



Arecleoch Windfarm Extension

Design and Access Statement (DAS)

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Design and Access Statement (DAS)

1 Introduction

1. ScottishPower Renewables (UK) Limited (SPR) propose to install and operate a windfarm comprising 13 turbines with associated infrastructure (the proposed Development) on land (the Site) located approximately 3 km south west of Barrhill in South Ayrshire. The Site comprises approximately 1440 hectares (ha) of land and the proposed Development would be known as the Arecleoch Windfarm Extension.
2. An application for consent for the proposed Development is being submitted to the Scottish Government Energy and Consents Unit (ECU) under Section 36 of the Electricity Act 1989 (the 1989 Act), to include a request for deemed planning permission to be granted for the development under Section 57(2) of the Town and Country Planning (Scotland) Act 1997. The relevant planning authority will be South Ayrshire Council (SAC).
3. This Design and Access Statement (DAS) is submitted in support of the application for consent which has been submitted for the proposed Arecleoch Windfarm Extension. The DAS does not form part of the Environmental Impact Assessment Report (EIA Report). The DAS should be reviewed in the context of the EIA Report.

2 Site location

4. In order to understand the design of the proposed Development it is considered important to understand the Site and its context. An aerial photograph of the Site and its surroundings are contained as **Figure 1**. A site location plan is contained as **Figure 2** of this document. A plan showing the application boundary is contained as **Figure 3**.

2.1 Site description

5. A detailed Site description is contained within the EIA Report. The following paragraphs provide a general description of the Site.
6. The Site is located on the National Forest Estate approximately 3 km south west of Barrhill in South Ayrshire, centred on NGR NX 19194, 80689. The majority of the Site is located within the administrative area of SAC, with a small section of the Site entrance located in the Dumfries and Galloway Council (D&GC) area. The location of the proposed Development and application boundary are shown in **Figure 2** and **Figure 3**.
7. The Site includes some of the existing and consented infrastructure associated with the existing Arecleoch and Kilgallioch Windfarms. This includes seven turbines, access track, onsite substation and permanent meteorological mast.
8. The entrance to the Site is within the D&GC area. Access to the Site for turbine deliveries would be via this existing entrance at Wheeb Bridge on the A714.
9. The Site is characterised by a Plateau Moorland landscape covered mainly by commercial forest and encompasses the western side of Shiel hill (228.4 m AOD). A number of small tributaries run through the Site and feed the Water of Tig, Cross Water and Haw Burn. These three water courses then in turn feed into the River Stinchar.

2.2 Surrounding area

10. The immediate area surrounding the Site is rural in nature with land predominantly used for commercial forestry purposes and agriculture. The nearest settlement to the Site is Barrhill which is located around 3 km north east of the Site. Other nearby settlements include Pinwherry and Colmonell which are to the north of the Site at a distance of approximately 3.3 km and 3.5 km respectively.
11. The nearest residential properties to the Site boundary are identified as follows:
- Glenour – 1,130 m to north west of the turbine 4;
 - Kilrenzie – 1,220 m to the north of turbine 4; and
 - Wheeb – 1,590 m to the north west of turbine 4.

3 Design policies

12. The preparation of this DAS has had regard to Planning Advice Note 68: Design Statements, South Ayrshire Local Development Plan (2014) (SALDP), Dumfries and Galloway Local Development Plan (2014) (DGCLDP), and the South Ayrshire Council's Supplementary Guidance: Wind Energy (2015).
13. The design of the proposed Development was carefully considered in the context of national advice in respect of design, the development plan and supplementary guidance which is relevant to the proposed Development.

3.1 National guidance

14. The most important national policy documents relating to the siting and design of the proposed Development are The National Planning Framework 3 (NPF3), and Scottish Planning Policy (SPP) along with the associated Planning Advice Notes (PANs), and also the Onshore Wind Turbines: Planning Advice. See Chapter 4 of the EIA Report.
15. In relation to the design and layout of windfarms, Table 1 in the SPP sets out the basis for a spatial framework in which a hierarchy of protection is defined. Group 1 areas such as National Parks and National Scenic Areas and are defined as "Areas where wind farms will not be acceptable". Group 2 areas are based on a range of national designations, other nationally important environmental interests (such as wild land or carbon rich soils, deep peat and priority peatland habitat), and community separation (2km from cities, towns and villages identified in the Local Development Plan). Group 2 areas are defined as "Areas of Significant Protection". Group 3 areas are defined as "Areas with potential for wind farm development" depending on detailed consideration against the specified policy criteria.
16. Having assessed the Site against these criteria and the Spatial Framework detailed in the SALDP Guidance: Wind Energy, it is considered that the proposed Development lies within both Group 2 and Group 3 areas, however predominantly Group 3. The categorising of parts of the Site as Group 2 is deemed to be due to areas of carbon rich soils, deep peat and priority peatland habitat.
17. The Onshore Wind Turbines: Planning Advice, published by the Scottish Government in 2014 provides an overview of common issues which need to be considered and some guidance on how to assess these in order to inform the windfarm design. The advice relating to windfarm design, such as landscape assessment, shadow flicker analysis, noise, potential impacts on wildlife and more, has been incorporated into the design of the proposed Development.

3.2 Locational guidance

18. The South Ayrshire Landscape Wind Capacity Study (2018) (SALWCS) was prepared for SAC by Carol Anderson Landscape Associates and was adopted in August 2018.
19. The proposed Development is located in landscape character type Plateau Moorland, of which the findings of the SALWCS are as follows:

"The Plateau Moorland with Forestry and Wind Farms landscape character type presents the only landscape in South Ayrshire where some scope for very large turbines >130m were identified as being able to be accommodated in South Ayrshire as either additional new developments or 'repowered' schemes for existing well-sited wind farms. There is also some potential to accommodate additional large turbines (70-130m) in this landscape."

3.3 Development plan

20. The Development Plan is defined by the Town and Country Planning (Scotland) Act 1997, as amended, as being the local development plan; the planning authority's resolution of adoption and any supplementary guidance issued in connection with the local development plan. The Development Plan for the Site comprises the South Ayrshire Local Development Plan (2014) (SALDP), the Dumfries and Galloway Local Development Plan (2014) (DGCLDP), and the Local Development Plan Supplementary Guidance for both of these documents.
21. EIA Report Chapter 4 sets the proposed Development in the context of the relevant Development Plan policies. The Planning Statement provides an assessment of the proposed Development against the Development Plan and material considerations relevant to the decision-making process.

3.3.1 South Ayrshire Local Development Plan 2014

22. The SALDP was adopted in September 2014. Preparation of a new Local Development Plan (SALDP2) is underway with the proposed plan due to be published in the summer of 2019 and a period of consultation to follow. It is expected that SALDP2 will be adopted in 2020. The SALDP is therefore considered to be a relevant and up to date Local Development Plan. The Wind Energy Policy is considered to be the most relevant SALDP Policy to the proposed Development. The SALDP Wind Energy Policy states that proposals will be supported if:

“a) they are capable of being accommodated in the landscape in a manner which respects its main features and character (as identified in the South Ayrshire Landscape Wind Capacity Study or in any subsequent updates to that study), and which keeps their effect on the landscape and the wider area to a minimum (through a careful choice of Site, layout and overall design);

b) they do not have a significant detrimental visual impact, taking into account views experienced from surrounding residential properties and settlements, public roads and paths, significant public viewpoints, and important recreational assets and tourist attractions;

c) they do not have any other significant detrimental effect on the amenity of nearby residents, including from noise and shadow flicker;

d) they do not have a significant detrimental effect on natural heritage features, including protected habitats and species, and taking into account the criteria in LDP policy: natural heritage;

e) they do not have a significant detrimental effect on the historic environment, taking into account the criteria in LDP policy: historic environment and LDP policy: archaeology;

f) they do not adversely affect aviation, defence interests and broadcasting installations; and

g) their cumulative impact in combination with other existing and approved wind energy developments, and those for which applications for approval have already been submitted, is acceptable.”

23. The wind energy policy is generally supportive of windfarm developments subject to the satisfaction of specified criteria. The Planning Statement considers the matters raised in these criteria have been addressed (see Planning Statement **Table 3.3**). The proposed Development has been carefully designed in response to the landform of the Site and the surrounding landscape subject to other environmental and technical constraints.

3.3.2 South Ayrshire Local Development Plan Supplementary Guidance: Wind Energy 2015

24. The South Ayrshire Local Development Plan Supplementary Guidance: Wind Energy 2015 (the SGWE) adopted in December 2015 outlines the Spatial Framework for wind energy development within South Ayrshire. This Spatial Framework identifies areas which have potential for windfarm development and those which do not, or those which require significant protection. The Site for the proposed Development is located in areas identified as ‘Areas with potential for Windfarm development’ and ‘Area of significant protection’.

25. In addition to the SGWE, the Supplementary Guidance refers to the South Ayrshire Landscape Wind Capacity Study (SALWCS) which provides advice on landscape sensitivities, thresholds and cumulative issues amongst other things. The SALWCS places the Site within a Landscape Character Type (LCT) that has been identified as a Search Area for the Large Typology (Turbines >70m).

26. The proposed Development is located in an area considered to be suitable for wind energy development of the scale proposed. The Planning Statement concludes that the proposed Development is in accordance with the SGWE and SALWCS (see Planning Statement **Table 3.3**).

3.3.3 Dumfries and Galloway Local Development Plan (2014)

27. The Dumfries and Galloway Local Development Plan (DGLDP) was adopted in September 2014. D&GC are currently working on a new Local Development Plan which will supersede the DGLDP, however this is not expected to come into force until September 2019. The DGLDP is therefore considered to be a relevant and up to date Local Development Plan. Policy T1 Transport Infrastructure is considered to be the most relevant DGLDP policy to the proposed Development. Policy T1:

Transport Infrastructure states that proposals relating to existing and new transport infrastructure should accord with the regional and local transport strategies and also not have any adverse effects on designated Natura Sites.

28. DGLDP Policy IN2: Wind Energy, also has some relevance as the proposed Development would include a Site access for windfarm development. Policy IN2 states that proposals will be assessed against set considerations, including the following:
- landscape and visual impact;
 - cumulative impact;
 - impact on local communities; and
 - impact on aviation and defence interests.
29. The impact on local communities as a result of the transportation of the turbines has been considered in the EIA process. The Planning Statement advises that the proposed Development is in accordance with the DGLDP.
30. There is no relevant Supplementary Guidance which relates to the type of works proposed in the Dumfries & Galloway Council (D&GC) area.

4 Design principles

31. A Constraints Plan of the Site was compiled based on field survey findings and desk study, as shown on **Figure 4**. This Plan shows various environmental features of the Site such as watercourses and slope gradient. The Constraints Plan, together with analysis of Zones of Theoretical Visibility (ZTVs) for both the Arcleoch Windfarm and the proposed Development, were used to inform the design process.
32. Based on analysis and field work observations, a design concept for the proposed Development was generated identifying the preferred areas for turbines within the Site. The main design objectives were as follows:
- avoid the ridgeline and upper slopes at the north east of the Site around Shiell Hill;
 - limit proximity to closest residential receptors;
 - limit impacts on priority peatland and carbon areas;
 - respect other environmental constraints;
 - create a scheme which maximises the potential of the Site to generate and store renewable energy; and
 - use of the existing infrastructure (tracks and borrow pits on the Site) as far as practicably possible.
33. Considerable effort was made to produce a turbine layout which achieves the most satisfactory relationship with the landform of the Site whilst respecting other environmental, technical and economic considerations. On numerous occasions, a multi-disciplinary team met to discuss the various issues which were identified as part of the constraints mapping process described in **Section 6.0**. The team identified the optimal locations for the proposed turbines and associated infrastructure.

5 Consultation

34. Consultation was undertaken as part of the EIA process.
35. An EIA Scoping Report was submitted to the Energy Consents Unit (ECU) on 29 of October 2018 to accompany a request for the Scottish Ministers to adopt a Scoping Opinion under Regulation 15 of the EIA Regulations 2017. The Scoping opinion was received from the ECU on 6 February 2019 and indicated that the key concerns were:
- peat and carbon rich soils; and
 - private water supplies which may be impacted by the proposed Development.
36. Other key concerns raised by consultees include:
- visual amenity of local residents; and
 - noise effects.
37. Consultation meetings were held with the ECU and SAC to discuss the Site and approach to, amongst other things; noise assessment, survey work, landscape viewpoints, night time assessment, the potential for community investment.
38. In order to inform the cumulative impact assessment, cumulative Zones of Theoretical Visibility (ZTVs) were produced for all windfarms within 45 km of the proposed Development in order to identify the windfarms with which the proposed Development could cause significant cumulative impacts. It was then decided which windfarms should be taken forward to the detailed cumulative assessment.
39. Public consultation in respect of the proposed Development was also undertaken with the local community in the form of public information days (PIDs). These PIDs were held in November 2018 and February 2019 in order to inform the local community of proposed Development and the progress of environmental studies and turbine layout. Public consultation is summarised in the Pre Application Consultation Report submitted in support of the planning application.

