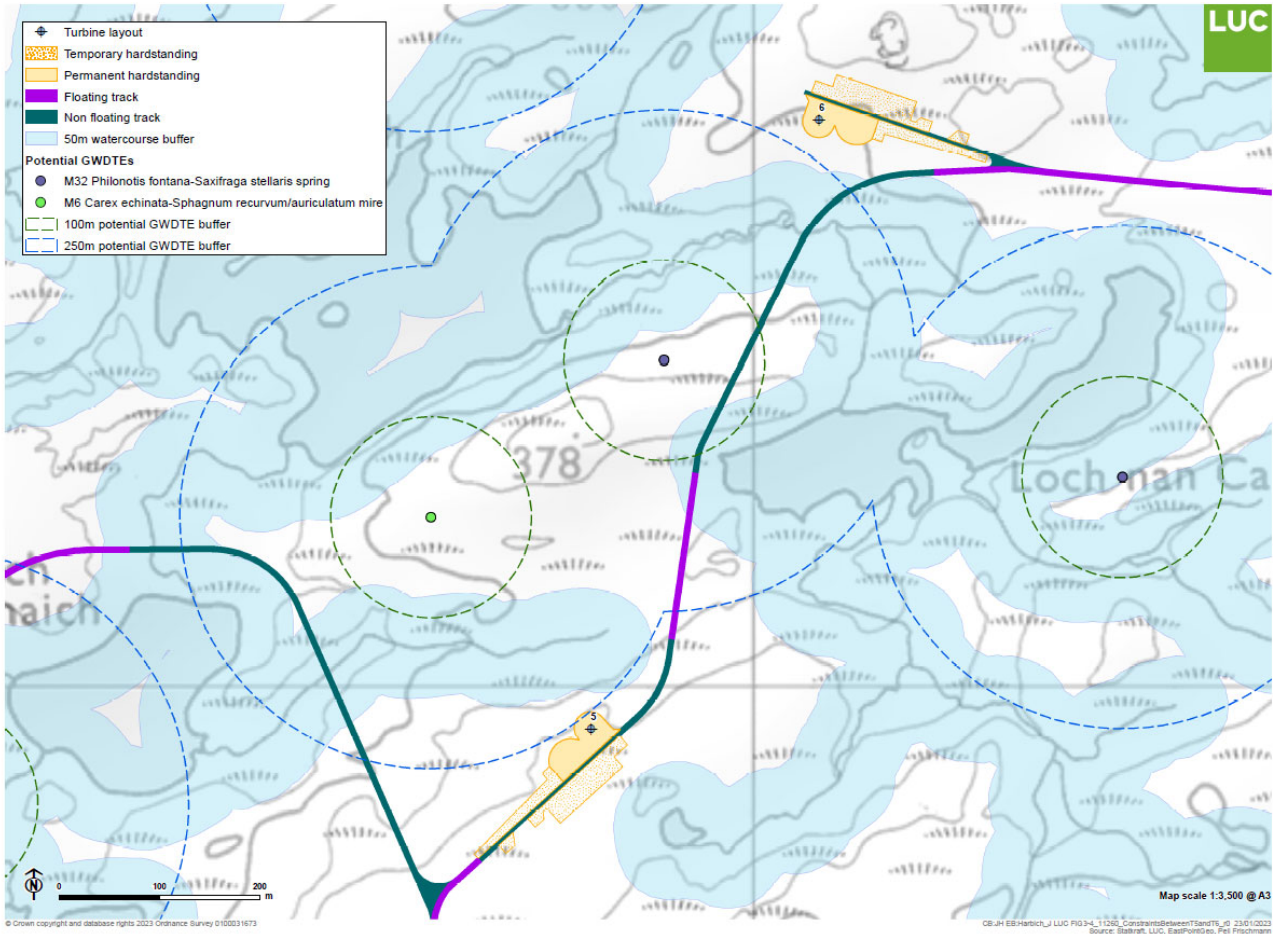


Image 2.4: Hydrology and GWDE Constraints on Access between T5 and T6

Ornithology

2.37 As a result of findings from the ornithological surveys, and based on the findings of initial GET modelling, several areas of the Site were identified as 'no go' areas for turbines at an early stage due to the presence of preferred golden eagle habitat. These areas were maintained free from turbines throughout the design process. Further changes were also made to the layout prior to finalising the design, based on the final calculations of the GET model, resulting in the loss of four turbines, and associated tracks and infrastructure, to give the final 13 turbine scheme which is being taken forward to the application. This is illustrated on **Image 2.5** below.

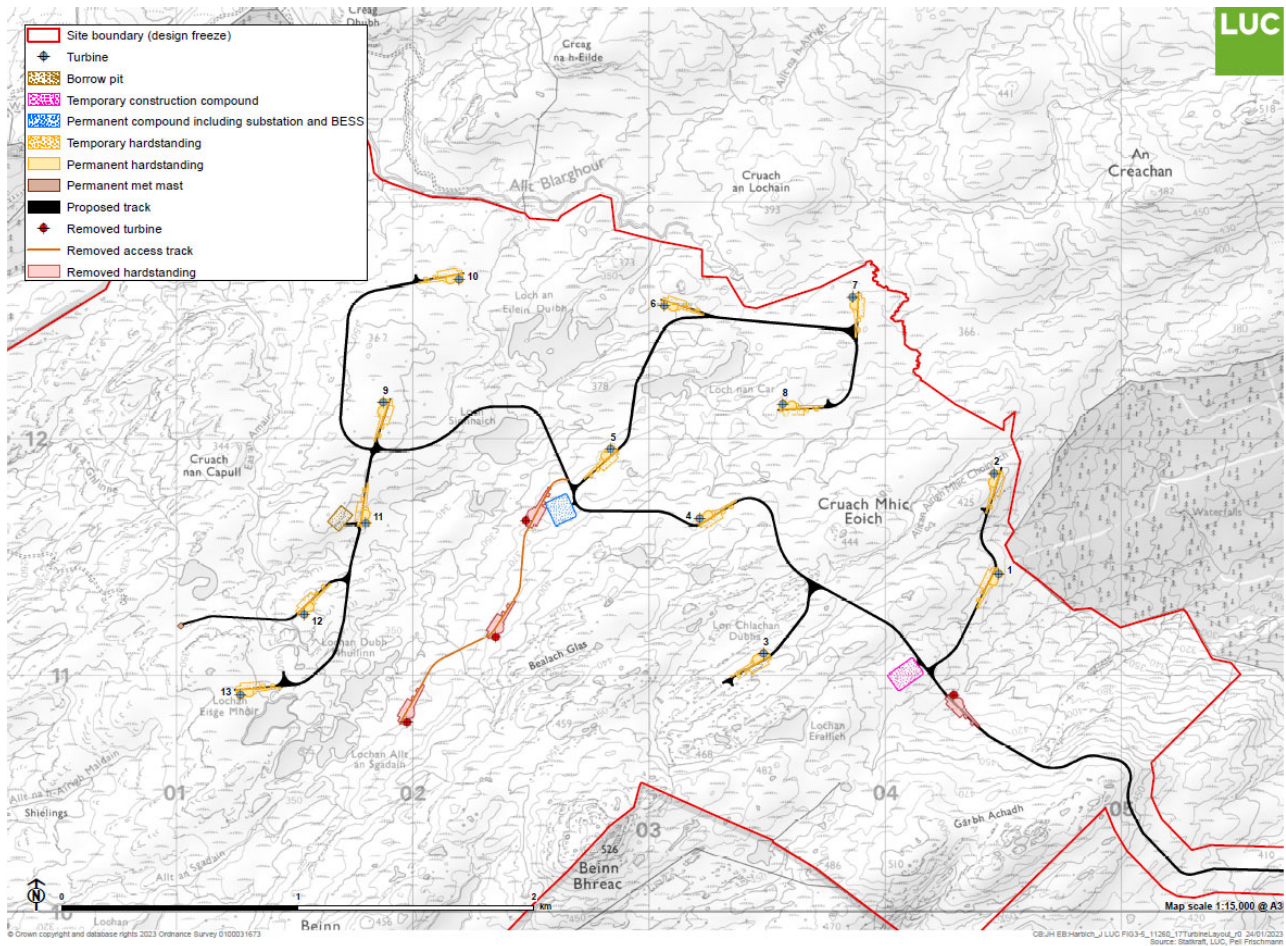


Image 2.5: 17 Turbine Layout Prior to removal of T1, T10, T11 and T12

GWDTes

2.38 During the Phase 1 habitat surveys undertaken by the ecology team, it was identified that there are a number of GWDTes located across the site. As such, a specific survey was undertaken by the hydrology team in October 2021 to visit key GWDTes locations identified during the Phase 1 habitat surveys to establish the level of ground water dependency associated with each one. As a result of the survey, a number of adjustments were made to the turbine locations to take into account the presence of GWDTes. Where possible, the 250m buffer has been avoided for siting turbines and borrow pits, and 100m buffer has been avoided for siting tracks and trenches, as per SEPA guidance. However, it has not been possible to avoid these in all locations as detailed above and shown on **Image 2.4**, which provides an example of a location where it hasn't been possible to adhere to the required buffers in siting infrastructure. Despite the need to site some infrastructure within the 100m and 250m buffers as noted above, the assessment in the EIA Report concludes there will be no significant effects on any GWDTes.

Cultural Heritage

2.39 There are a number of non-designated heritage assets within and immediately surrounding the Site and care has been taken to avoid these where possible. Design modifications include realignment of the access track to avoid crossing over possible shieling huts at Allt Bail' A' Ghobhainn identified in the Historic Environment Record (HER) (WoSAS 44193)³ as

³ http://www.wosas.net/wosas_site.php?id=44193

illustrated on **Image 2.6** below, and a slight adjustment to the track to avoid direct effects on the North Cromalt, memorial cairn to Gertrude Canning, WRN (WoSAS 66814)⁴ as illustrated on **Image 2.7** below.

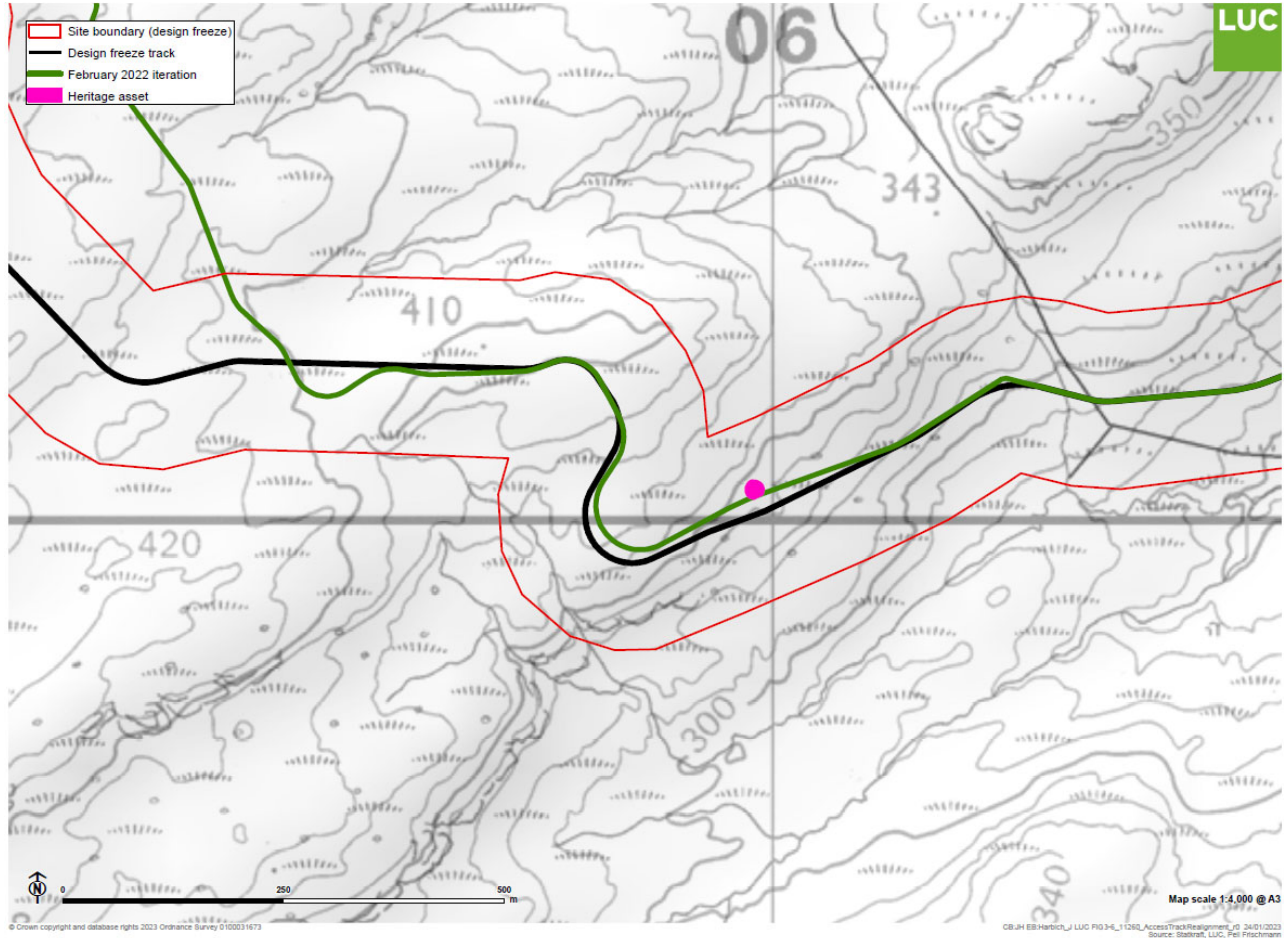


Image 2.6: Realignment of Access Track to Avoid Cultural Heritage Feature (Sheiling Huts)

⁴ http://www.wosas.net/wosas_site.php?id=66814

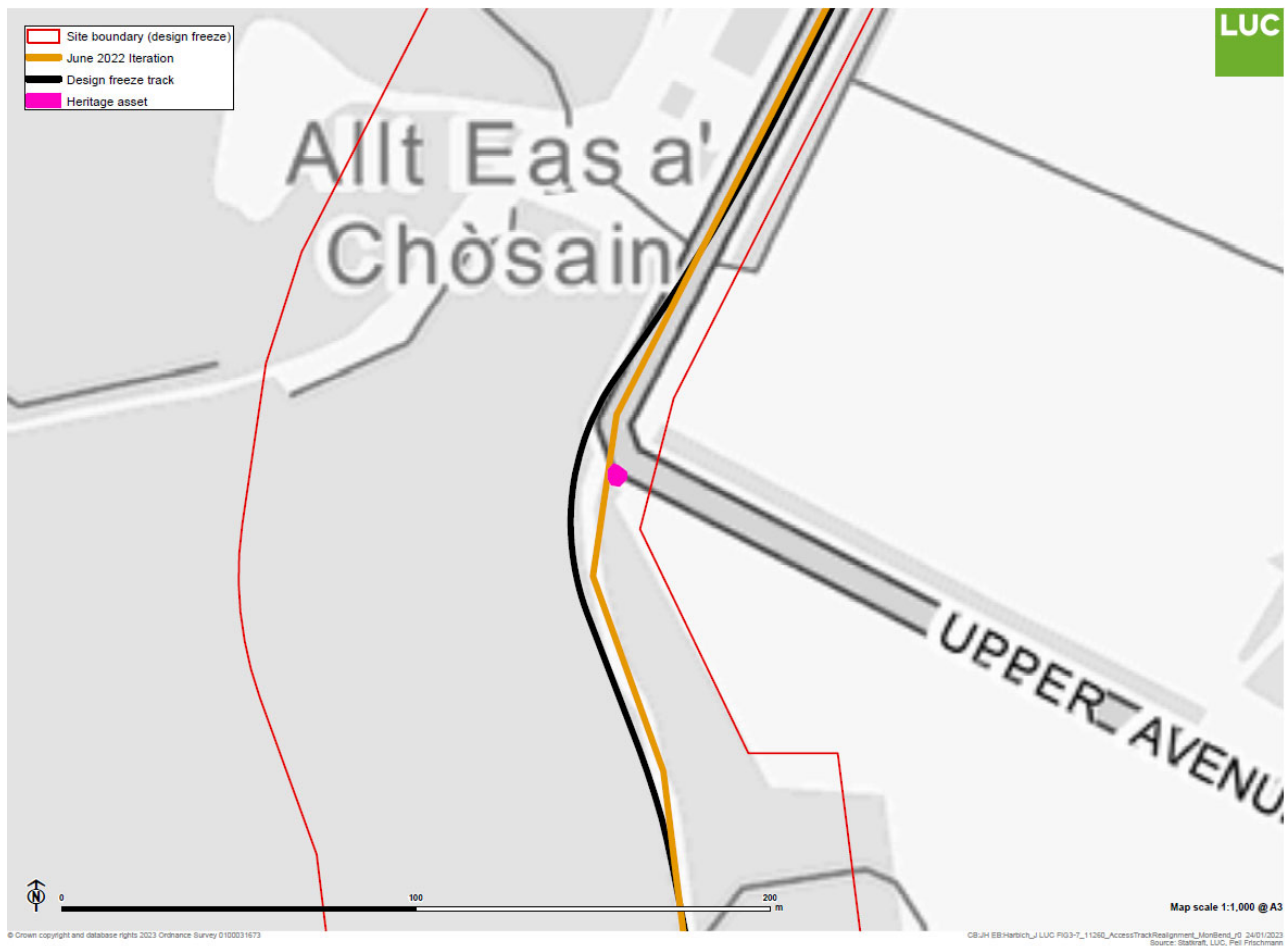


Image 2.7: Realignment of Access Track to Avoid Cultural Heritage Feature (Memorial to WREN Gertrude Canning)

Engineering Considerations

2.40 Due to the complex ground conditions at the Site, careful consideration has been given to the engineering constraints associated with the design. This has included avoiding slope angles of more than 14 degrees, reducing the need for significant cut and fill engineering works and, where possible, designing tracks to follow the contours of the Site. Several areas of ‘floating’ track have been identified to minimise the amount of peat excavation required, where peat depths are continuously over 0.5m.

Site Infrastructure

Turbines

Turbine Scale

2.41 It is recognised by the Scottish Government that there is a pressing need to produce considerably more energy from renewable sources. As such, there is a need to plan for considerably larger scale wind energy development, as well as other forms of renewable energy. With the need to ‘think big’, comes the need to think where development of such a scale could be accommodated. In addition, the scale of the Proposed Development’s turbines has been dictated partly by the size of turbines available to be obtained from manufacturers, who are producing larger turbines in line with advances in technology.

2.42 As noted above, consideration has also been given to the pattern of development and the scale of the other wind farms proposed in the wider area, including at the adjacent Blarghour Wind Farm, which is also proposed at 180m to turbine blade tip.

In this way, the extent of the Proposed Development and the size of turbines has been driven by the overarching design objective of achieving a positive relationship with other nearby schemes.

Turbine Colour

2.43 SNH guidance states that “As a general rule for most rural areas of Scotland, a single colour of turbine is generally preferable ...a light grey colour generally achieves the best balance between minimising visibility and visual impacts when seen against the sky ... paint reflection should be minimised ... for multiple windfarm groups or windfarm extensions, the colour of turbines should generally be consistent”. The turbines proposed for the Proposed Development are to be a non-reflective pale grey colour, to be consistent with adjacent schemes and as per industry standard.

Aviation Lighting

2.44 One of the key considerations from a landscape and visual amenity perspective was designing an appropriate aviation lighting scheme which both satisfies the requirements of aviation policy and reduces the visual effects of such lighting at nearby receptors. Further details on the requirements for aviation lighting are provided in **Chapter 4 of the EIA Report**, and details of the proposed lighting scheme for the Proposed Development are set out in **Appendix 14.2: Aviation Lighting Assessment**. In summary, seven of the 13 wind turbines are proposed to have medium intensity (minimum of 2000 cd) visible lighting mounted on the turbine hubs but no intermediate low intensity lights (32 cd) on the turbine towers. Infrared lights (invisible to the naked eye) will be installed on all of the 13 turbines. This reduced lighting scheme has been agreed with the CAA and MoD through pre-application consultation.

Ancillary Infrastructure

2.45 As noted above, the infrastructure required was designed and arranged in such a way as to avoid the identified onsite constraints. Numerous infrastructure layouts have been progressed as the scheme evolved, with some minor iterations to turbine locations were necessary to facilitate the optimum onsite infrastructure requirements and respond to civil engineering constraints, such as topography. Access track routes in particular have been designed to minimise watercourse crossings and to avoid constrained areas within the Site, including steep slopes and deeper peat.

Design Evolution

2.46 The development of the layout has evolved through a number of design iterations. The process has been summarised as five discrete layout iterations (as shown in **Figures 2.2** and **2.3**), although a number of refinements have been made in between which have been subject to careful scrutiny by the project team at a number of design workshops, particularly in relation to engineering, hydrology and peat considerations. Various other detailed iterations and refinements were undertaken between the key design variants described below.

Layout 1: Scoping Layout and First Exhibition Layout

The Scoping Layout consisted of 26 turbines at a maximum tip height of 200m. The purpose of the layout was to develop a design which would maximise generating capacity with higher yielding turbines reflecting current trends in wind turbine technology. The Scoping Layout was designed prior to undertaking the full suite of environmental surveys at the site, but was nevertheless informed by known environmental constraints as well as technical considerations, including:

- Separation distances of 5 x 4 rotor diameters between turbines based on a 136m rotor diameter, assuming a south-westerly prevailing wind to reduce issues associated with turbulence.
- A 50m buffer to known watercourses and waterbodies to reduce the likelihood of impacts as a result of pollution events, principally during construction.
- A 2km buffer to residential properties, with turbines sited outside of this area.

The scoping layout is shown in **Figure 2.2**. and was presented at online public exhibitions which took place in June and July 2021.

Layout 2: Second Public Exhibition Layout

Layout 2 consisted of 21 turbines at a maximum tip height of 180m and was used at in-person public consultation events that took place in November 2021. The design of the layout was predominantly driven by wind yield but took the following environmental factors into account:

- A reduction in the number of turbines from 26 to 21 to accommodate ornithological constraints, predominantly associated with golden eagle use of the site as informed by initial GET modelling and tagged golden eagle data.
- A reduction in the tip height of all turbines from 200m to 180m to reduce their prominence within the landscape, and in keeping with the adjacent Blarghour Wind Farm proposals.
- A relocation of turbines to avoid priority peatland habitat and the presence of known areas of deep peat, where possible, informed by the Phase 1 peat probing data undertaken at 100m grid across the site.
- Repositioning of turbines to maximise the predicted available wind resource.

Interim Layout 2 is presented in **Figure 2.2**.

Layout 3: Interim Layout

Interim Layout 3 consisted of 18 turbines at a maximum tip height of 180m. The design was reviewed by the project landscape architect and sought to improve the composition of the scheme from several key viewpoints. This included the removal of three turbines (T6, T14 and T19) in addition to taking account of the environmental constraints noted above and feedback from consultees and the public. All remaining turbines were either microsituated or moved further to improve the design of the scheme. This included moving T8 and T22 east and south-east respectively to increase the separation from Dalavich. Three turbines were also moved to increase distance from GWDTEs (T9, T13 and T20).

Interim Layout 3 is presented in **Figure 2.2**.

Layout 4: Interim Layout (Optimised)

Interim Layout 4 consisted of 17 turbines at a maximum tip height of 180m and was further optimised to take into consideration the environmental constraints identified during the surveys and feedback provided by the Applicant and project engineers in terms of engineering and construction. This included consideration of the results of further detailed peat survey, site walkovers by the project civil engineering team and the Applicant's construction team, and consideration of wind yield. Consideration was also given to the possibility of oversail of turbine blades outside of the site boundary, which resulted, ultimately, in the loss of T7 of Layout 3, which could not be moved due to the proximity of environmental constraints and water crossings, resulting in a 17 turbine layout.

Interim Layout 4 is presented in **Figure 2.2**.

Layout 5: Final Layout

A number of design iterations took place between Layout 4 and Layout 5, the Final Layout. This included the consideration of the results from the final GET modelling, informed by further satellite tag data obtained in the intervening period. This resulted in the removal of T1, T10, T11 and T12 to reduce potential effects on golden eagle. **Image 2.5** above shows the locations of the four turbines (T1, T10, T11 and T12) and the section of associated track that was removed.

A location for the permanent meteorological mast was also established after taking into consideration the environmental constraints identified, including those associated with hydrology and peat, landscape and visual amenity and ornithology.

This was informed by the need to maintain a suitable distance from the closest 'paired' turbine, and the need to avoid interference from other wind turbines. The turbines were also renumbered at this stage.

The Final Layout incorporates the following infrastructure elements:

2.47 The Proposed Development is described in detail in **Chapter 4: Project Description**. In summary, it will comprise:

- Up to 13 wind turbines (including internal transformers), each with a maximum blade tip height of up to 180 metres. The currently considered candidate turbine has a rated capacity of 6.6 megawatts (MW);
- Foundations supporting each wind turbine;
- Associated crane hardstandings and adjacent laydown areas at each turbine location;
- A network of onsite access tracks of approximately 23.1km (of which approximately 6.6km will be upgraded existing track and 16.5km will be new track);
- 105 watercourse crossings and associated infrastructure, i.e. culverts (31 upgraded existing crossing and 74 new crossings);
- A network of underground cables and cable trenches to connect the turbines to the onsite substation;
- A permanent anemometer (meteorological mast) of up to 102.5m in height and associated track;
- Vehicle turning heads;
- Onsite passing places (location and size to be determined by the turbine supplier);
- Site signage;
- A permanent compound containing the control building, substation and energy storage facility; and
- An Outline Restoration and Enhancement Plan (OREP) for peat, biodiversity, landscape and forestry (provided as **Appendix 8.5: Outline Restoration and Enhancement Plan (OREP)**).

In addition to the above components of the operational Proposed Development, construction of the Proposed Development will also require the following components:

- One temporary construction compound;
- The creation of one temporary borrow pit for the extraction of stone, and the reopening/use of two existing borrow pits;
- A concrete batching area (location to be confirmed however this is likely to be in the new borrow pit, or construction compound, as identified by the Contractor and agreed in the CEMP).
- Junction widening and upgrades on the A83 and the A819, and an upgraded access off the A83 into site; and
- Felling of approximately 3.77 hectares (ha) of forestry to facilitate access during construction.

Two blade transfer areas will also be required to facilitate construction of the Proposed Development; however, these do not form part of this application for consent, as there is a degree of uncertainty associated with the final locations and requirements. These are however described below, as far as is possible, and considered in the 'in combination' assessment section of the relevant assessment chapters.

The Final Layout is provided in **Figure 2.3**, including all infrastructure.

Design Conclusion

2.48 The final layout takes into account the design aspirations outlined in the design statement above. The Site has a number of competing technical and environmental constraints which have been considered in the iterative design process and have guided the positioning of both turbines and associated infrastructure. The inherent nature of wind turbines as tall, modern

structures means that the form of the Proposed Development as a whole is important, and a clear design strategy is necessary. The overall aim of the design strategy was to create a wind farm with a cohesive design that relates to its landscape context (including other schemes) in line with appropriate published guidance, and which will be legible in key views such as VP2: Dalavich Jetty; Folly at Dùn na Cuaiche (Inveraray Castle Garden and Designed Landscape); VP7: Core Path above Inverinan; VP14: A886 at Strachur; and VP16: B840, east of Ford. This requirement had to be balanced against the need to minimise potential effects on peat, GWDTEs and ornithology in particular.