6 Design evolution

6.1 Landscape and visual design iteration

40. The proposed Development, which would be an extension to Arcleoch Windfarm, would be located in the Plateau Moorland Landscape Character Type area defined in Scottish Natural Heritages (SNH) digital map based Landscape Character Assessment (2019) and the Plateau Moorland With Forest and Wind Farm Landscape Character Area identified in South Ayrshire Council (SAC) Landscape Wind Capacity Study (LWCS) August 2018. The key characteristics of this area are described in the SNH document as follows:

- topography is comparatively level with extensive plateaux rising to soft contoured ridges;
- underlain by basalts to the east and greywackes to the south-west;
- covered by blanket bog, heather and grass moorland, with extensive mosses and peatland forming an important component of this landscape type;
- frequent extensive areas of coniferous forest of uniform age which, in places, have significantly modified the original character of these areas in terms of colour, texture and views.
- Largely undeveloped with a sparse network of roads;
- wind farm development on the north-eastern margins;
- open, exposed and rather remote landscape, wild in character, although this is lessened in places by the presence of wind turbines and associated infrastructure; and
- views are open and medium to longer distance depending on undulations in the local topography.

41. The LWCS describes the character of the Plateau Moorland with Forest and Wind Farm as:

“This landscape forms an expansive upland plateau which extends into neighbouring Dumfries and Galloway to the south and south-east. It has a simple landform of broad rounded hills and shallow basins which form a low, even and generally indistinct backdrop to smaller scale settled valleys and glens within South Ayrshire. Land cover is dominated by coniferous forestry, particularly to the north of the Duisk Valley, with small areas of open moorland and moss mainly present on lower slopes at the transition with the Duisk and Stinchar valleys. Small pockets of rolling farmland, wooded policies, lochs and settlement are found in the south-eastern part of this landscape (and extend into Dumfries and Galloway).

This landscape is sparsely settled with few roads. Extensive operational and consented wind farm development is a key feature of this landscape. While the large scale, simple landform and land cover and sparsely settled nature of these uplands reduces sensitivity to larger turbines, the extent of operational and consented wind farm development already accommodated in the generally less sensitive parts of this landscape reduces scope for additional development. Remaining undeveloped areas in this landscape either lie closer to more sensitive features such as lochs and farmland, adjacent settled valleys and glens or landscapes with a strong sense of wildness. Potential cumulative effects with other wind farm developments in relation to turbine size, design and layout may also constrain development in parts of this landscape.”

42. The LWCS acknowledges that the key characteristics of the landscape: “its large scale, simple landform and cover together with its sparsely settled nature ...reduces sensitivity to larger turbines”.

43. The LWCS concludes that the landscape of the Plateau Moorlands with Forestry and Wind Farms is of High-medium sensitivity to wind turbines in the Very Large typology (turbines > 130m). In respect of Guidance for development the LWCS states (paragraph 21.3.1 that “*there is some limited scope for the Very Large typology to be accommodated within this landscape*”, acknowledging that capacity is close to being reached in the parts of this landscape character type which lie to the south of the Duisk valley.

44. SPR commissioned Landscape and Visual Feasibility Studies between 2015 and 2017 for the Site and these were carried out by Land Use Consultants. These studies examined various layouts for the Site in respect of landscape and visual considerations but taking account of known environmental and technical constraints, such as set back from water courses as well as infrastructure on Site including the railway line and overhead transmission lines. Layouts consisted of between 24 turbines at 117 m to blade tip height and 14 turbines at 225 m to blade tip height.

45. Based on review of these background documents, taking account of SNH’s Siting and Design guidance (2017) and drawing on fieldwork observations, the following key landscape and visual sensitivities were identified in the vicinity of the Site:

- proximity to the adjacent smaller scale, more diverse and higher sensitivity valleys of the Duisk and Stinchar Rivers with associated visual receptors in scattered settlements, in particular Barrhill, Pinwherry, Pinmore and Colmonell;
- proximity to the South Ayrshire Scenic Area; the Galloway Hills Regional Scenic Area (RSA); and the Dark Skies Park;
- potential visibility from the Merrick Wild Land Area;
- potential visibility from nearby settlements as noted above, the A714, B7027, B734 roads, the Girvan to Stranraer railway line, cyclists on NCR 7, and walkers on the Southern Upland Way as well as nearby Core Paths; and
- proximity to adjacent operational windfarms at Arecleoch (60 turbines at 118 m blade tip height, although consented at 135 m); consented Chirmorrie (21 turbines at 146.5 m blade tip height); and the operational Kilgallioch development (96 turbines at 146.5 m blade tip height), as well as other cumulative windfarms in the wider surrounding area.

46. Design objectives for the proposed Development were developed which comprise achieving a layout which:

- has a reasonably consistent and balanced relationship with the large scale and simple landform of the Site when seen from the surrounding area;
- achieves a satisfactory relationship with the adjacent operational Arecleoch Windfarm by being perceived as discrete group of larger turbines adjacent to Arecleoch Windfarm which minimises visual confusion between the different sized turbines;
- achieves a reasonable degree of setback from the adjacent Intimate Pastoral Valley landscapes to the east and north of the Site associated with the Duisk and Stinchar Rivers; and
- minimises effects on visual amenity for nearby settlements including night time (radar activated) lighting visibility from the closest settlements: Barrhill; Pinwherry; and Colmonell as well as smaller hamlets along the river valleys.

47. Other objectives were to maximise the use of existing infrastructure on the Site including existing forestry and windfarm access tracks; laydown areas; and borrow pits.

48. Throughout the design evolution process there have been several proposed layouts. Four of the key layouts (**Figure 5**) considered, including the final design layout are detailed in the following paragraphs. The following paragraphs include the rationale for the redesign of each layout and ultimately the agreed layout for the proposed Development. **Figures 6a-b to 11b** show a selection of wirelines from various viewpoints illustrating the evolution of the design for each viewpoint.

6.1.1 Layout A (Figures 6a, 7a, 8a, 9a, 10a, 11a)

49. An initial review of previously commissioned Landscape and Visual Feasibility work was carried out which concluded that the layout comprising turbines located to the west and south of Shiel Hill at the north east edge of the Site, was the most satisfactory of the various feasibility layouts considered from landscape and visual amenity perspectives.

50. This layout, comprising 13 turbines at 200 m height to blade tip, was taken forwards as the Initial Scoping stage layout presented in the Scoping Report issued in October 2018. This layout was also presented and illustrated by photomontages at the first round of Public Information Days held in November 2018 in the villages of Barrhill and Colmonell. The Scoping Report states that the proposed Development would be likely to consist of up to 15 turbines at a maximum blade tip height of 200 m.

51. The layout consisted of four turbines to the north of the overhead transmission line that bisects the Site north east to south west; five turbines to the north west of the Girvan to Stranraer railway line and four turbines to the south of this railway line.

52. During October and November 2018, further environmental baseline studies were carried out which informed the design iteration process with the generation of an amalgamated constraints plan. This process identified 'no go' areas within the Site, where turbines should not be located, these areas included:

- A 50 m set back from water courses on the Site;
- A set back from various terrestrial ecology species/habitats;
- Peat depths greater than 3 m;
- Slopes of greater than 12 degrees;
- A set back from the operational turbines at Arecleoch and consented Chirmorrie turbines;
- Buffers from existing onsite infrastructure including the railway line and overhead transmission lines; and
- Other constraints were identified as areas where turbines could be placed, but where caution would be required. These included areas with a peat depth of between 1 m and 3 m and areas with slopes of up to 12 degrees.

53. Subsequent layout iterations were generated that respected the 'hard' 'no go' constraints with further field work being carried out where necessary in respect of turbines located in the 'soft' 'proceed with caution' areas.

54. Additionally, SPR provided input in respect of the anticipated yield from various layouts explored.

55. The Initial Scoping layout achieved satisfactory set back from the Duisk River valley but encroached northward with turbines visible from the Stinchar valley to the north.

6.1.2 Layout B (Figures 6a, 7a, 8a, 9a, 10a, 11a)

56. A layout consisting of 15 turbines at 200 m to blade tip was generated to achieve increased efficiency in use of the Site and a higher energy yield. This consisted of seven turbines to the north of the overhead line; seven to the south of this line and north west of the railway line and one turbine to the south of the railway line.

57. This layout, although slightly more compact when viewed from the north east, introduced turbines closer to the Duisk River valley and retained turbines which encroached northward to the Stinchar valley, which was less satisfactory than layout A in respect of landscape and visual considerations.

6.1.3 Layout C (Figures 6b, 7b, 8b, 9b, 10b, 11b)

58. A Design Workshop was held on 4 December 2018 to progress the layout. A maximum layout was generated that consisted of 19 turbines. The aim of this process was to thoroughly test the ability of the Site to accommodate a maximum number of turbines which would maximise energy yield. This layout consisted of seven turbines to the north west of the overhead line; eight turbines between the overhead line and the railway line and four turbines located to the south east of the railway line.

59. The increased number of turbines resulted in higher density and wider spread of turbines in predicted views from the surrounding area, with multiple overlapping turbines and a less satisfactory relationship with the operational Arecleoch turbines than either Layout A or B.

60. During the Design Workshop the then T12 was dropped due to noise concerns and the then T15 was dropped in order to move T14 further west and keep turbines to the west of Shiel Hill.

61. A further Design Workshop was held on 29 January 2019 which further developed the layout achieved at the end of the first Design Workshop. During this Workshop, the then T1 was dropped in respect of landscape and visual considerations because it encroached northward towards the Stinchar valley and resulted in turbine visibility from settlement to the north of the Site including the village of Colmonell, as well as being prominent in views from nearby individual properties to the north of the Site. Other turbines (the then T9 and T13) were dropped in order to minimise noise impacts and landscape and visual impacts from the village of Barrhill. Turbine 11 was also removed in order to achieve more satisfactory spacing and relationship between the turbines located between the railway line and the overhead transmission line.

62. The layout that emerged from the second Design Workshop consisted of 13 turbines at 200 m to blade tip. Further site work was carried out to test this layout in the field in respect of hydrology and peat.

6.1.4 Layout D (Figures 6b, 7b, 8b, 9b, 10b, 11b)

63. Subsequent layouts consisting of 13 turbines at 200 m to blade tip were considered, in particular from a landscape and visual perspective, as well as taking account of further data obtained following detailed peat probing on Site and to achieve maximum distance from the unscheduled Standing Stone in the northern part of the Site (close to turbine 4).

64. The Final Layout consists of 13 turbines at 200 m to blade tip with five turbines to the north of the overhead transmission line; seven turbines between the overhead transmission line and the railway line and one turbine to the south of the railway line. This layout achieves a reasonably balanced relationship with the landform of the Site and a more satisfactory set back from the Duisk valley to the east and the Stinchar valley to the north. It also achieves a reasonably satisfactory relationship with the adjacent operational Arecleoch Windfarm, appearing as a discrete group of turbines at a larger size adjacent to the operational Arecleoch Windfarm from more of the most sensitive viewpoints in the surrounding area.

6.2 Tracks and infrastructure

65. Careful consideration was given throughout the design iteration process to the location of the various ancillary components of the proposed Development, including the cable routes, borrow pits, substation compound options and the access tracks within the Site. For example, small, localised areas of deeper peat have been avoided wherever possible and the number of water crossings has been minimised.

66. The access points to the Site are shown on **Figure 3**. Both access points utilise existing track. The design allows all abnormal loads e.g. turbines and all construction traffic to access the Site directly from the A714. This is to minimise the extent of road upgrades and minimal disturbance to settlements during the construction period. Within the Site, it is proposed to utilise existing tracks to minimise the amount of new track construction and also provide flexibility of accessing the Site.