2.49 A number of iterations were considered throughout the design evolution, to develop a layout that fulfils the overarching objectives as discussed above, whilst maximising energy yield and also respecting and balancing the other technical and environmental constraints identified during the consultation and EIA process, including:

- **Peat:** Extensive design work was undertaken to optimise the layout for peat and the final layout has avoided siting turbines and associated infrastructure in areas of deeper peat where feasible. No significant effects on peat are predicted.
- **Hydrology:** Design work involved balancing the need for a 50m buffer around watercourses while prioritising avoiding other constraints, including peat. Where considered necessary, additional mitigation is proposed in some of locations to protect the watercourses, with the result that no significant effects are predicted on hydrology.
- **Ornithology:** Balancing the design against the ornithology constraints on the Site in relation to golden eagle resulted in the loss of four turbines and associated infrastructure. This ultimately led to the final 13 turbine layout taken forward in this application. There have been no significant effects predicted in relation to ornithology.
- **Ecology:** A number of adjustments were made to the turbine locations to take into account the presence of GWDTEs and the resulting design has not predicted any significant impacts on GWDTEs, or other ecological features, in the final assessment.
- **Cultural heritage:** The design has taken consideration of the cultural heritage features identified within the Site and has also sought to ensure compatibility with the adjacent wind farm scheme thereby reducing setting effects effects on cultural heritage assets in the vicinity of the Site.
- **Ground conditions:** The Site has a complex topography and therefore careful engineering considerations have been involved in the design progress.

2.50 Overall, as a result of the iterative design approach, the adverse effects of the Proposed Development have been minimised, with the residual significant negative effects being limited to effects on landscape and visual amenity. The result of the design process is the final application layout, comprising up to 13 turbines not exceeding 180m to blade tip, with associated ancillary infrastructure, both permanent and temporary, which has been carefully sited and designed to reflect economic, technical and environmental sensitivities.

Illustrative Wireframes from Viewpoint 2 Dalavich Jetty

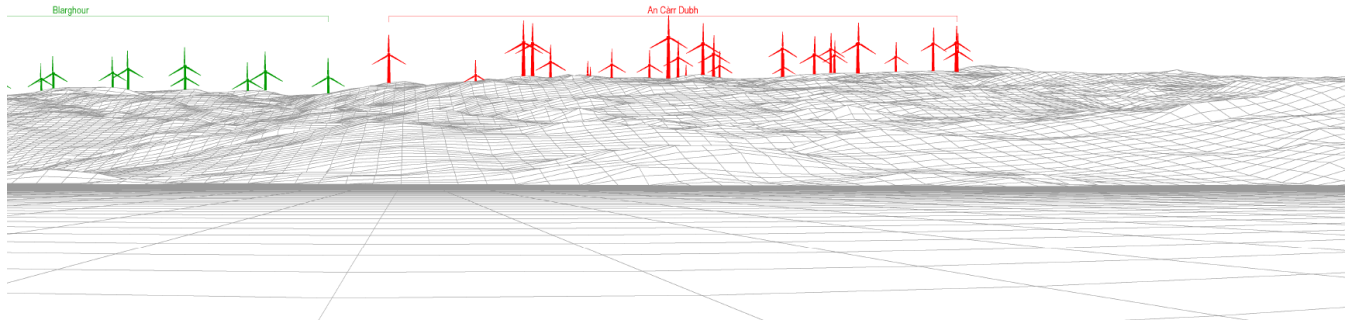


Image 2.8a: Layout 1: Scoping Layout and First Public Exhibition; (26 turbines, 200m to tip) Wireframe from Viewpoint 2 Dalavich Jetty

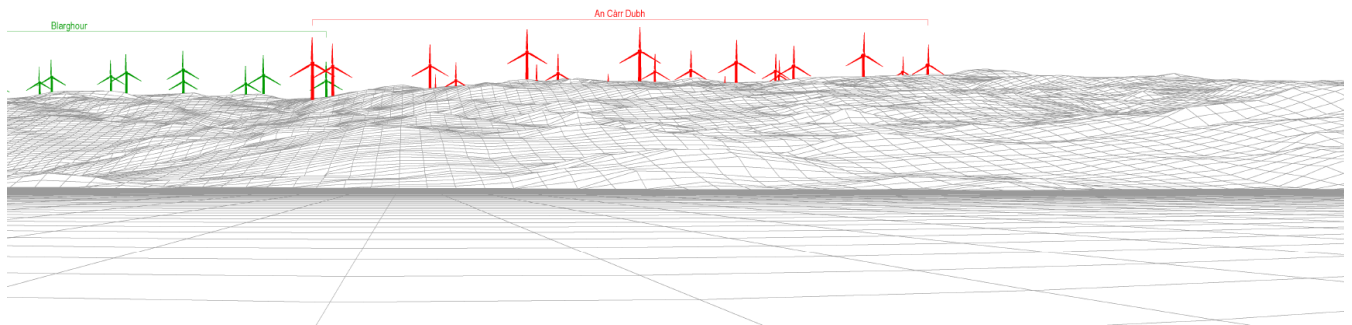


Image 2.8b: Layout 2: Second Public Exhibition Layout; (21 turbines, 180m to tip) Wireframe from Viewpoint 2 Dalavich Jetty

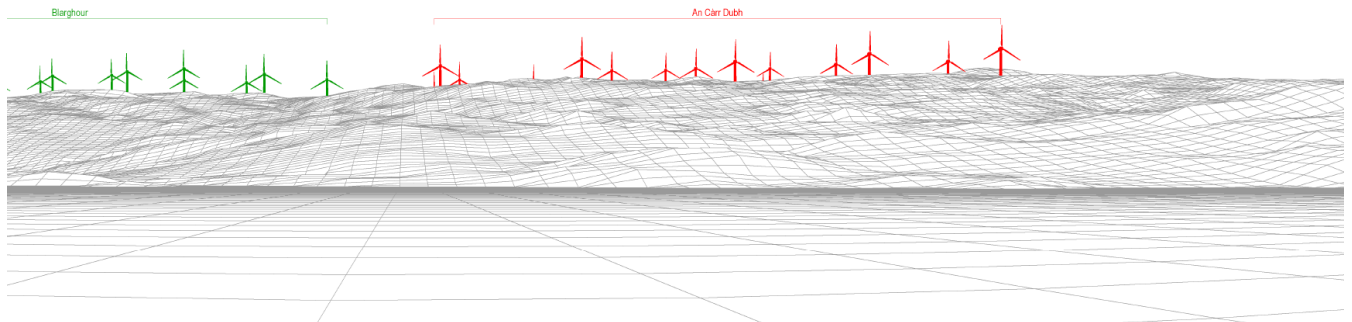


Image 2.8c: Layout 3: Interim Layout; (18 turbines, 180m to tip) Wireframe from Viewpoint 2 Dalavich Jetty

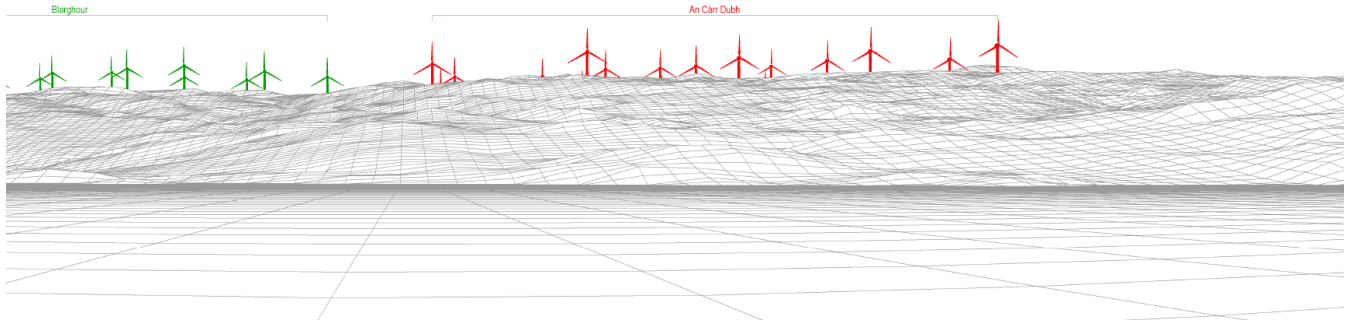


Image 2.8d: Layout 4: Interim Layout (17 turbines, 180m to tip) Wireframe from Viewpoint 2 Dalavich Jetty

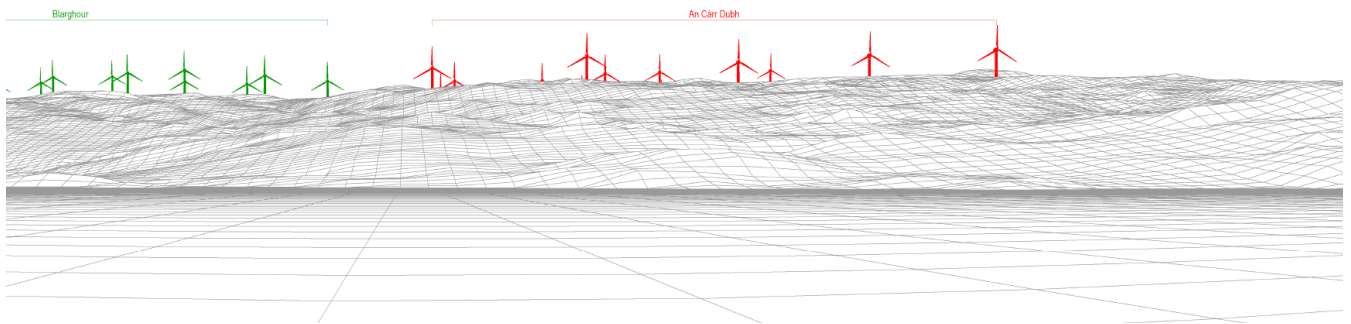


Image 2.8e: Layout 5: Final Layout (13 turbines, 180m to tip) Wireframe from Viewpoint 2 Dalavich Jetty

Illustrative Wireframes from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

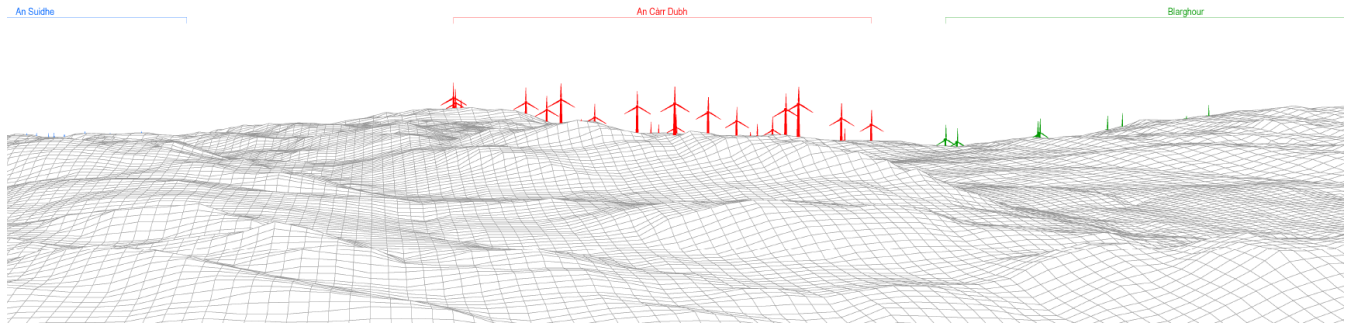


Image 2.9a: Layout 1: Scoping Layout and First Public Exhibition; (26 turbines, 200m to tip) Wireframe from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

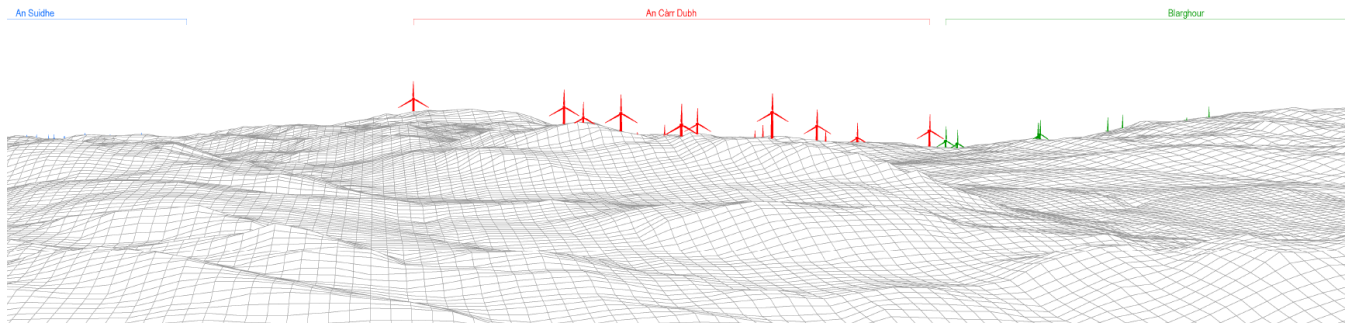


Image 2.9b: Layout 2: Second Public Exhibition Layout; (21 turbines, 180m to tip) Wireframe from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

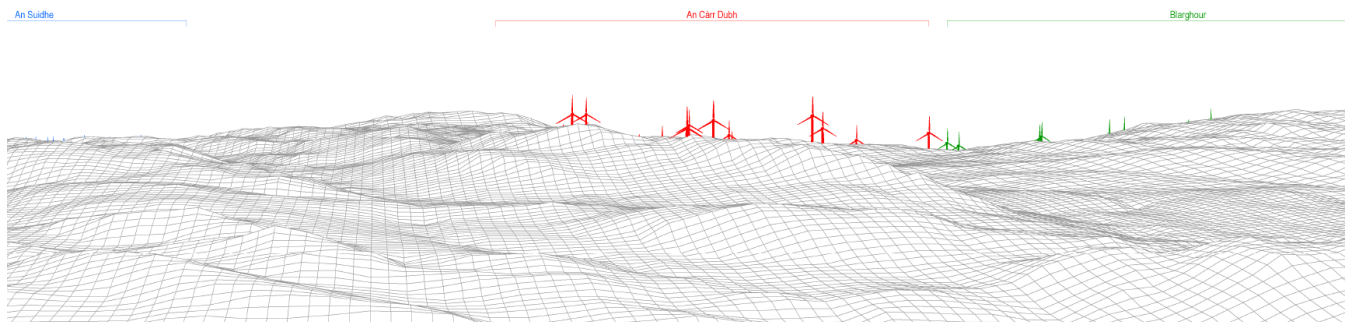


Image 2.9c: Layout 3: Interim Layout; (18 turbines, 180m to tip) Wireframe from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