6.3 Embedded mitigation

67. Mitigation of the potential effects of the proposed Development has been predominately incorporated through the iterative design process. Changes made as a consequence of this iterative design process are considered to be embedded mitigation.

68. There was a conscious decision to utilise the existing infrastructure associated with Arecleoch Windfarm in so far as was possible. The proposed Development contains a substantial amount of embedded mitigation as a result of the design process. The location of infrastructure seeks, in so far as is possible, to do the following:

- use the existing infrastructure;
- avoid localised areas of peat;
- avoid identified sensitive ecological habitats;
- retain an acceptable distance from properties;
- minimise water course crossings;
- minimise landscape and visual impacts; and
- ensure acceptable noise levels are achieved.

69. The design evolution process which has been undertaken has resulted in the inclusion of further embedded mitigation measures for works which are required as part of the Site preparation, construction and operation of the proposed Development. This embedded mitigation includes the following:

- minimising effects on those environmental features which were identified as part of the constraints mapping process;
- minimising the length of the new track proposed;
- the use of the existing access for Arecleoch Windfarm;
- minimising the number of new watercourse crossings; and
- the sourcing of construction materials onsite, as far as possible.

7 Proposed Development

70. The proposed Development is described in detail in Chapter 3 of the EIA Report. An outline Construction and Environmental Management Plan (CEMP) is contained in the EIA Report as **Technical Appendix 3.1**. The layout of the proposed Development is contained in **Figure 12**. In summary the proposed Development would comprise:
- 13 turbines of up to 200 m in height to blade tip and associated concrete foundations;
 - hardstanding areas at each turbine base;
 - one permanent meteorological mast and associated access track;
 - one substation building and compound;
 - onsite underground electrical and communication cables;
 - a total of 14.3 km of upgraded and 5.1 km of new onsite access tracks (including passing places and turning circles) and associated watercourse crossings;
 - site signage;
 - installation of close circuit television and communication mast; and
 - one radar unit and associated compound and associated access track.
71. In addition to the above operational components of the proposed Development, construction of the proposed Development will also require:
- a temporary construction compound and laydown area;
 - a net woodland loss of woodland area of 60.1 ha;
 - 6 temporary borrow pits for the extraction of stone; and
 - up to four temporary Power Performance Masts (PPM).
72. A new substation compound location has been identified within the Site, which would be utilised for a grid connection. The onsite substation would step up the voltage for transmission to the grid network. The grid connection option does not form part of this application and would be subject to a separate design and consent process undertaken by the National Grid Company and/or ScottishPower Energy Networks.

8 Access

8.1 Access route

73. Following SPR's recent experience of constructing the Kilgallioch Windfarm, it is proposed that a dual port strategy is considered for the delivery of the wind turbine components. The wind turbines would be delivered to the George V Dock in Glasgow, but with the possibility of delivery to the port of Cairnryan. The port of Cairnryan has some restrictions including limited water depth and port handling facilities/component storage and may limit the use of this port. The turbines would be moved from the port of entry to the Site under escort. In the case of George V Dock the turbine components would be moved along the M8 then A74 (M) to the M6 where they would be turned northwards at junction 44 or 42, along the A75 to the unclassified road past Newton Stewart where they would join the A714 proceeding to the Site entrance at Wheeb Bridge. In the case of Cairnryan, turbine components would be moved south along the A77, A751, A75 and then the unclassified road past Newton Stewart and then north along the A714 to the Site entrance at Wheeb Bridge. If consented, SPR would engage in detailed discussions with the turbine suppliers, haulage contractors, Transport Scotland, Police Scotland and road authorities in regards to the port of entry strategy and AIL delivery route.
74. HGV construction vehicles would mainly use the access from Wheeb Bridge, however it is anticipated that the Site entrance at Bents Farm may be used for some construction traffic and also used for Light Goods Vehicle (LGV) during operation. It is also proposed that the unclassified Barrhill to New Luce road may be used for some LGV traffic during construction and operation.

8.2 Internal access tracks

75. The Arcleloch and Kilgallioch Windfarm access track has previously been used for access by construction traffic and for the transport of turbine components and so has been built to the specification required to accommodate these abnormal loads involved during the construction of the proposed Development.
76. A total of approximately 14.3 km of onsite access track would be upgraded and 5.1 km of new onsite access track would be created for the proposed Development. This would have a running width of approximately 5 m. In addition, there would be approximately one passing places per 500 m of new track. The location of these would depend on the detailed Site design. Passing places have been incorporated into the proposed Development design to enable turbine delivery and general construction vehicles to pass each other safely whilst utilising the onsite access tracks. Locations of passing places would be established during construction works. The access tracks would be retained throughout the operational life of the proposed Development to enable maintenance of the turbines and replacement of any turbine components.
77. The proposed routes for the Site access tracks have been designed to minimise watercourse crossings by a combination of avoidance and by using existing crossings wherever possible.

8.3 Public access – pedestrian

78. Public access to the proposed Development would be restricted during the construction of the windfarm for obvious health and safety reasons due to construction activities, the movement of heavy plant and the erection of turbines. The Whithorn Way long distance route is crossed the Site access road. EIA Report Chapter 14 concludes that with the implementation of environmental measures the impact on users would be minor and not significant. When operational however, while no formal access arrangements would be implemented and, members of the public would be able to access the Site on foot and make use of the access tracks under the provisions of the Land Reform Act.
79. During periods of maintenance, access by the public could be restricted depending on the nature of the maintenance activity.

8.4 Public access – vehicular

80. Once the proposed Development is operational (if consent granted) vehicular access will be limited to individuals directly involved in the maintenance of the windfarm, the landowners and their agents, and emergency vehicles.

8.5 Turbine access

81. It is not proposed that there would be public access to the proposed wind turbines. Due to health and safety reasons access to the turbines will be restricted to employees of, and contractors appointed by SPR.

9 References

Scottish Government (2014). *Scottish Planning Policy*

Scottish Government (2003). *Planning Advice Note 68: Design Statements*

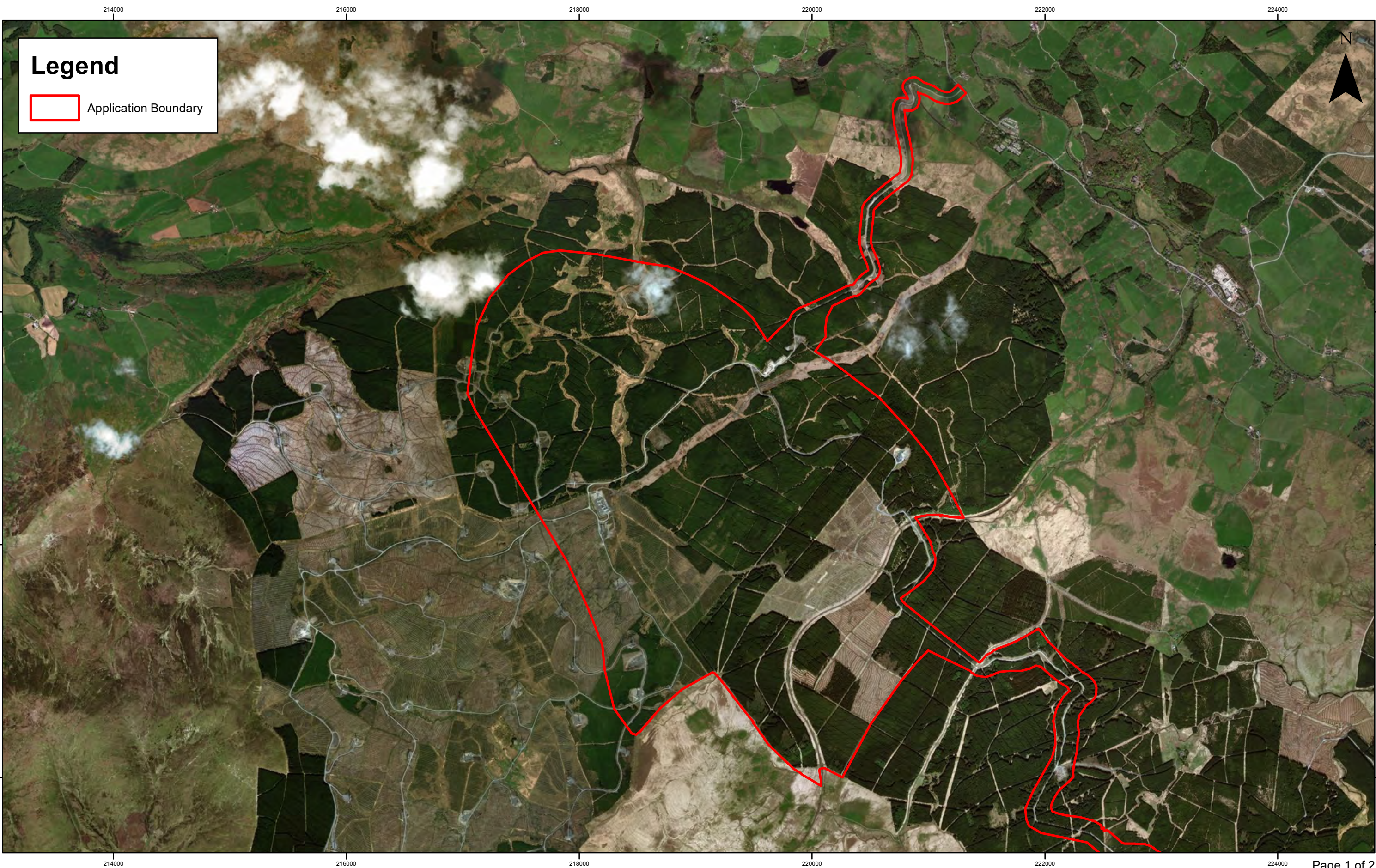
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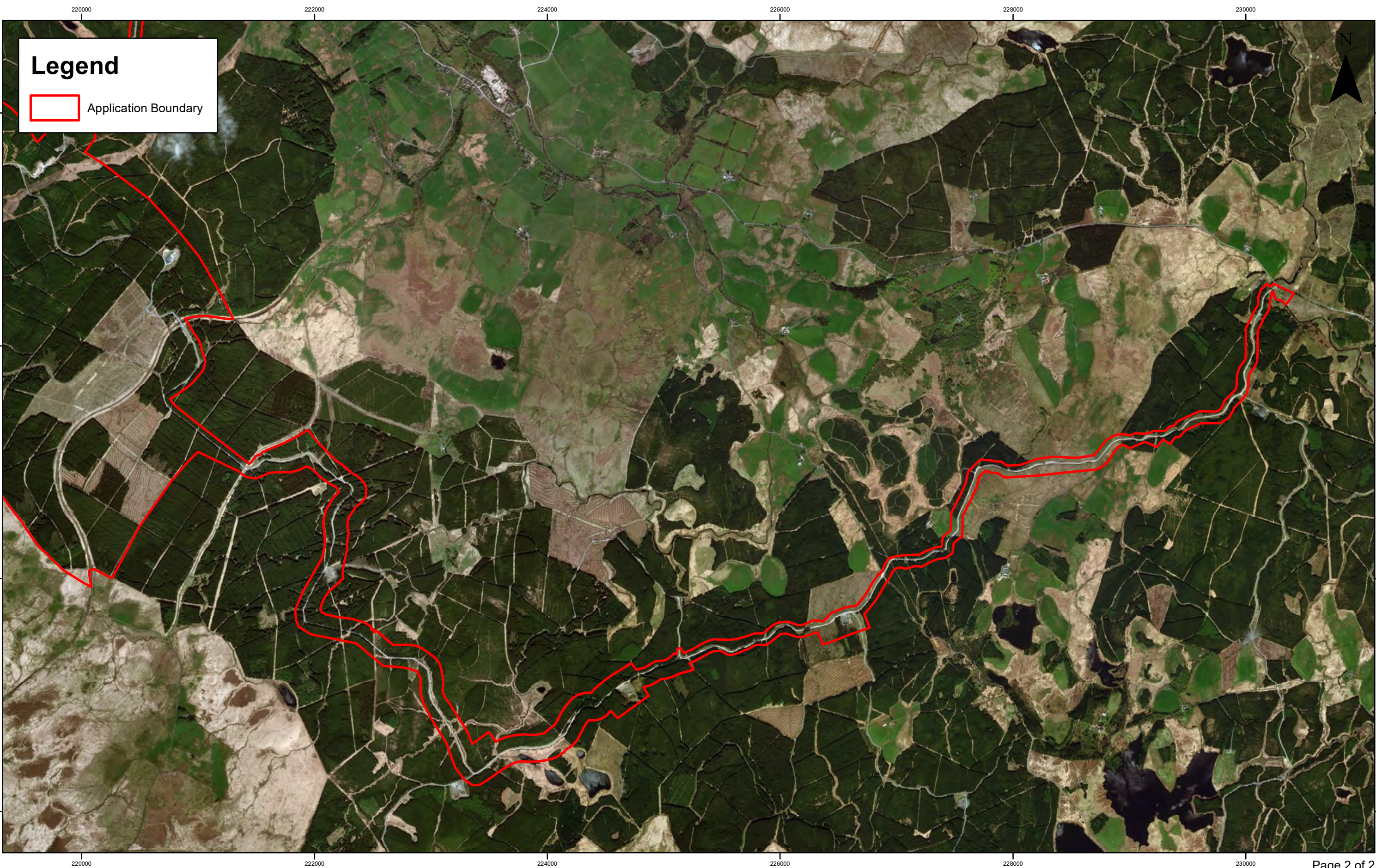
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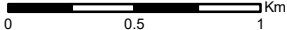
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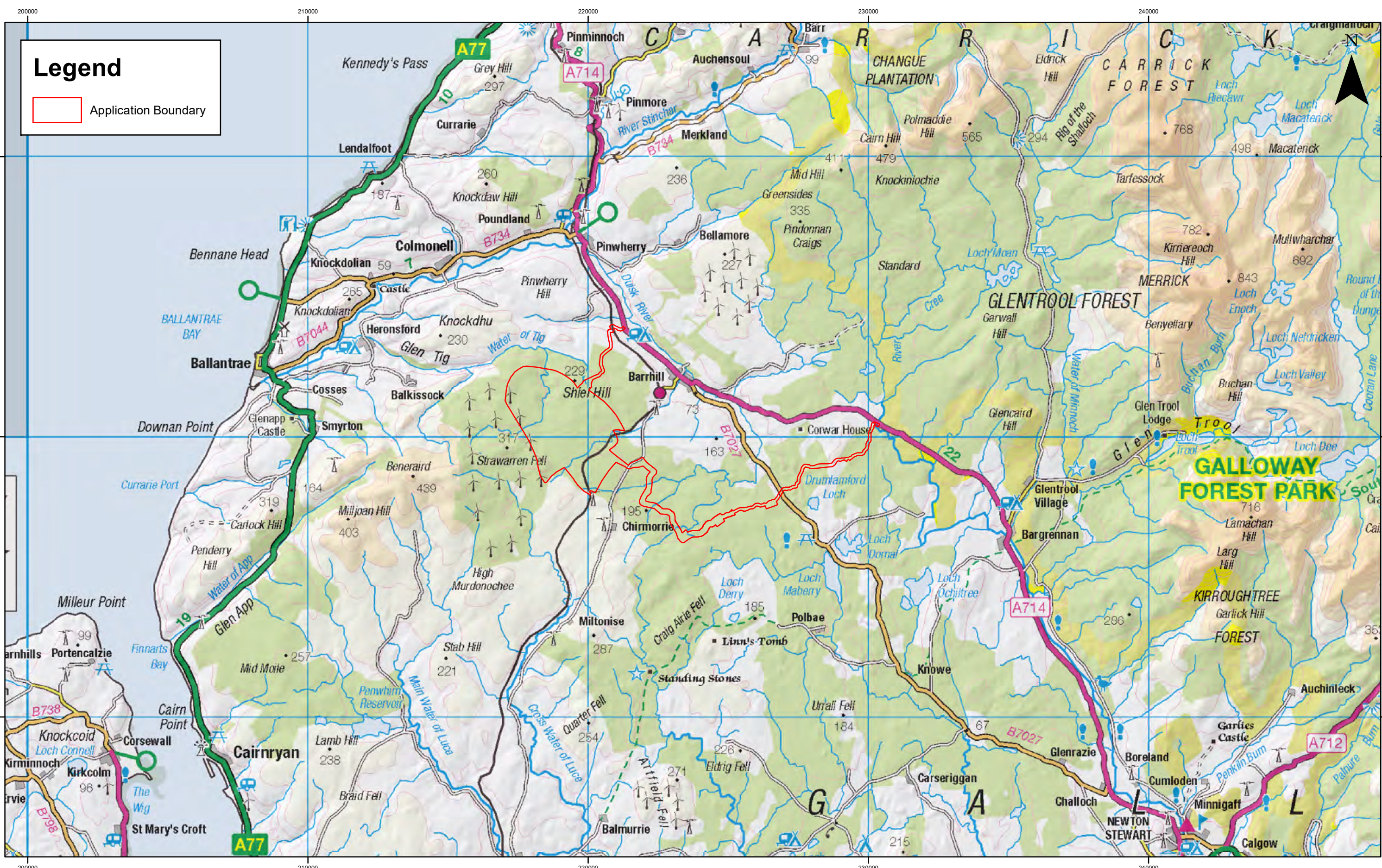


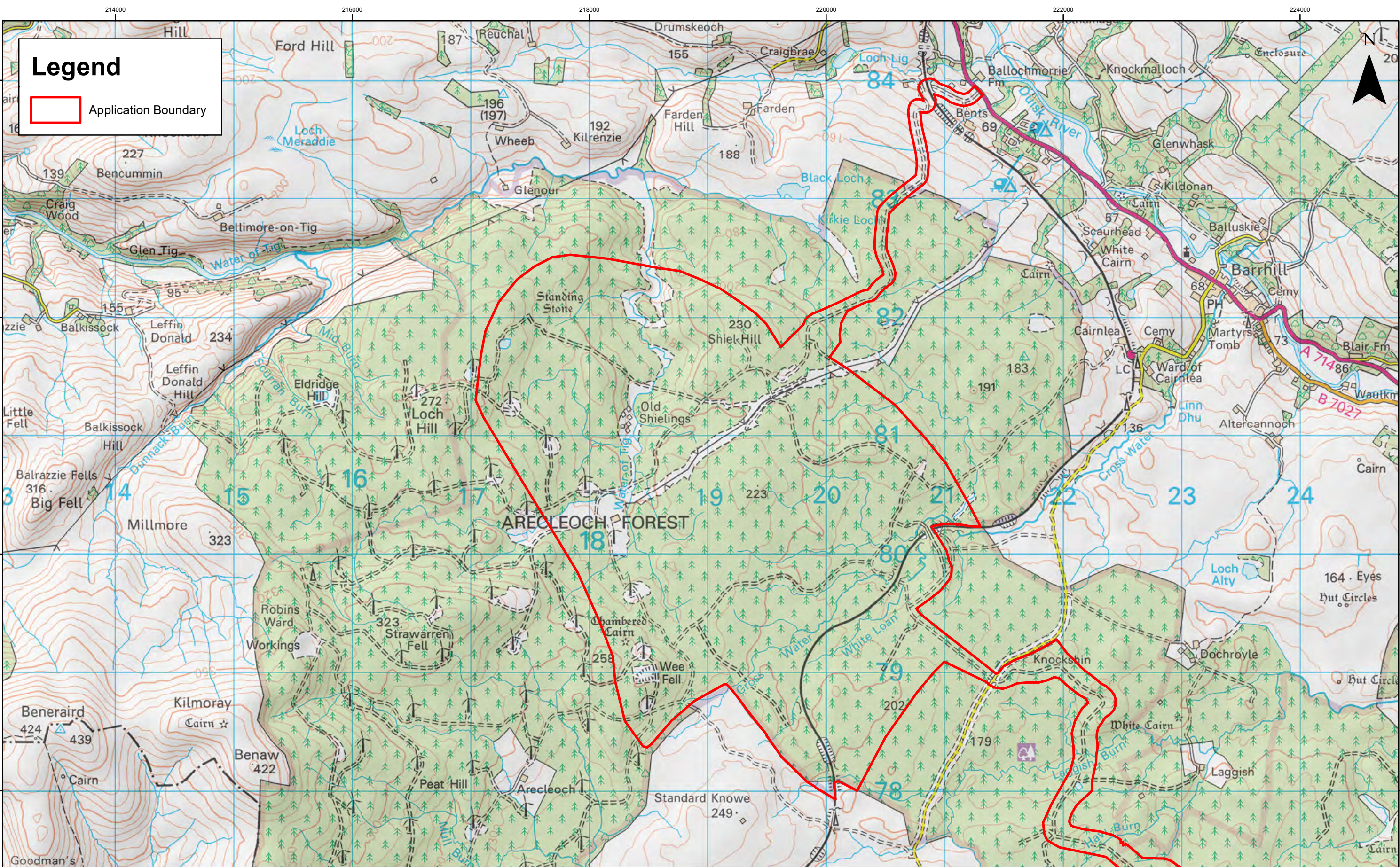
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| Arecleoch Windfarm Extension - EIAR | | |
| Design and Access Statement | | |
| Site Aerial Context | | |

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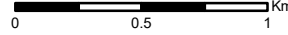