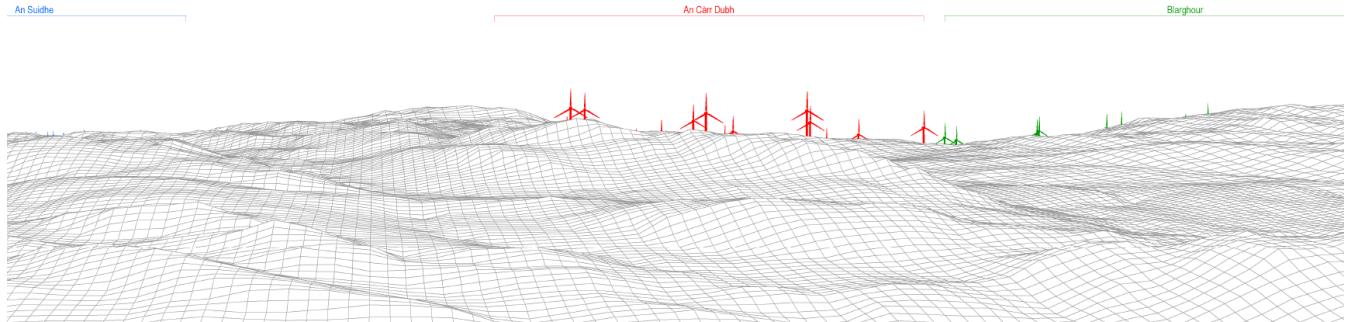


Image 2.9d: Layout 4: Interim Layout (17 turbines, 180m to tip) Wireframe from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

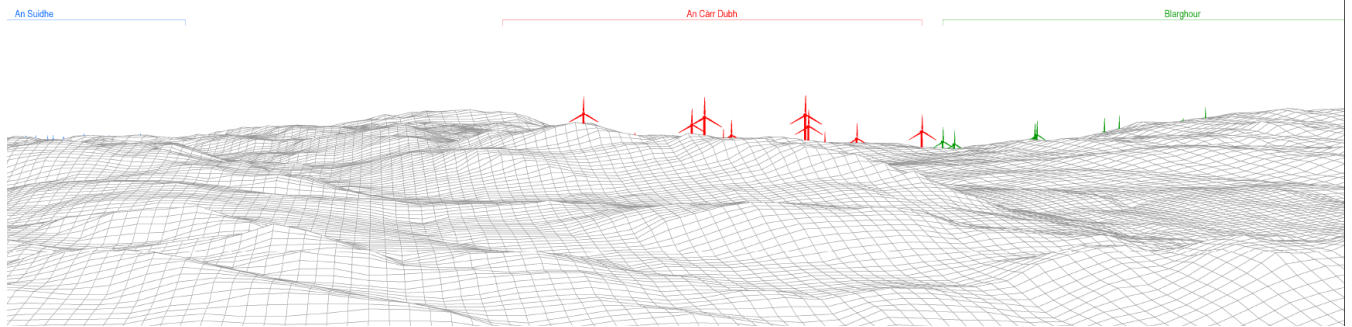


Image 2.9e: Layout 5: Final Layout (13 turbines, 180m to tip) Wireframe from Viewpoint 4 Folly at Dun na Cuaiche (Inveraray Castle GDL)

Illustrative Wireframes from Viewpoint 7 Core Path Above Inverinan

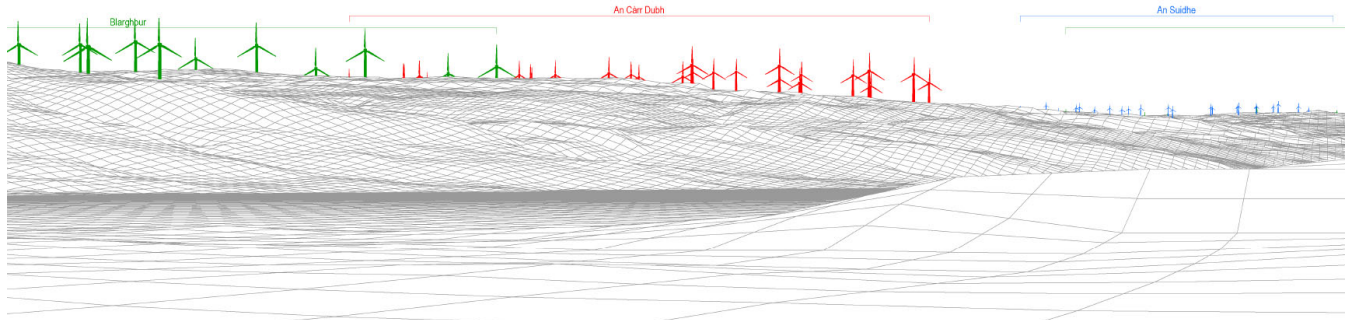


Image 2.10a: Layout 1: Scoping Layout and First Public Exhibition; (26 turbines, 200m to tip) Wireframe from Viewpoint 7 Core Path above Inverinan

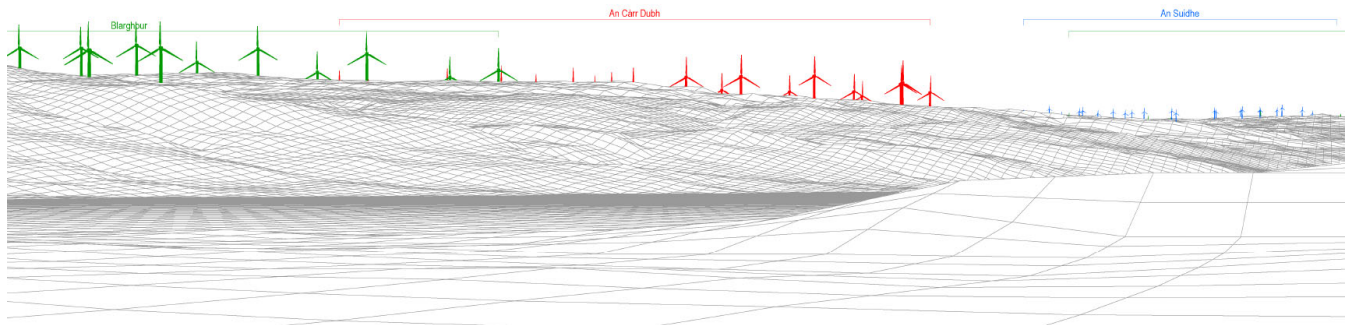


Image 2.10b: Layout 2: Second Public Exhibition Layout; (21 turbines, 180m to tip) Wireframe from Viewpoint 7 Core Path above Inverinan

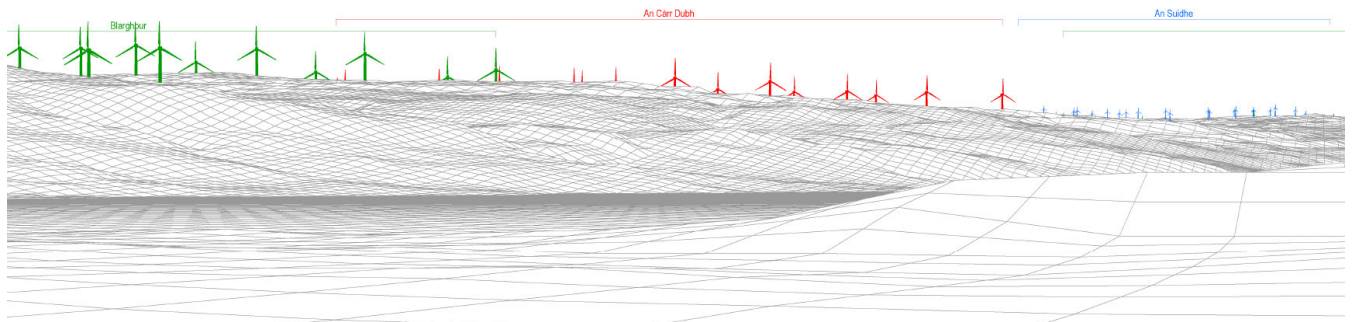


Image 2.10c: Layout 3: Interim Layout; (18 turbines, 180m to tip) Wireframe from Viewpoint 7 Core Path above Inverinan

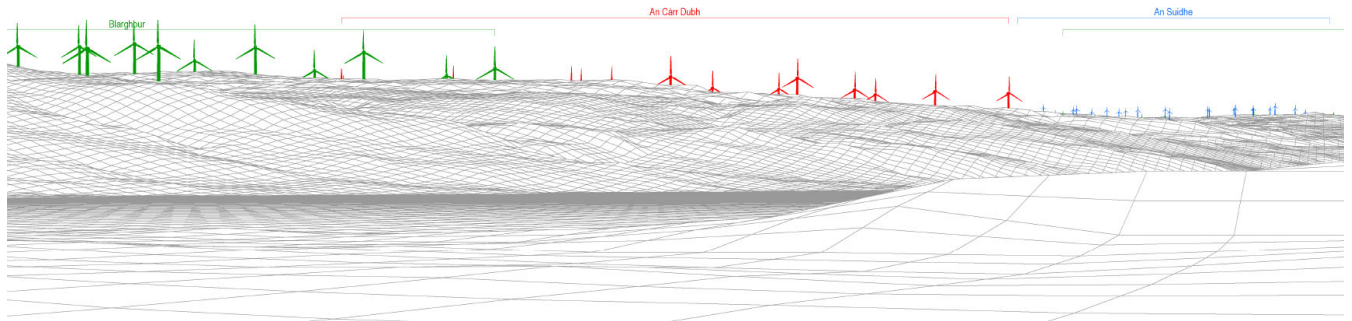


Image 2.10d: Layout 4: Interim Layout (17 turbines, 180m to tip) Wireframe from Viewpoint 7 Core Path above Inverinan

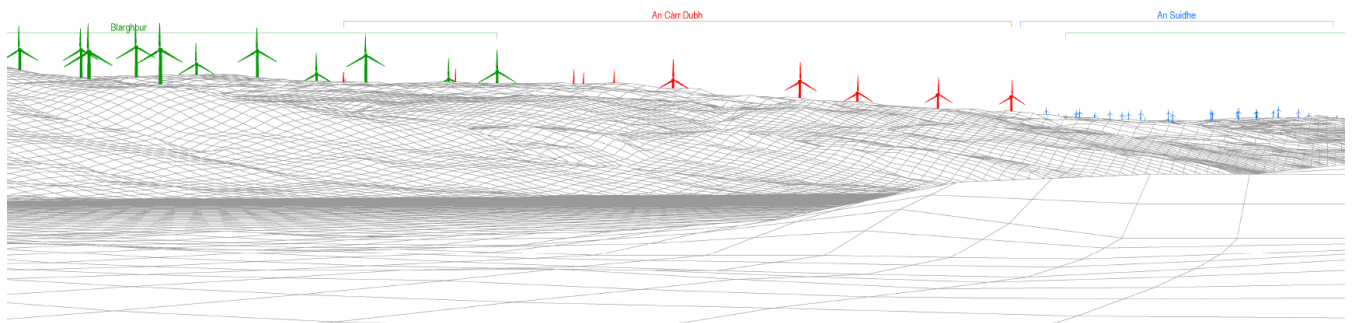


Image 2.10e: Layout 5: Final Layout (13 turbines, 180m to tip) Wireframe from Viewpoint 7 Core Path above Inverinan

Illustrative Wireframes from Viewpoint 14 A886 at Strachur

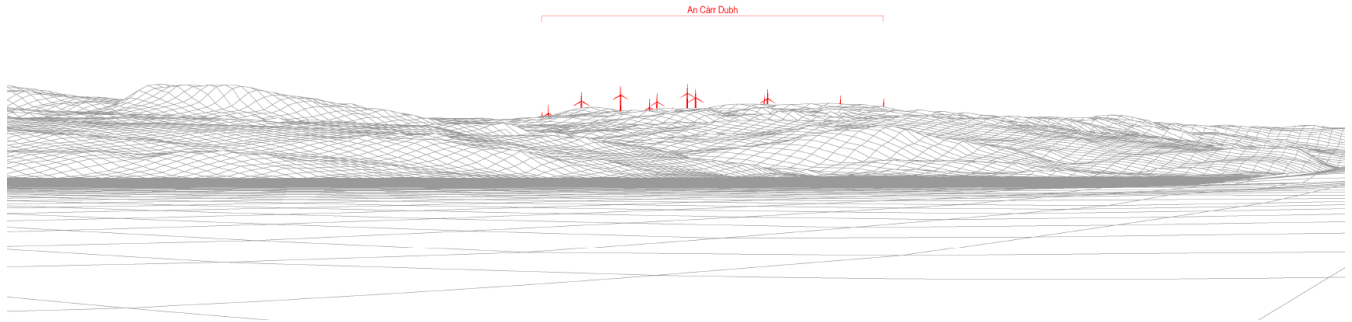


Image 2.11a: Layout 1: Scoping Layout and First Public Exhibition; (26 turbines, 200m to tip) Wireframe from Viewpoint 14 A886 at Strachur