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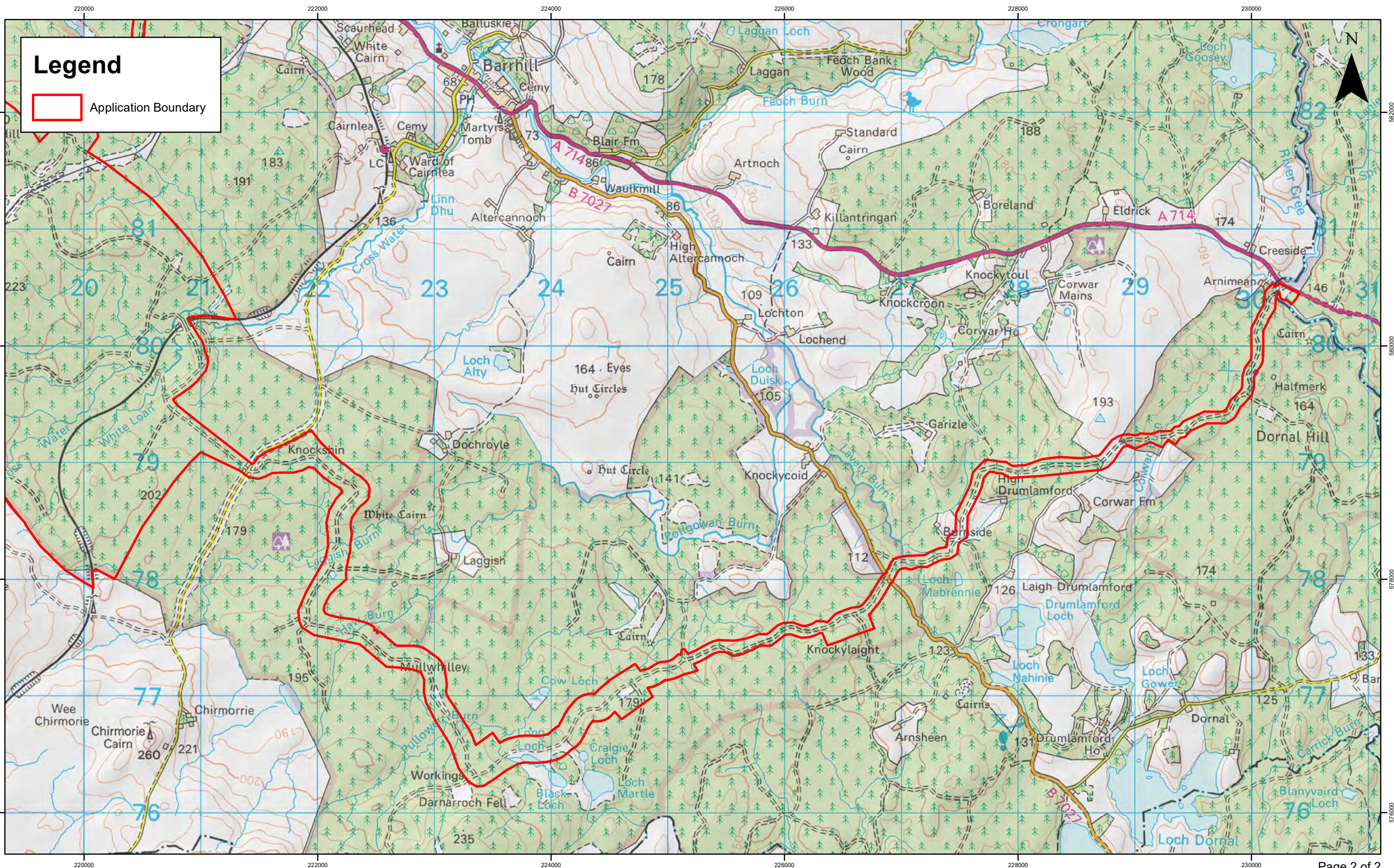
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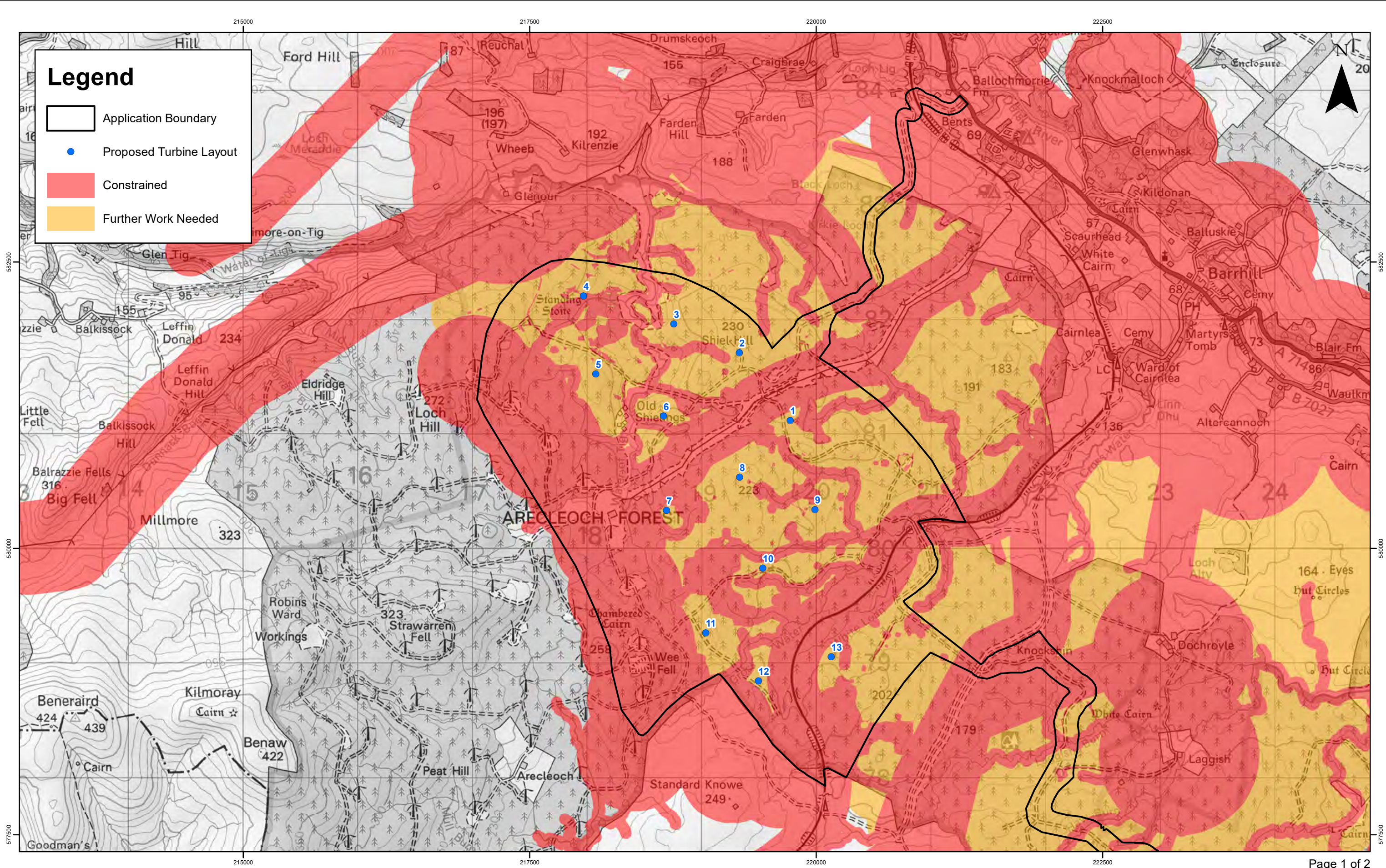
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Design and Access Statement

Application Boundary

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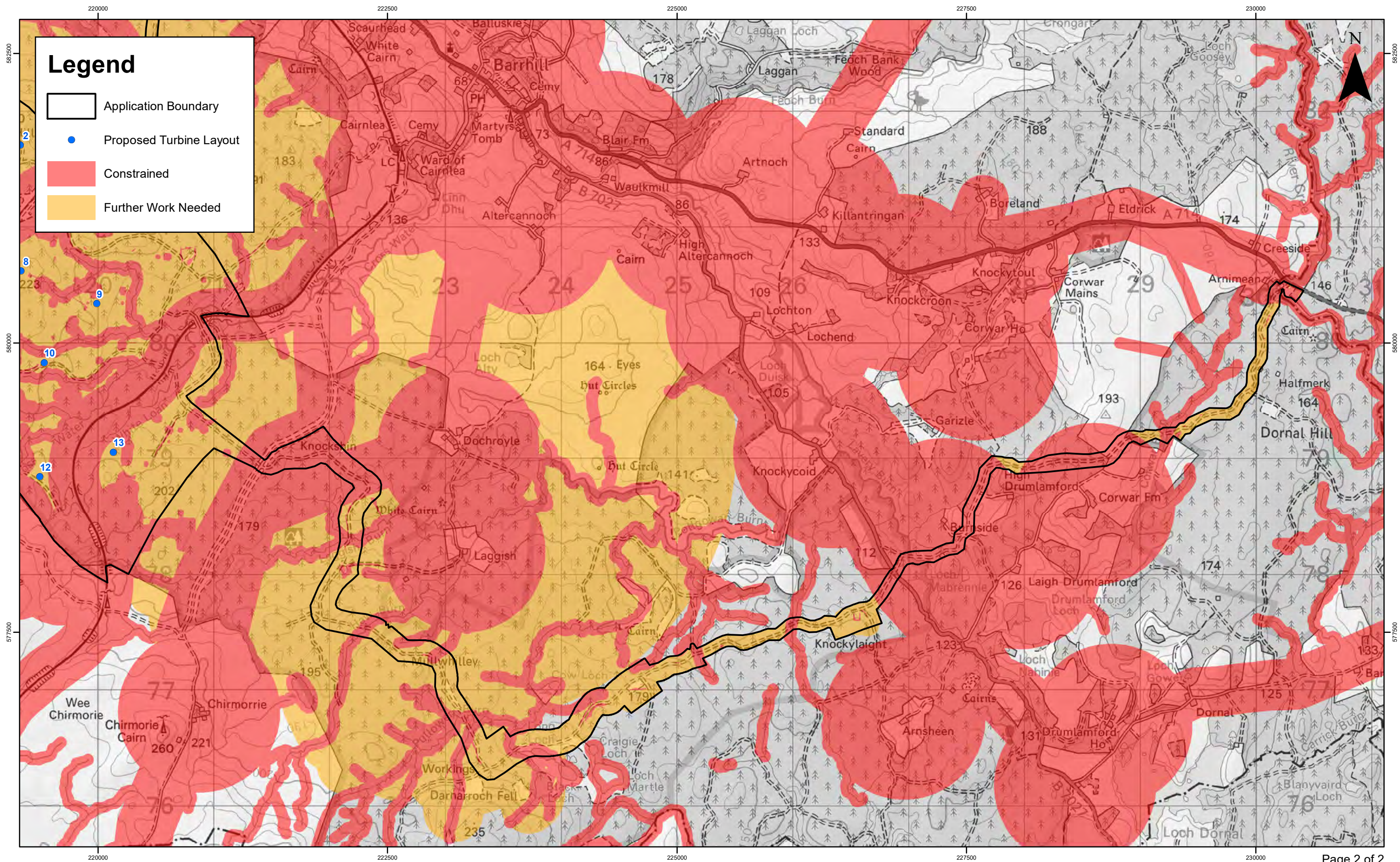