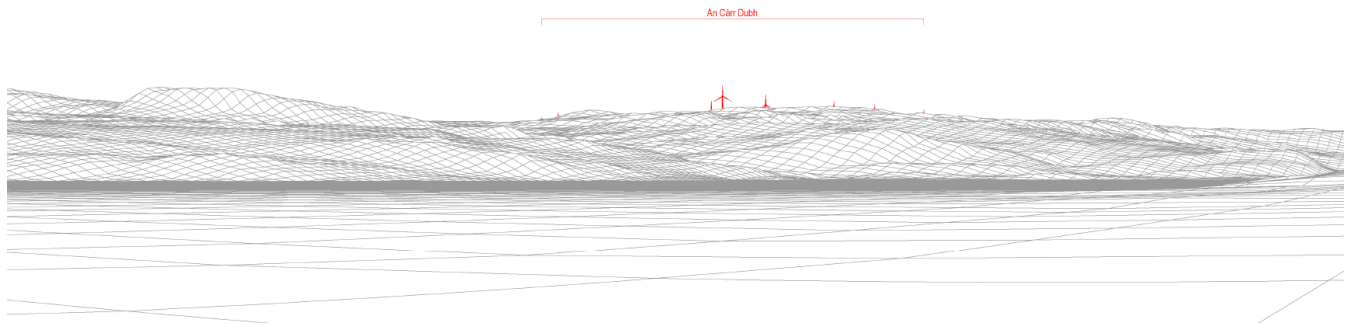


Image 2.11b: Layout 2: Second Public Exhibition Layout; (21 turbines, 180m to tip) Wireframe from Viewpoint 14 A886 at Strachur

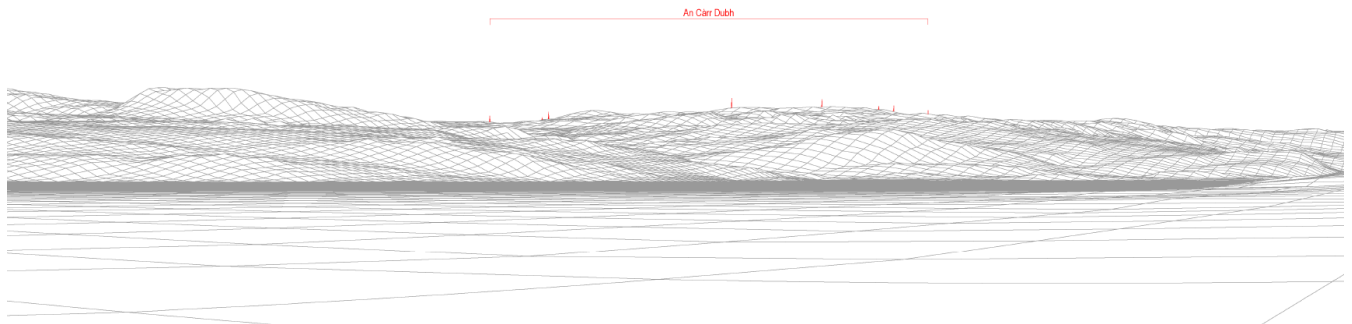


Image 2.11c: Layout 3: Interim Layout; (18 turbines, 180m to tip) Wireframe from Viewpoint 14 A886 at Strachur

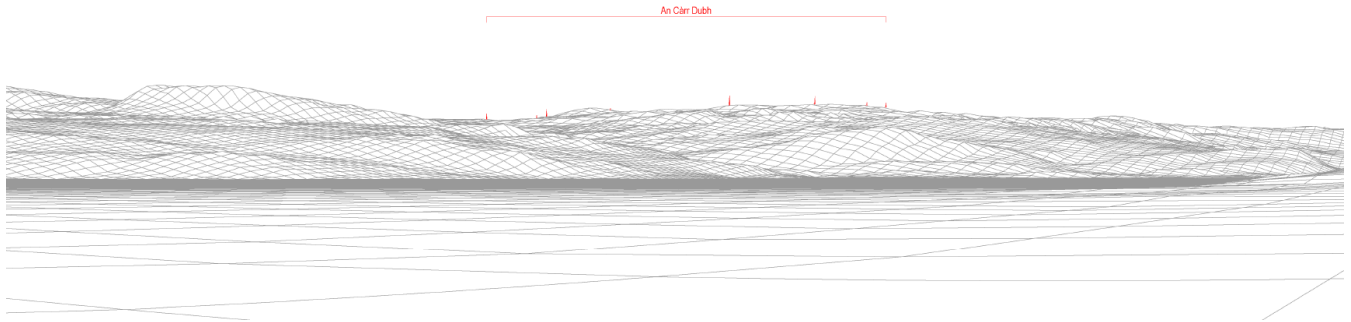


Image 2.11d: Layout 4: Interim Layout (17 turbines, 180m to tip) Wireframe from Viewpoint 14 A886 at Strachur

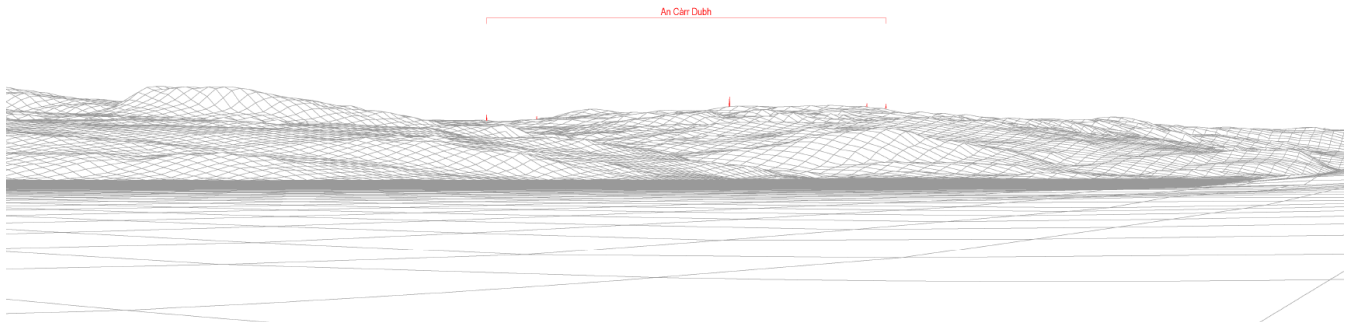


Image 2.11e: Layout 5: Final Layout (13 turbines, 180m to tip) Wireframe from Viewpoint 14 A886 at Strachur

Illustrative Wireframes from Viewpoint 16 B840, East of Ford

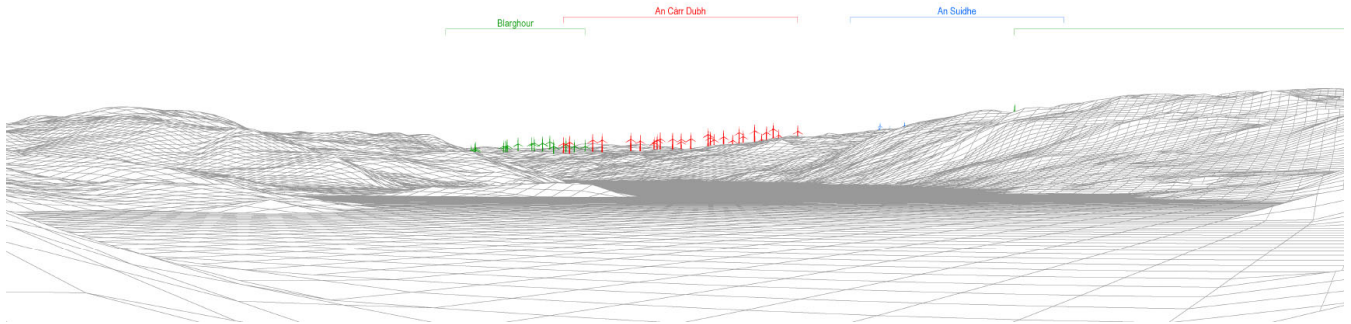


Image 2.12a: Layout 1: Scoping Layout and First Public Exhibition; (26 turbines, 200m to tip) Wireframe from Viewpoint 16 B840, East of Ford

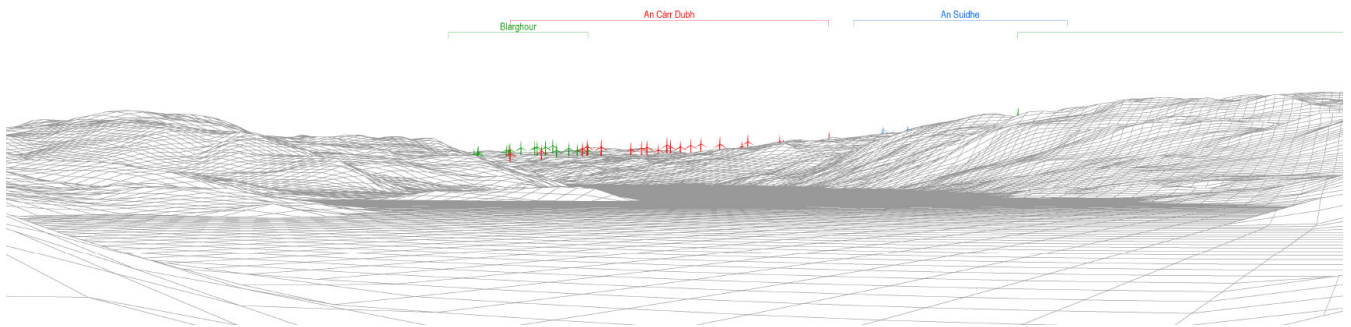


Image 2.12b: Layout 2: Second Public Exhibition Layout; (21 turbines, 180m to tip) Wireframe from Viewpoint 16 B840, East of Ford

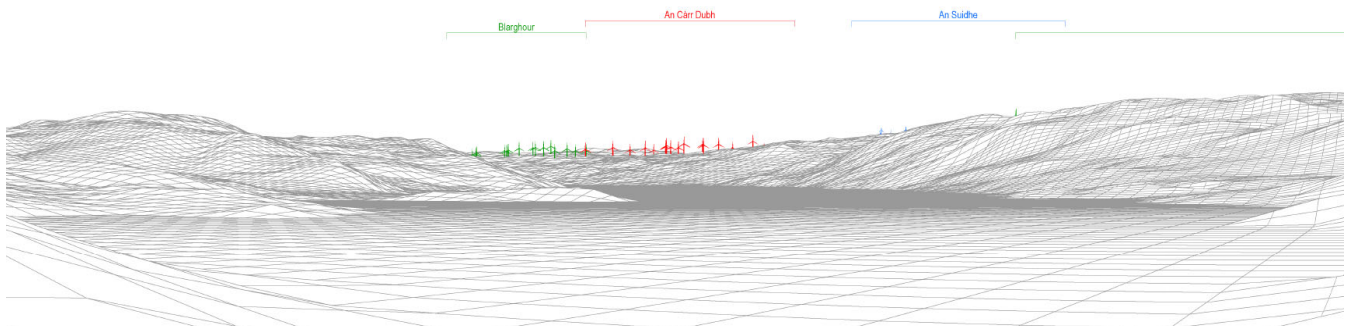


Image 2.12c: Layout 3: Interim Layout; (18 turbines, 180m to tip) Wireframe from Viewpoint 16 B840, East of Ford

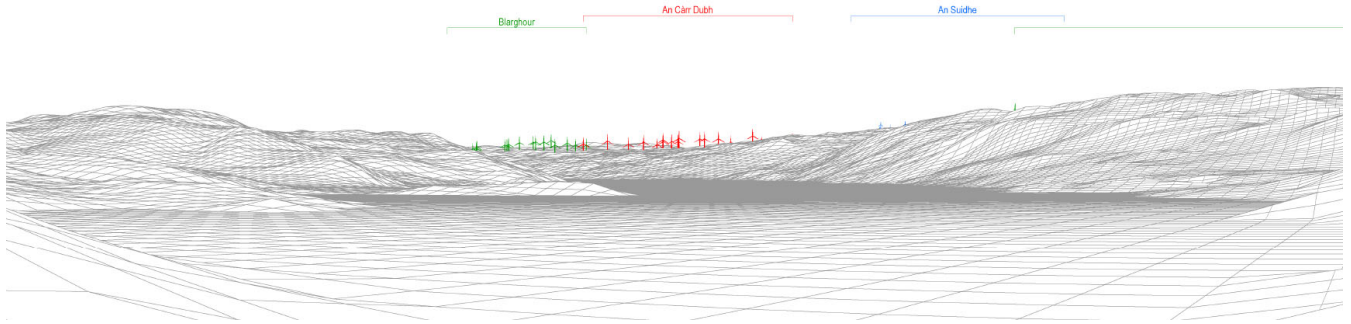


Image 2.12d: Layout 4: Interim Layout (17 turbines, 180m to tip) Wireframe from Viewpoint 16 B840, East of Ford

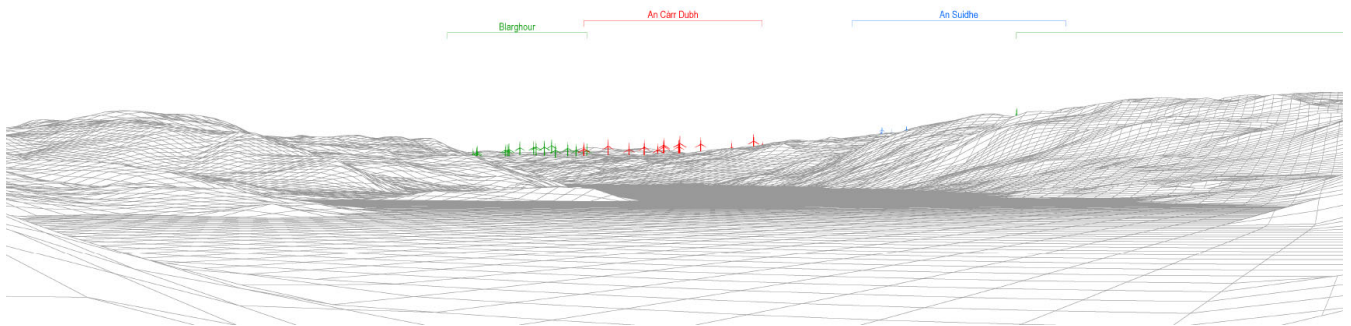


Image 2.12e: Layout 5: Final Layout (13 turbines, 180m to tip) Wireframe from Viewpoint 16 B840, East of Ford

Chapter 3

The Access Statement

Access to the Site

3.1 The Proposed Development will be accessed via the A83 (T), south of Inveraray near Auchnabreac. The access will head north to join the existing 'Inveraray bypass' (also known as Upper Avenue) just south of the Scottish Water treatment works, located to the west of Inveraray Golf Club. This short section of track is shown within the discrete red line application boundary on **Figure 4.1.a.7** of the EIA Report. Some widening and realignment will be required along this section of track. The access then joins the A819 for approximately 1.2km before accessing the Site, south of Electric Cottage. The Inveraray bypass is only be used by ALL traffic and no other vehicles. All other vehicles will access the Site via the A83 (T) and the Site entrance from the A819.