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| Design and Access Statement Constraints Plan | | | Rev | A | Datum: OSGB36 |
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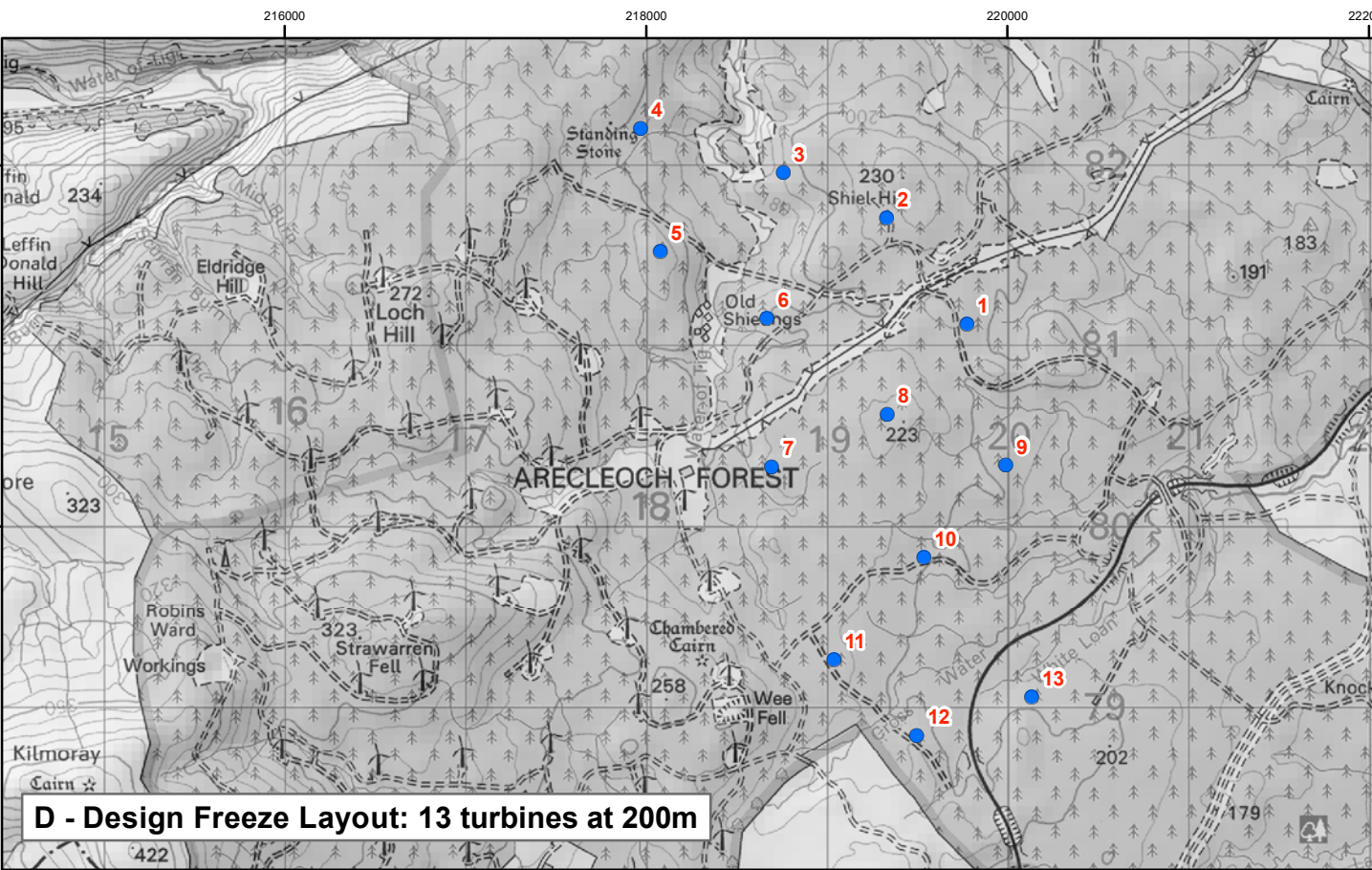
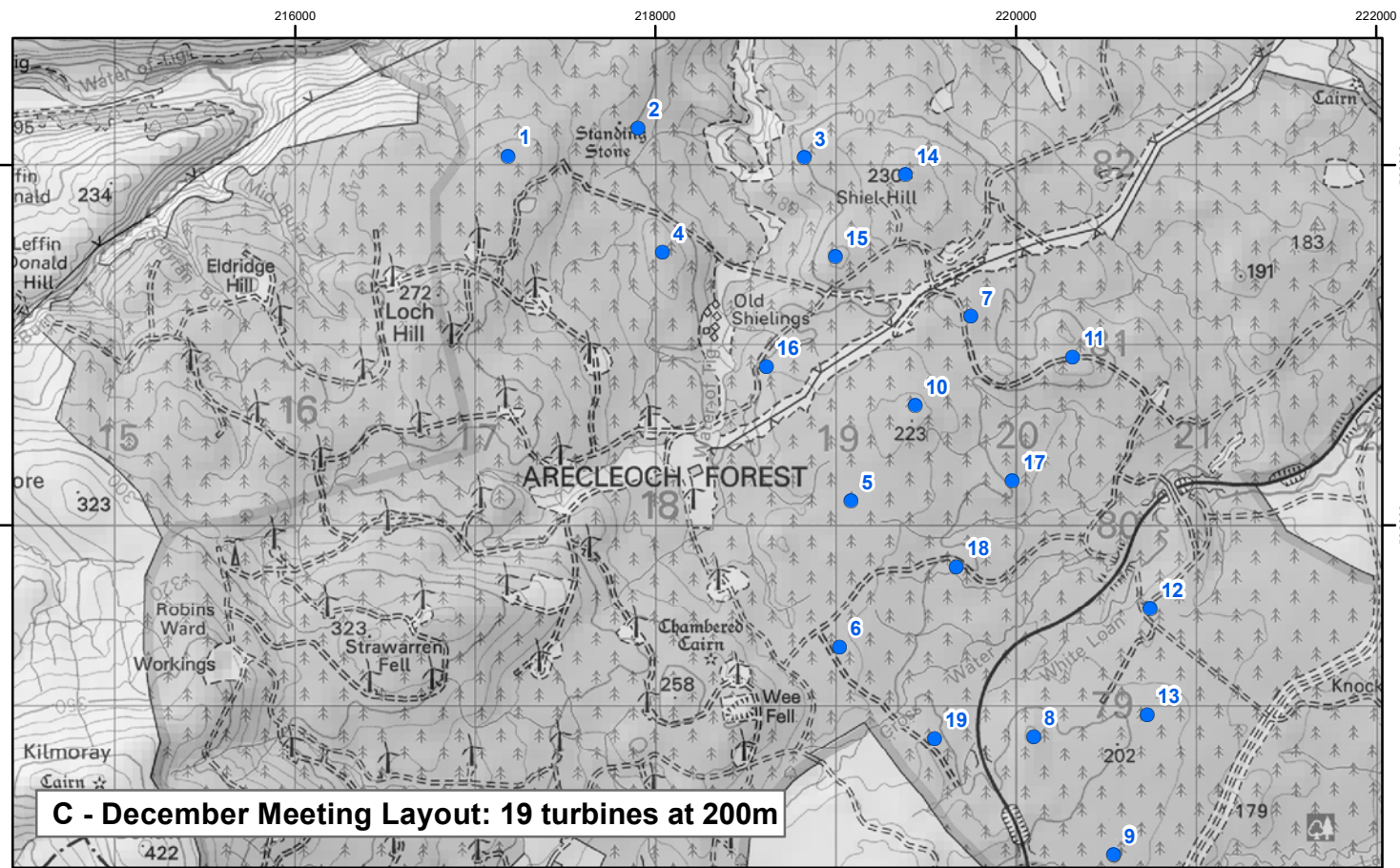
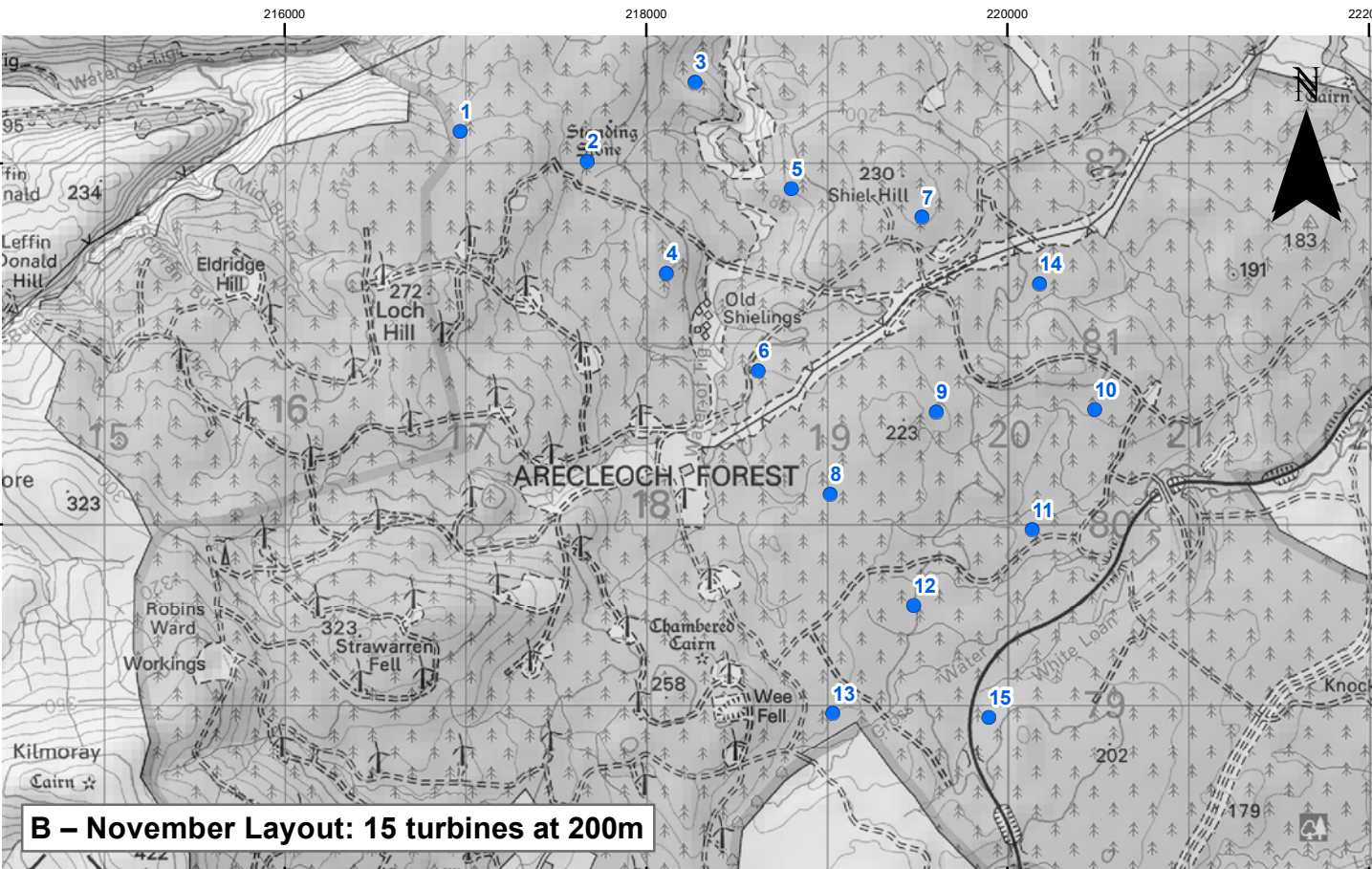
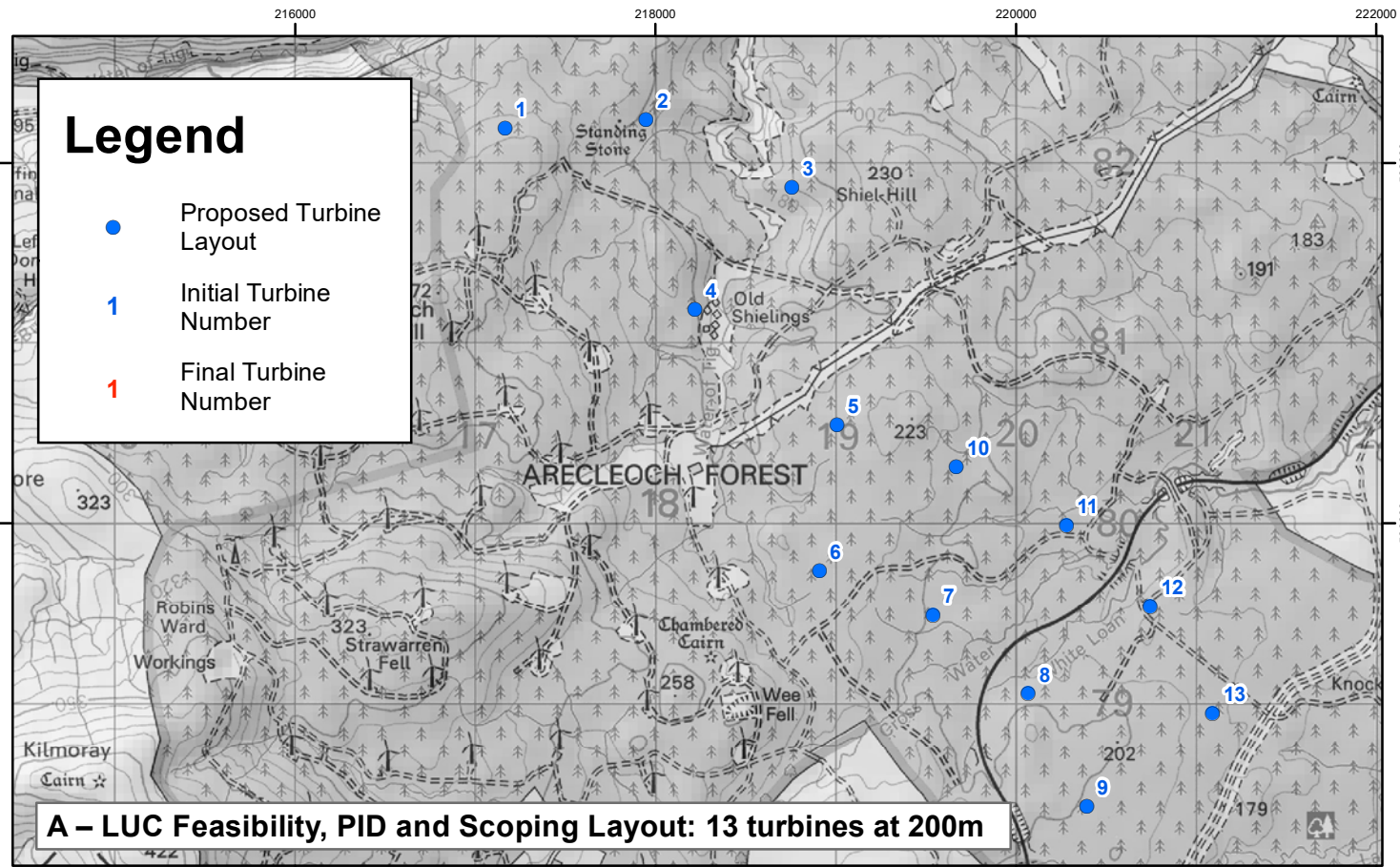
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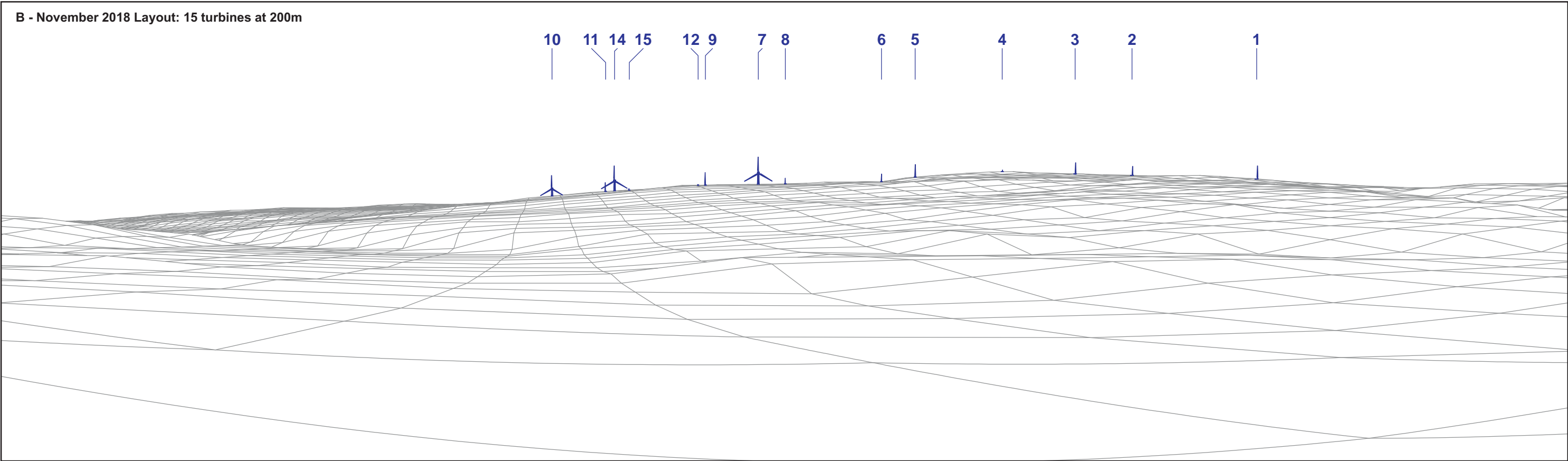
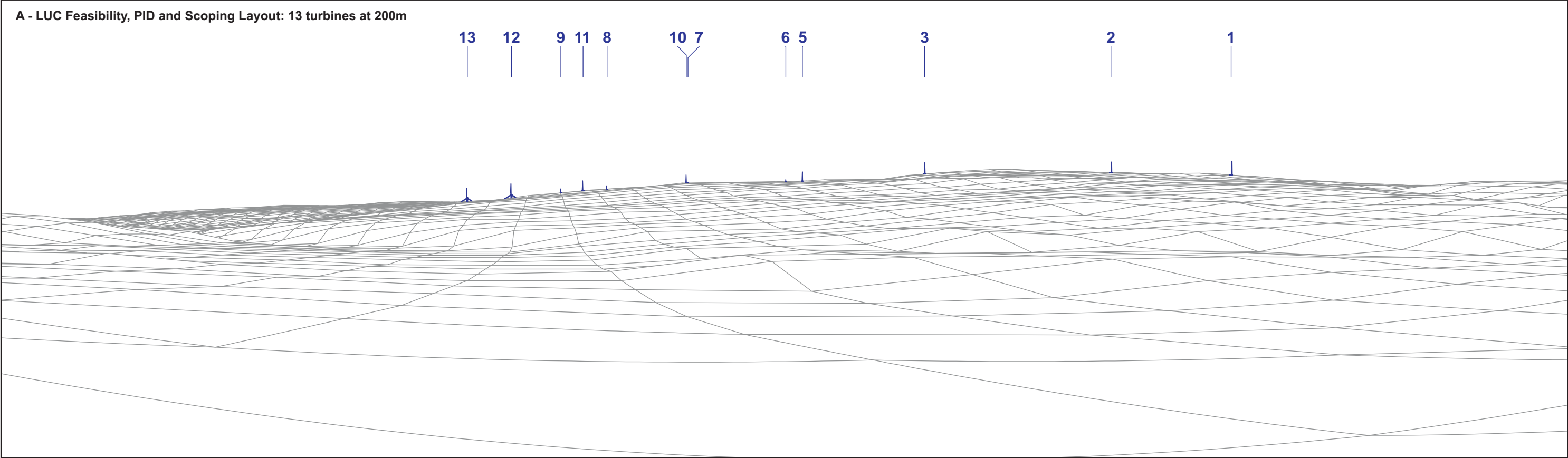
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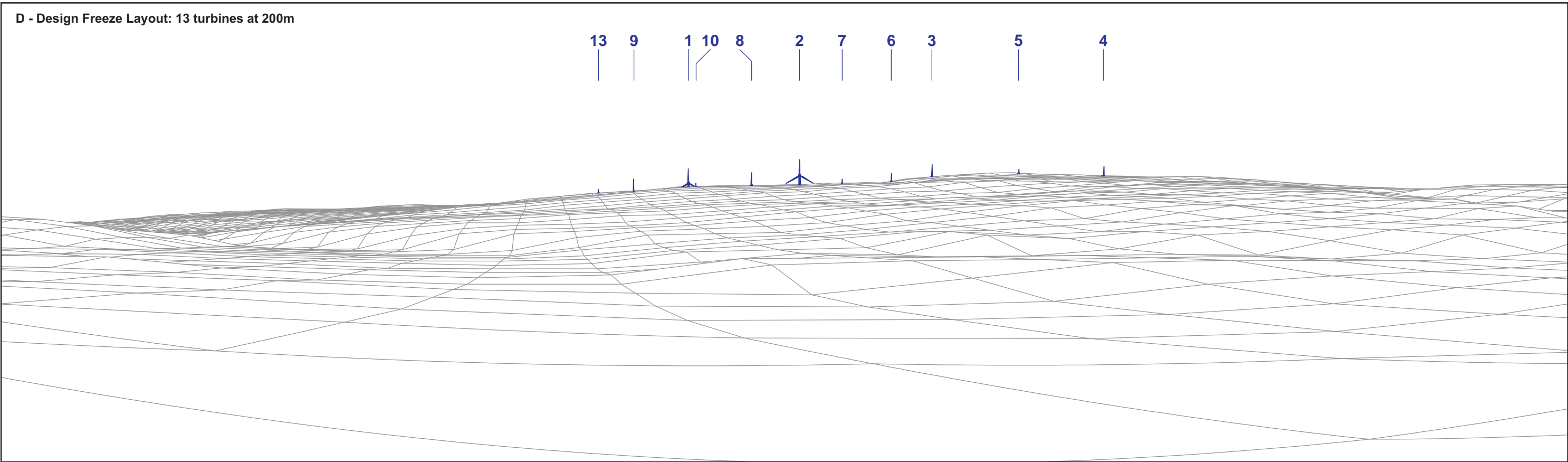
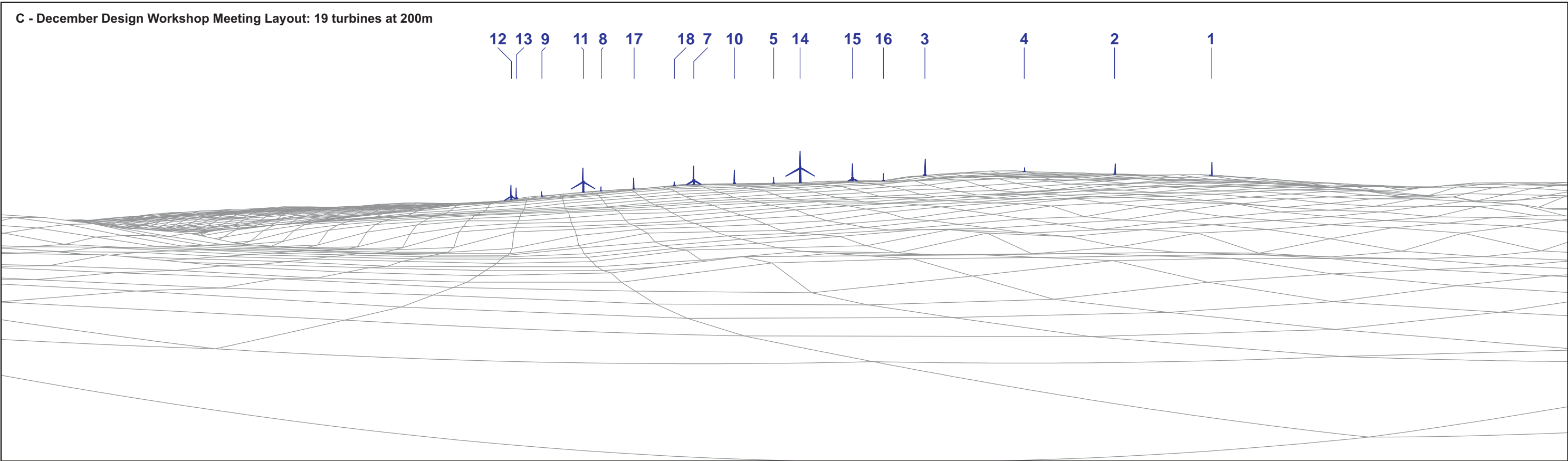
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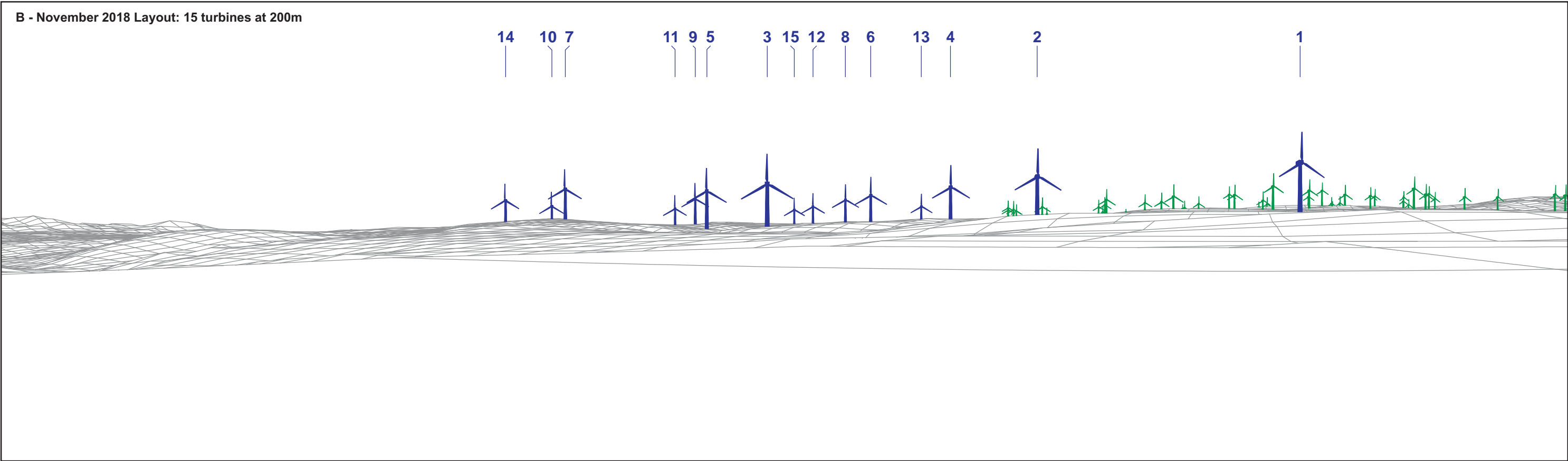
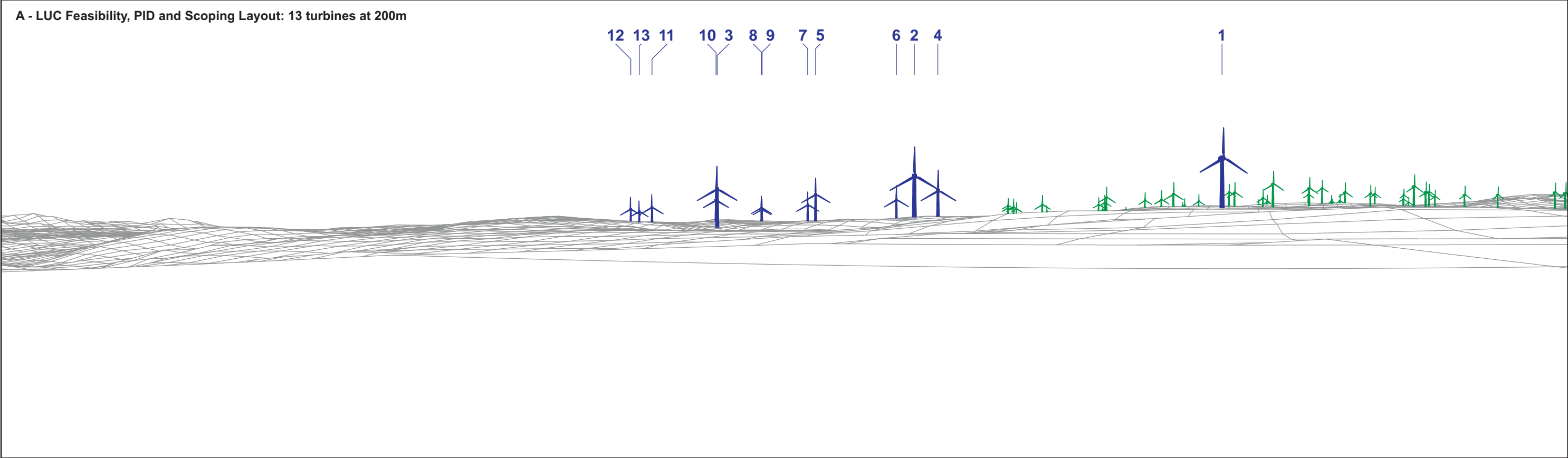
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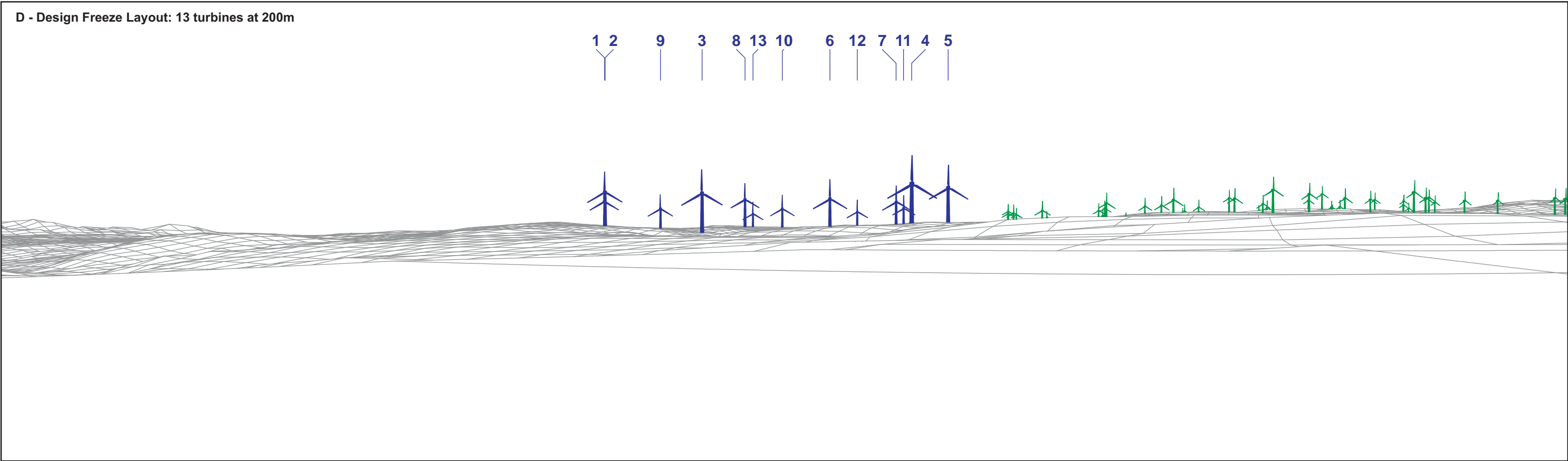
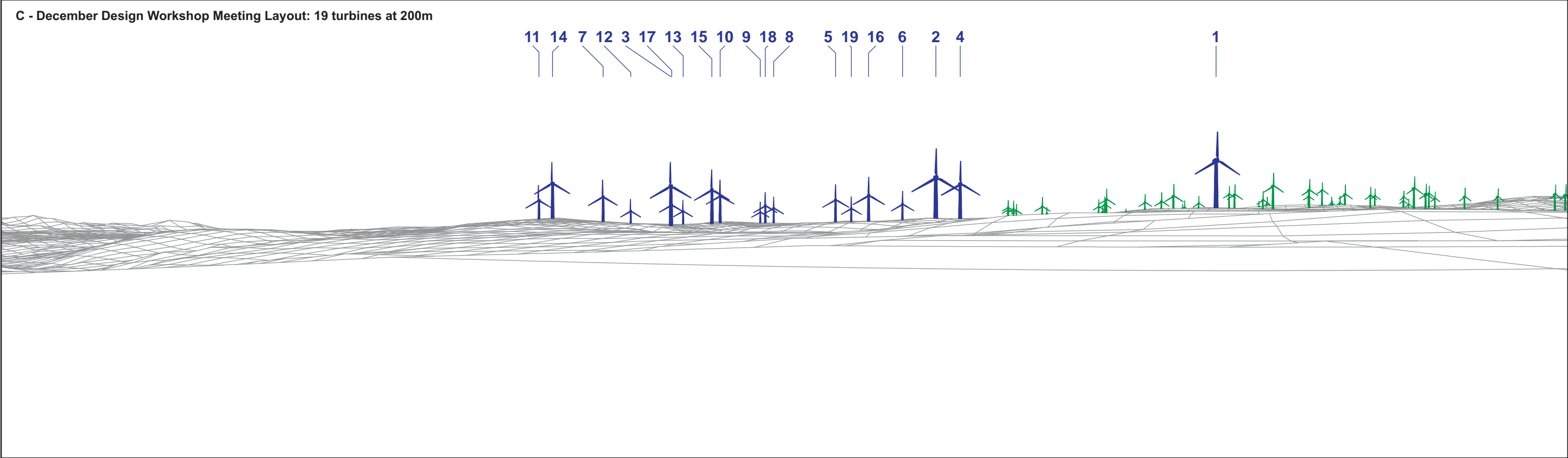
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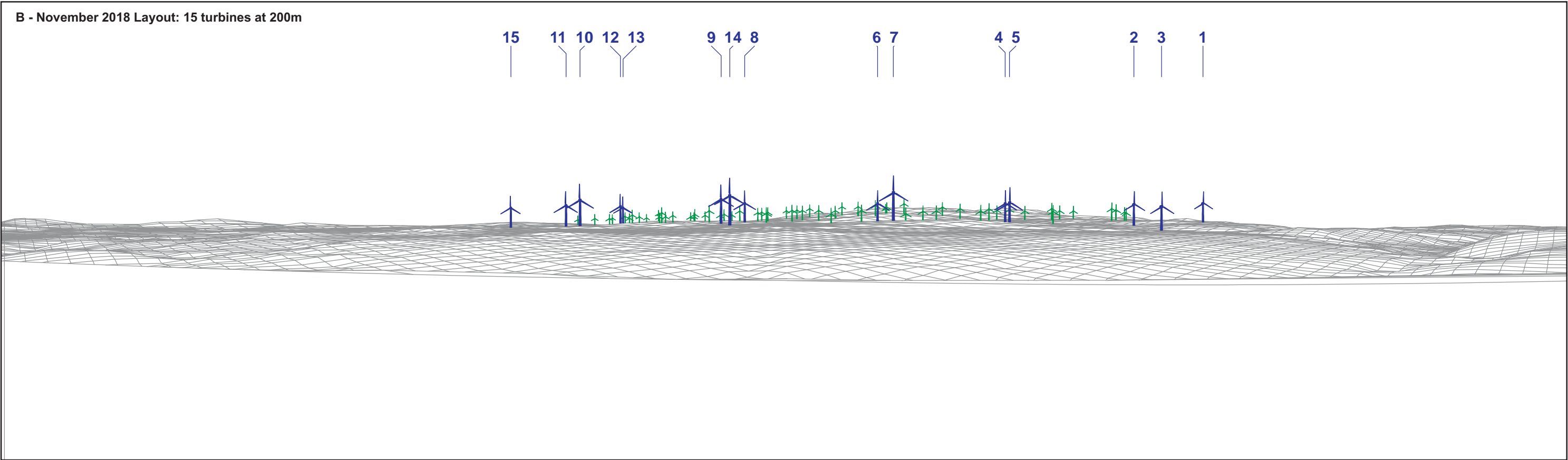
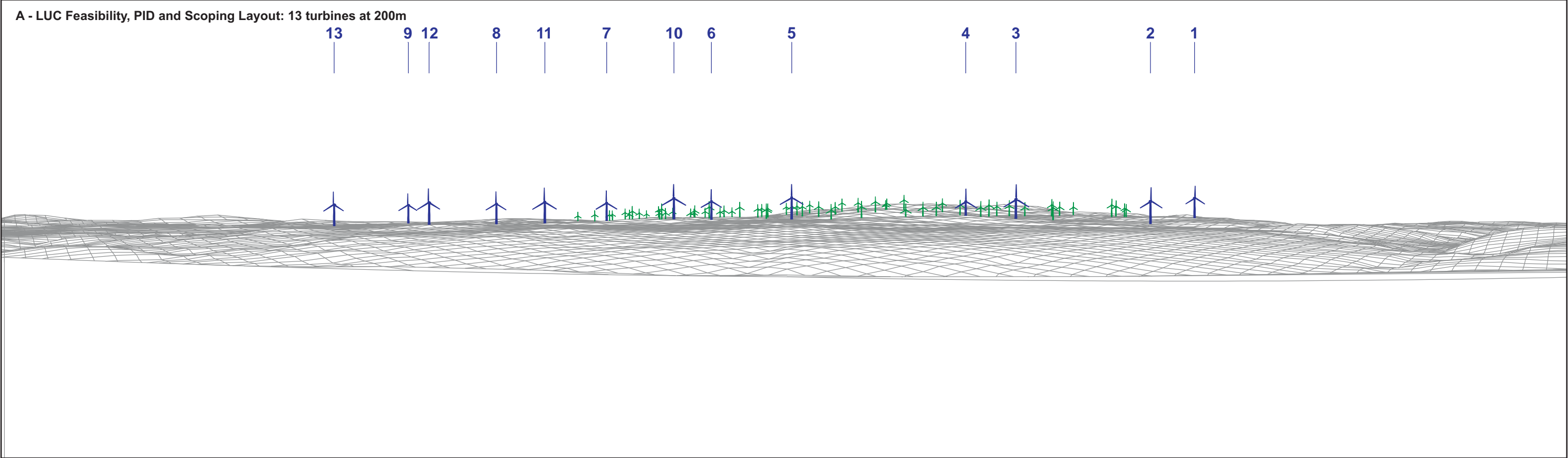