3.2 Details of the proposed vehicle movements during construction and operation of the Proposed Development are provided in **EIA Report Chapter 12**. Chapter 12 also provides detail on the proposed abnormal loads' route to the Site which is supported by **EIA Report Appendix 12.1** Transport Assessment.

3.3 Three junction upgrades are required to facilitate access to the Site. A junction design is required off/onto the A83 as shown, indicatively on **EIA Report Figure 4.12**. Two further junction upgrades are required off/onto the A819 which are shown indicatively on **EIA Report Figure 4.13a** and **Figure 4.13.b**.

Internal Access Tracks

3.4 In total, approximately 23.1km of track will be utilised for the Proposed Development. Approximately 6.6km of existing track will be upgraded and 16.6km of new access track will be constructed for the Proposed Development. The nominal track running width will be approximately 6m and existing tracks will be upgraded to this width. Adjacent to this track will be an assumed 1m width verge at either side for cabling and appropriate drainage subject to local ground conditions. Track widths may be slightly wider in some sections to accommodate bends in the track alignment. Turning heads will be installed at appropriate locations to accommodate abnormal load turning.

Access for All

3.5 Resurfacing and upgrading of the existing tracks will ensure a suitable surface for all users who require to access the Proposed Development for construction or operational purposes.

3.6 The only buildings proposed on the Site will be the substation and battery storage buildings/compounds. The structures will be provided in line with the relevant building regulations to accommodate the access needs of people with limited mobility.

3.7 There will be no access provision for those with mobility disabilities to the wind turbines themselves due to their inherent design characteristics and for health and safety reasons.

Public Access

3.8 There are no Rights of Way (RoW) paths within the Site; however, there are three Core Paths (C200a, C200b and C203a) which are located within / traversing the Site Access (which also form part of an advertised route on Walk Highlands called the Inveraray Forest Circuit), these are described further below and shown on **EIA Report Figure 13.1**.

Table 3.1: Core Paths Within / Traversing / within 50m of the Site Access

Path Name	Total Walk Length and Info	Location
C200(a) - Coille Bhraghad-Queens Drive-Inveraray ⁵	1.2km stone track with moderate slope - not waymarked.	Route is an extension to the north-west of C203(a) which goes up slope through woodland and joins C200 (b). The Site access passes through the join of these two paths at the south-west of Inveraray.
C200(b) - Coille Bhraghad-Queens Drive-Inveraray ⁵	4.7km stone track with moderate slope – not waymarked.	A circular route through woodland passing Steallaire Ban waterfall. It can be accessed from C200(a) or possibly through the forestry track off the A819 at Electric Cottage. The Site access follows this Core Path for approximately 3km.
C203(a) - Bealach an Fhuarain, Inveraray (circular) ⁵	0.2km section of a circular route around Inveraray. Stone track with gentle slope – not waymarked.	The Site access goes through this route where it terminates and C200(a) begins to the south-west of Inveraray from Upper Avenue (off the A83).
C199(e) - Furnace to Inveraray via Kenmore	1.5km stone track with a flat slope – not waymarked.	The path is located south of Inveraray and begins 50m south of the site (Inveraray Bypass) it heads south to Furnace.

3.9 It is anticipated that these routes may be used recreationally by walkers, cyclists or horse-riders by residents or tourists, including from Inveraray. The route may also be used by forestry workers, utilities workers (for the Inveraray to Crossaig Overhead Line) or Scottish Water workers accessing the Steallaire Bàn Loch. Wider access rights apply across the Site and enable public access to forestry tracks and onto the open moorland within the Site.

3.10 As there is potential for direct disruption to the use of these Core Paths and the Circuit during construction, a Site-specific Access Management Plan (AMP) will be prepared for use during construction to ensure that health, safety and public access is not adversely affected. An Outline AMP has been provided, following the SNH (now NatureScot) *Guidance for the Preparation of Outdoor Access Plans*⁶, in **EIA Report Appendix 13.1**.

3.11 There will be restrictions on access and recreation within the Site during normal operation of the Proposed Development. There will be gates in situ along the newly constructed access tracks within the Site and access to the Site by vehicle will only be possible by persons who have a key/code. Right to roam provisions as introduced by the Land Reform (Scotland) Act 2003 will remain.

⁵ Forms part of the Inveraray Forest Circuit

⁶ SNH (2010) Guidance for the preparation of Outdoor Access Plans. Available at: <https://www.nature.scot/sites/default/files/2017-06/B639282%20-%20A%20Brief%20Guide%20to%20Preparing%20Outdoor%20Access%20Plans%20-%20Feb%202010.pdf>

Chapter 4

Summary

4.1 Designing large scale renewables sites is a complex process which often requires a compromise between competing environmental disciplines and commercial considerations. Therefore, it is necessary that the project design is driven by a clear, robust and effective design strategy.

4.2 This DAS demonstrates that the siting and design of the Proposed Development has been carefully considered and the final design reached as a result of a number of stages of design iteration. The environmental effects associated with the Proposed Development have been avoided or mitigated to the greatest feasible extent through the EIA process, and this has informed the design process. The layout evolved by responding to environmental and technical investigations and consultations carried out and the final design was reached by balancing and responding to the constraints and considerations outlined in this DAS.

4.3 The overall aim of the design strategy was to create a wind farm with a cohesive design that minimises environmental effects to the greatest feasible extent and is sympathetic in form and scale to the surrounding landscape and other wind developments within it whilst achieving the greatest feasible proportion of the Site's renewable energy generation potential. The Applicant is of the view that the Proposed Development is appropriate in terms of its design and represents a sustainable development.

4.4 The Access Statement in this DAS outlines the access routes and internal access tracks of the Proposed Development. It provides a summary of accessibility of the Site to the public and addresses key design considerations relating to disabled access of the Site.

Figure 1.1: Site Location

 Site boundary

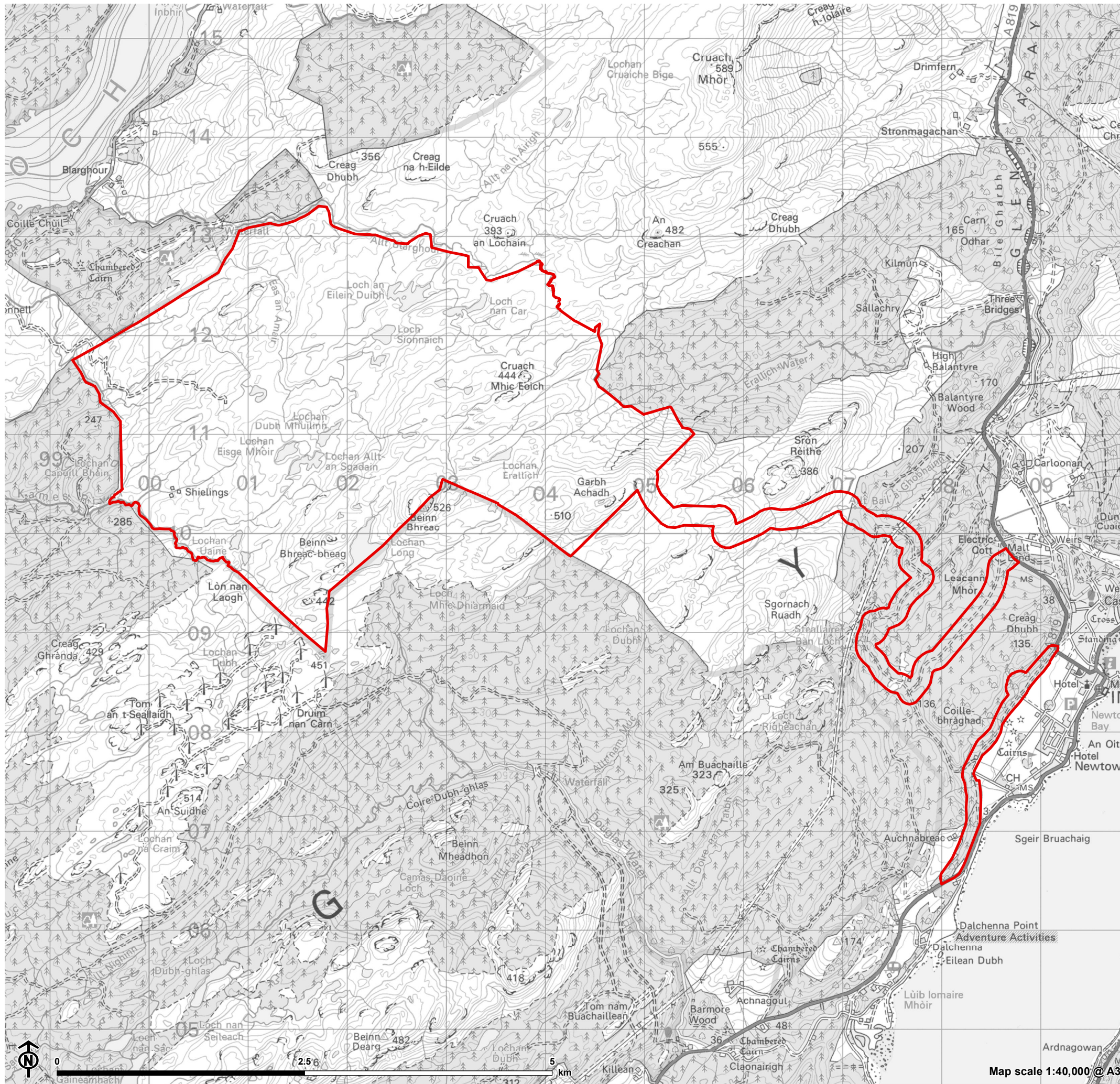
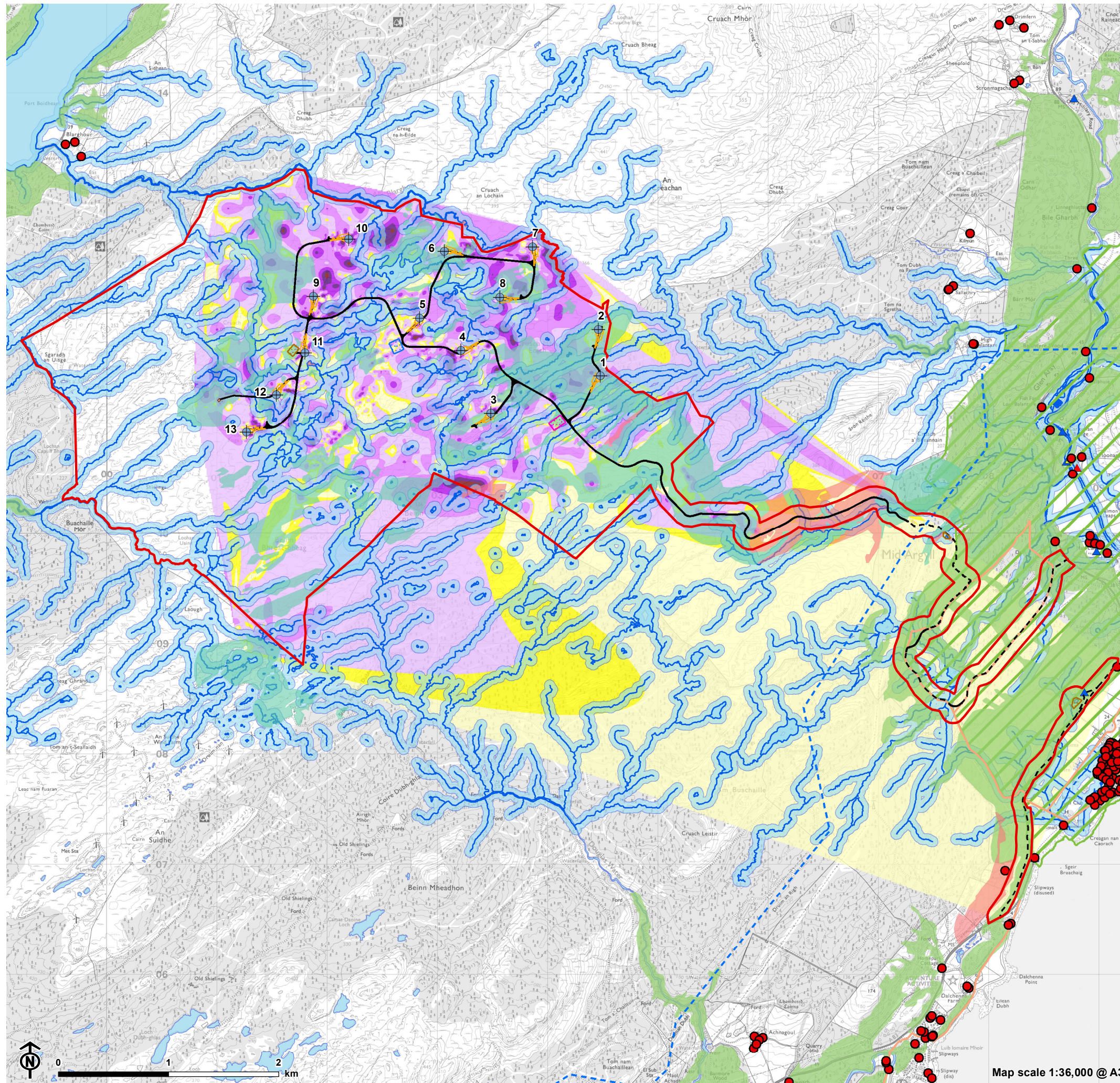


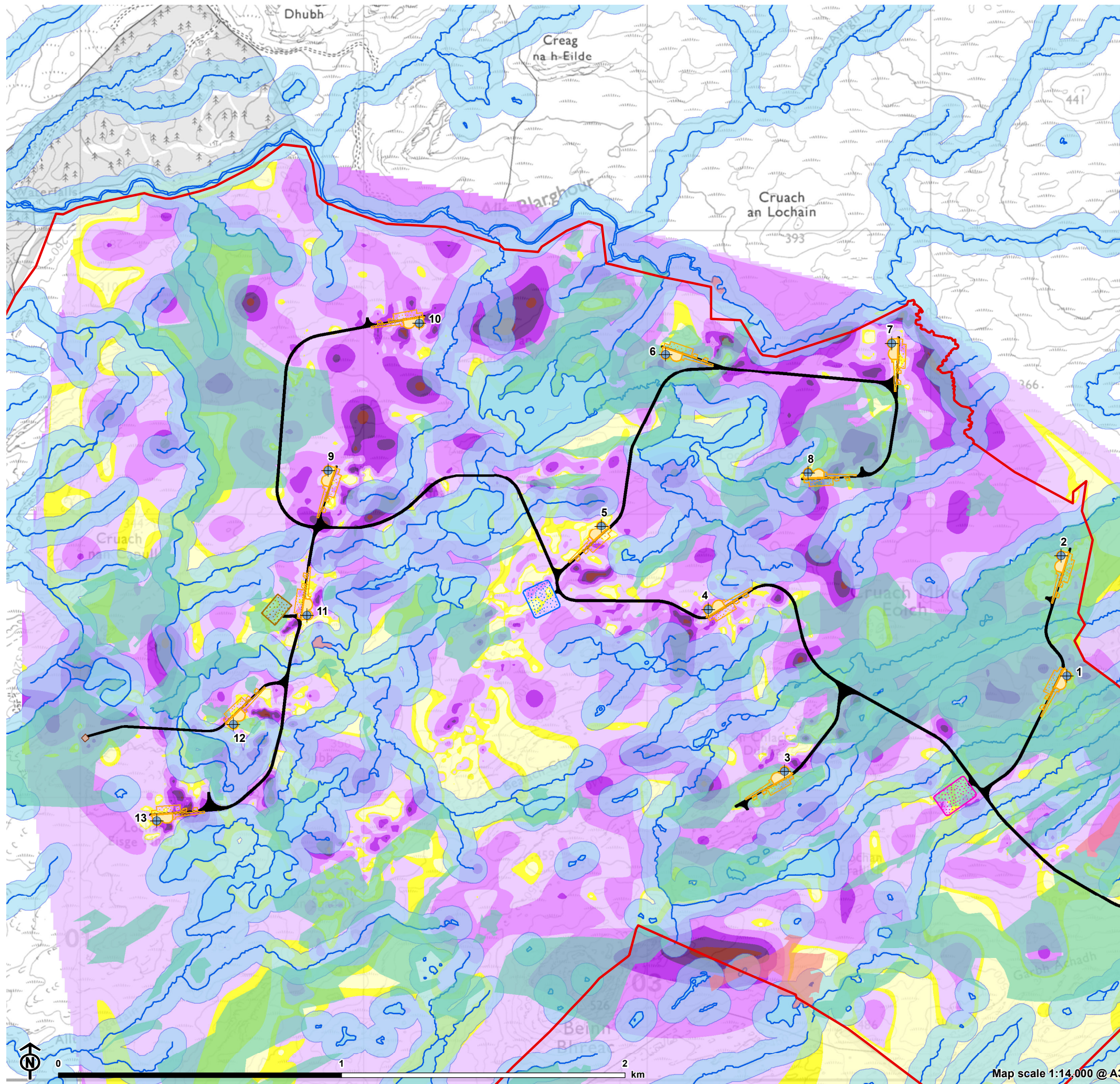
Figure 2.1.1: Site Constraints Plan



- Site boundary
 - Turbine
 - Borrow pit
 - Temporary construction compound
 - Permanent compound including substation and BESS
 - Temporary hardstanding
 - Permanent hardstanding
 - Permanent met mast
 - Existing access track
 - Proposed track
 - Dwelling
 - ▲ Category A Listed Building
 - ▲ Category B Listed Building
 - ▲ Category C Listed Building
 - Overhead line
 - Argyll & Bute adopted core paths (2017)
 - High GWDTE
 - Moderate GWDTE
 - Ancient woodland
 - Garden and Designed Landscape
 - Conservation Area
 - Watercourse
 - Waterbody
 - 50m watercourse buffer
- Peat Depth (cm)**
- <= 35 (Bog habitats unlikely)
 - > 35 - 50 (Bog habitats possible on non peat soils)
 - >50 - 100 (Peat)
 - >100 - 200 (Peat)
 - > 200 - 300 (Peat)
 - > 300 - 400 (Peat)
 - > 400 - 500 (Peat)

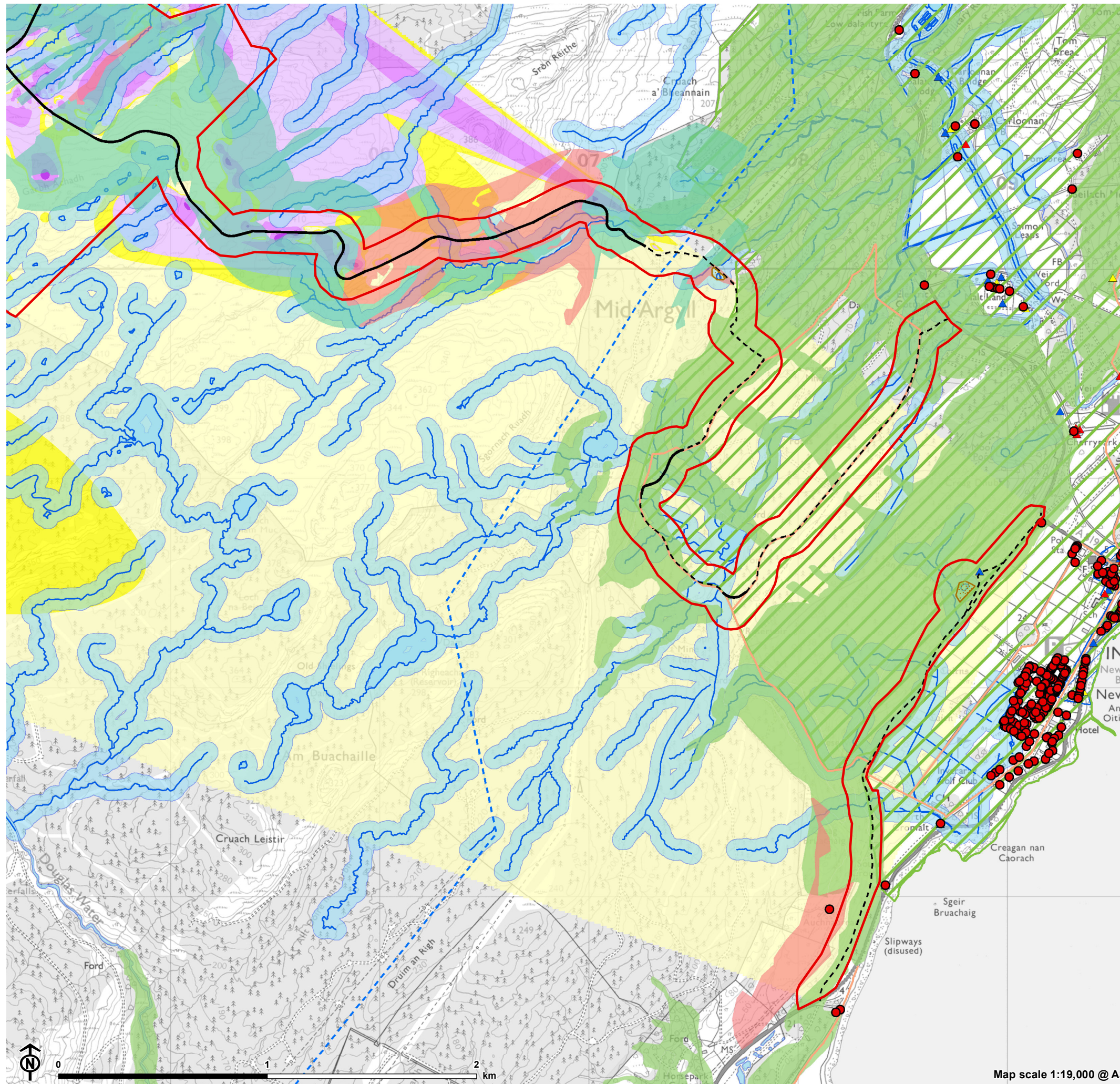
Map scale 1:36,000 @ A3

Figure 2.1.2: Site Constraints Plan



- Site boundary
 - Turbine
 - Borrow pit
 - Temporary construction compound
 - Permanent compound including substation and BESS
 - Temporary hardstanding
 - Permanent hardstanding
 - Permanent met mast
 - Proposed track
 - High GWDTE
 - Moderate GWDTE
 - Watercourse
 - Waterbody
 - 50m watercourse buffer
- Peat Depth (cm)**
- ≤ 35 (Bog habitats unlikely)
 - > 35 - 50 (Bog habitats possible on non peat soils)
 - >50 - 100 (Peat)
 - >100 - 200 (Peat)
 - > 200 - 300 (Peat)
 - > 300 - 400 (Peat)
 - > 400 - 500 (Peat)

Figure 2.1.3: Site Constraints Plan



- Site boundary
- Borrow pit
- Existing access track
- Proposed track
- Dwelling
- ▲ Category A Listed Building
- ▲ Category B Listed Building
- ▲ Category C Listed Building
- Overhead line
- Argyll & Bute adopted core paths (2017)
- High GWDTE
- Moderate GWDTE
- Ancient woodland
- Garden and Designed Landscape
- Conservation Area
- Watercourse
- Waterbody
- 50m watercourse buffer
- Peat Depth (cm)**
- <= 35 (Bog habitats unlikely)
- > 35 - 50 (Bog habitats possible on non peat soils)
- >50 - 100 (Peat)
- >100 - 200 (Peat)
- > 200 - 300 (Peat)
- > 300 - 400 (Peat)



Map scale 1:19,000 @ A3

Figure 2.2: Layouts 1 to 4

Turbine
 Site boundary

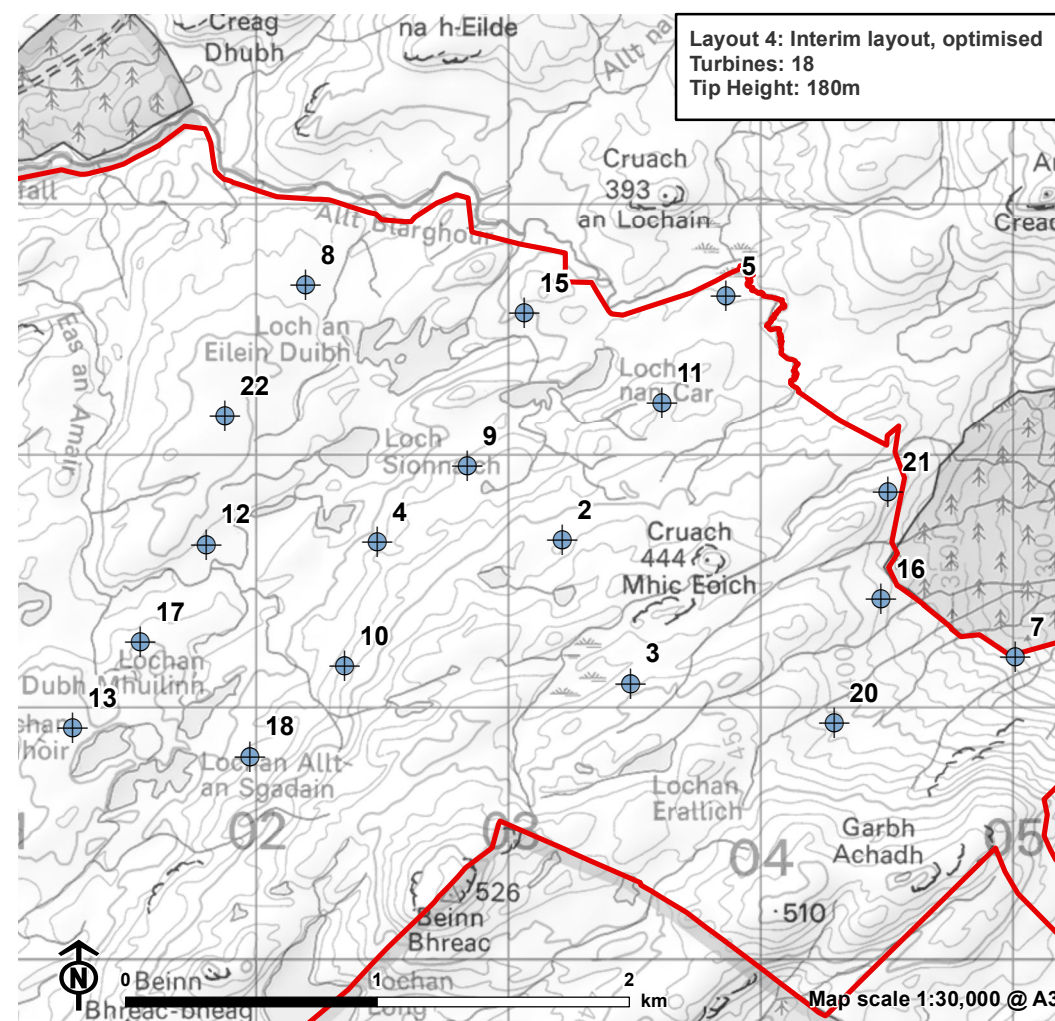
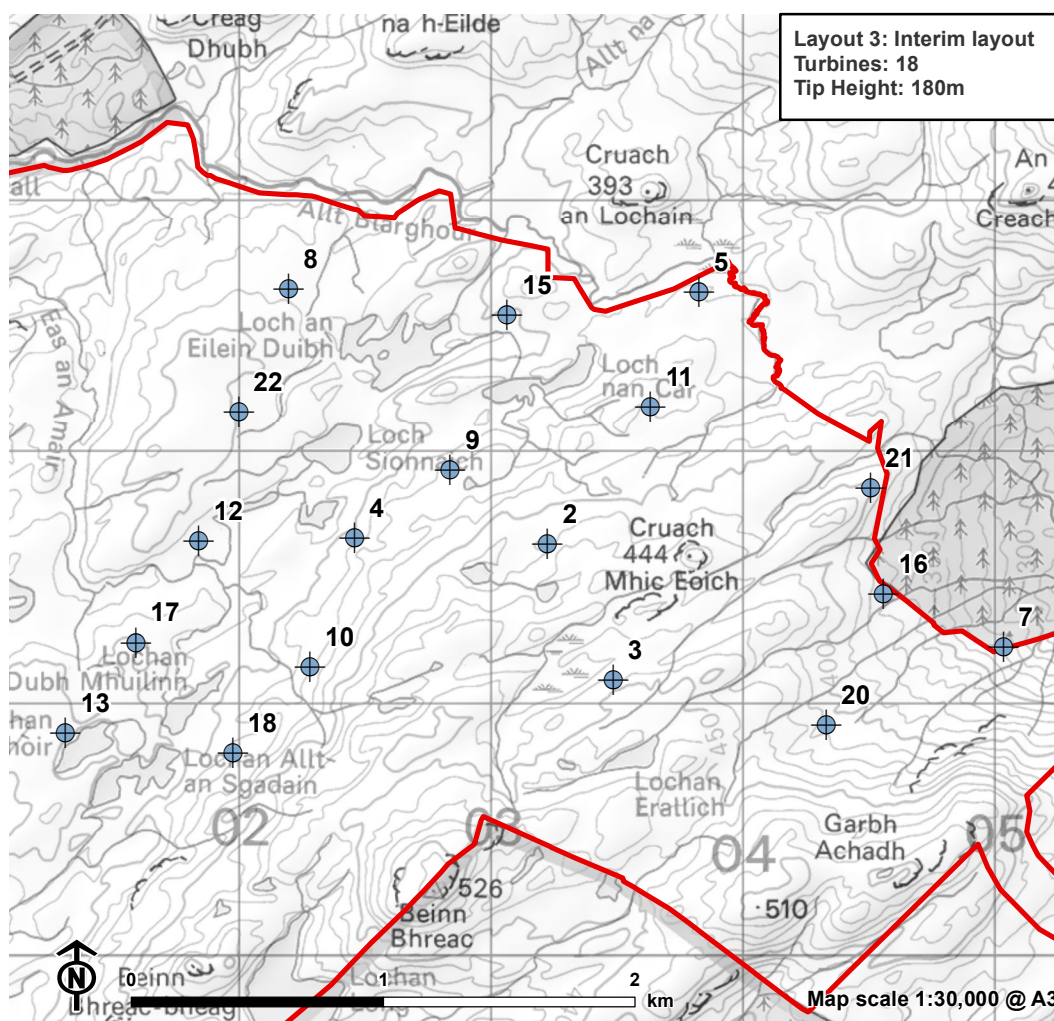
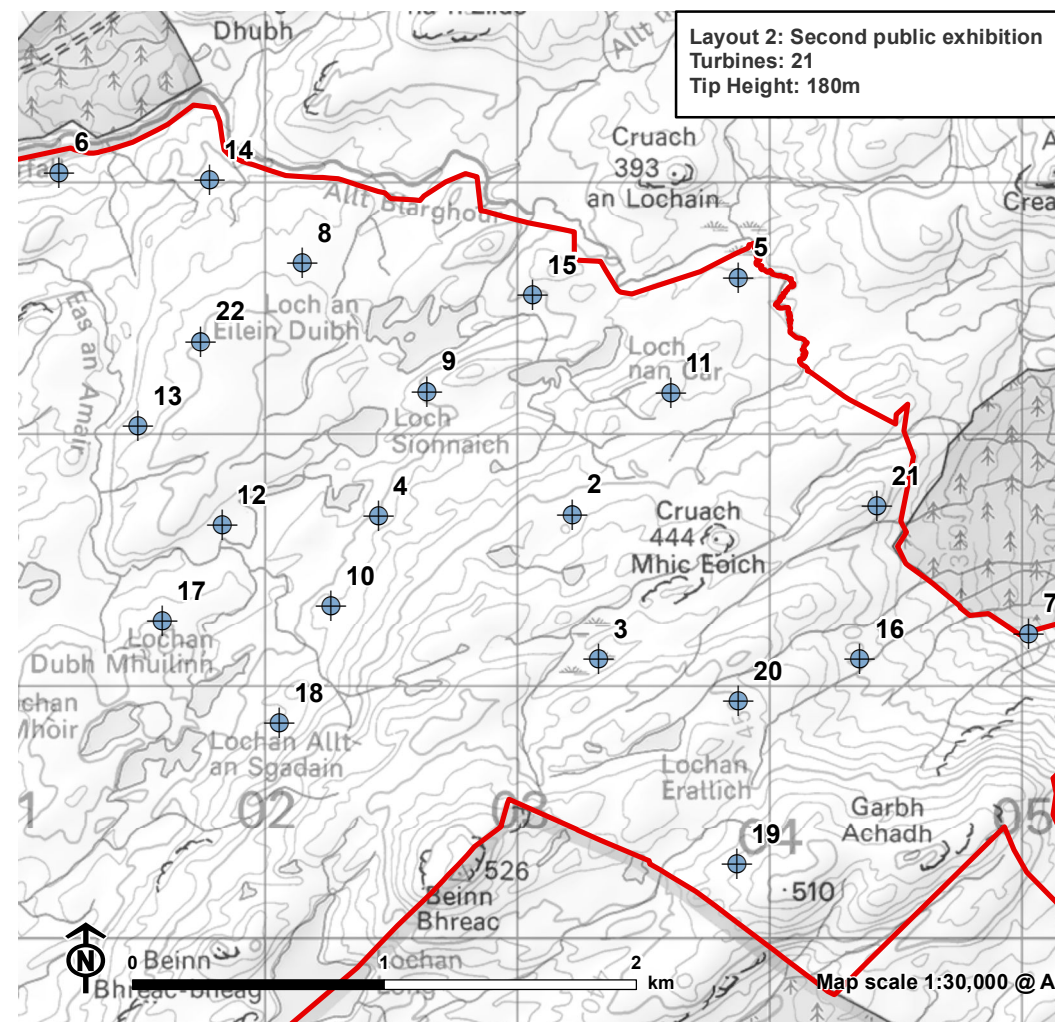
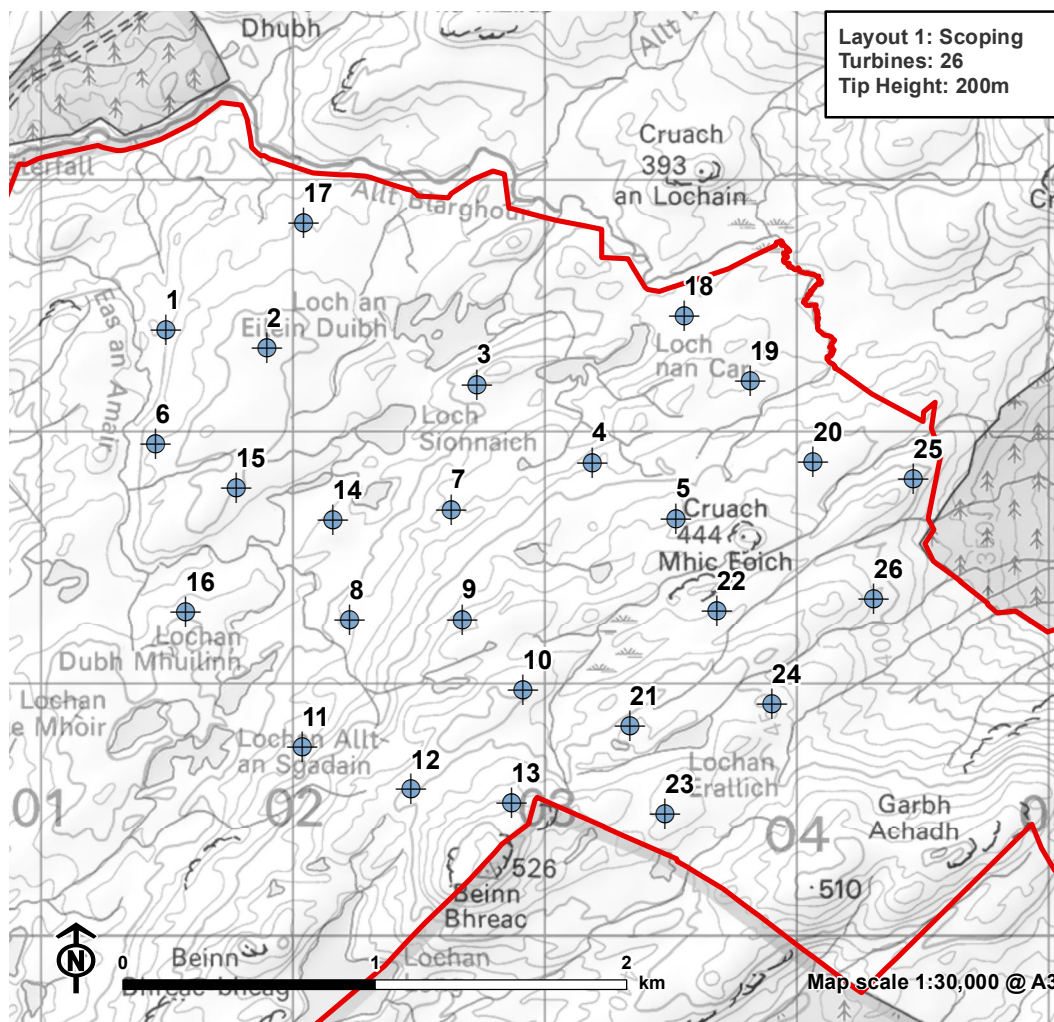
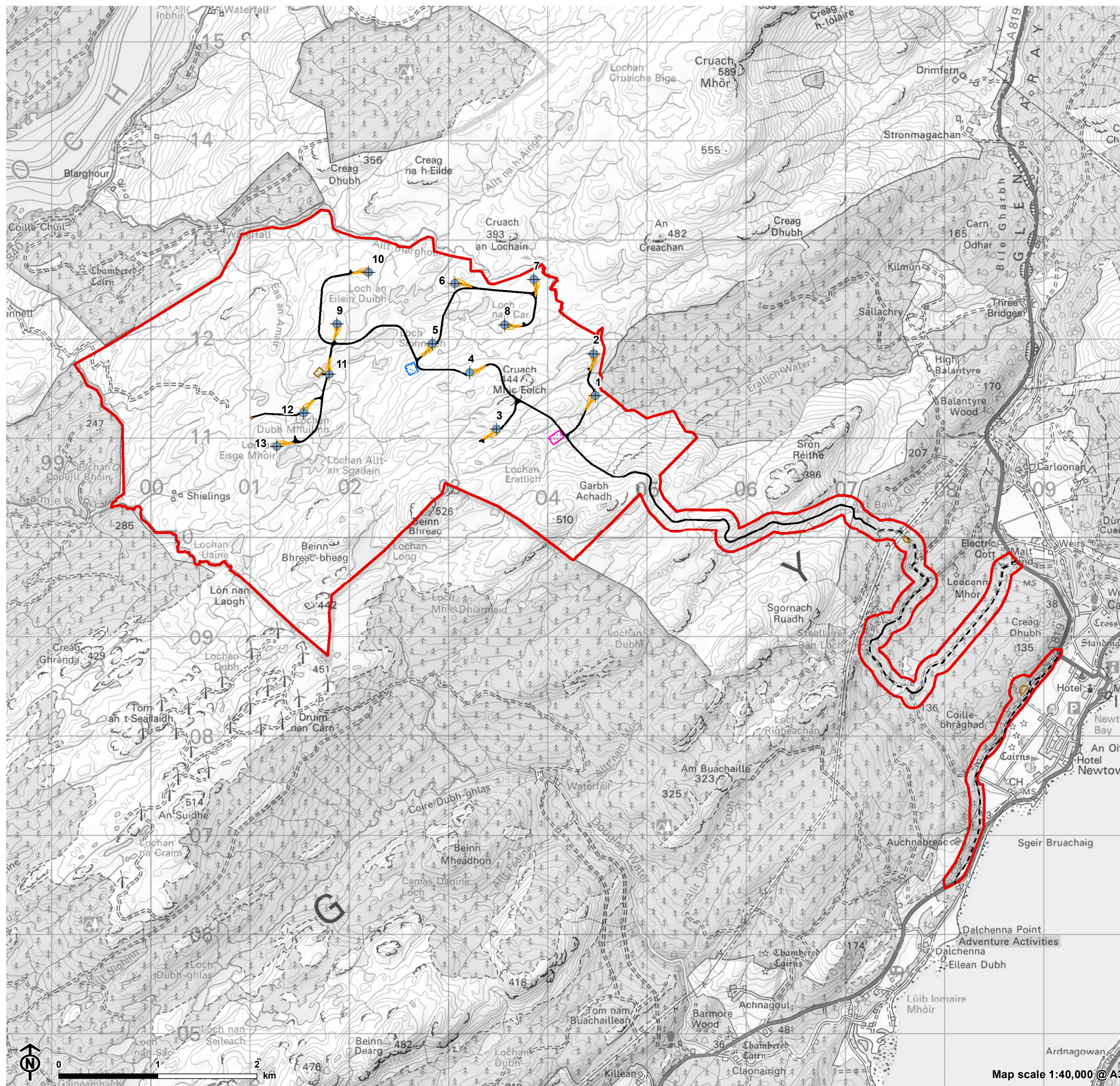


Figure 2.3: Layout 5 - Final Layout (13 Turbines, 180m to tip)



- Site boundary
- Turbine (final layout)
- Borrow pit
- Temporary construction compound
- Permanent compound including substation and BESS
- Temporary hardstanding
- Permanent hardstanding
- Permanent met mast
- Existing access track
- Proposed track