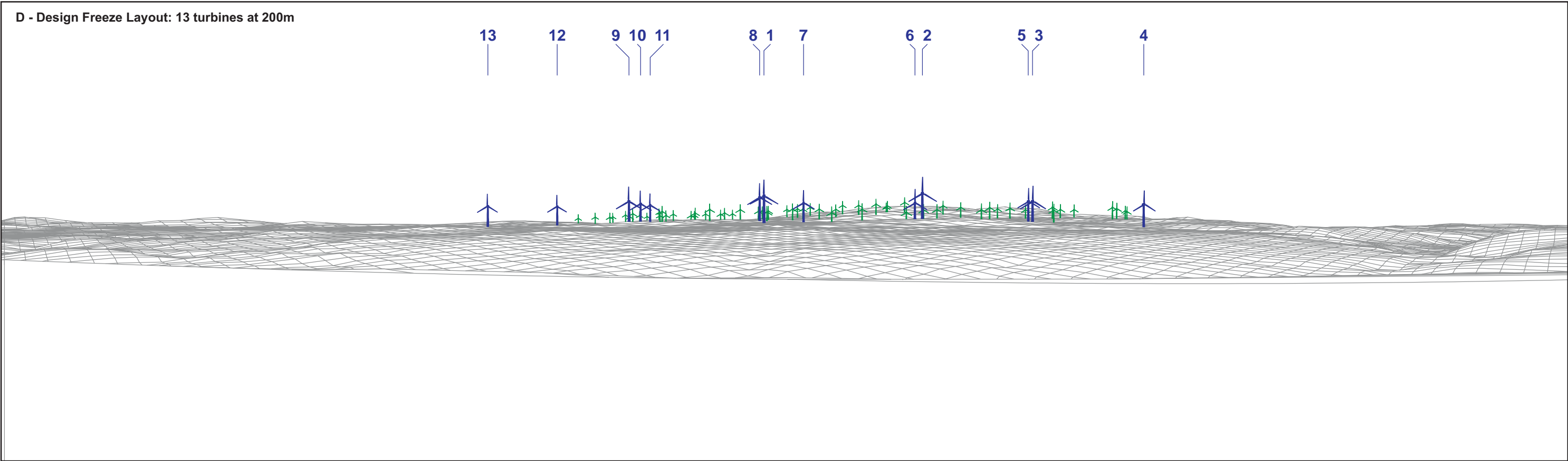
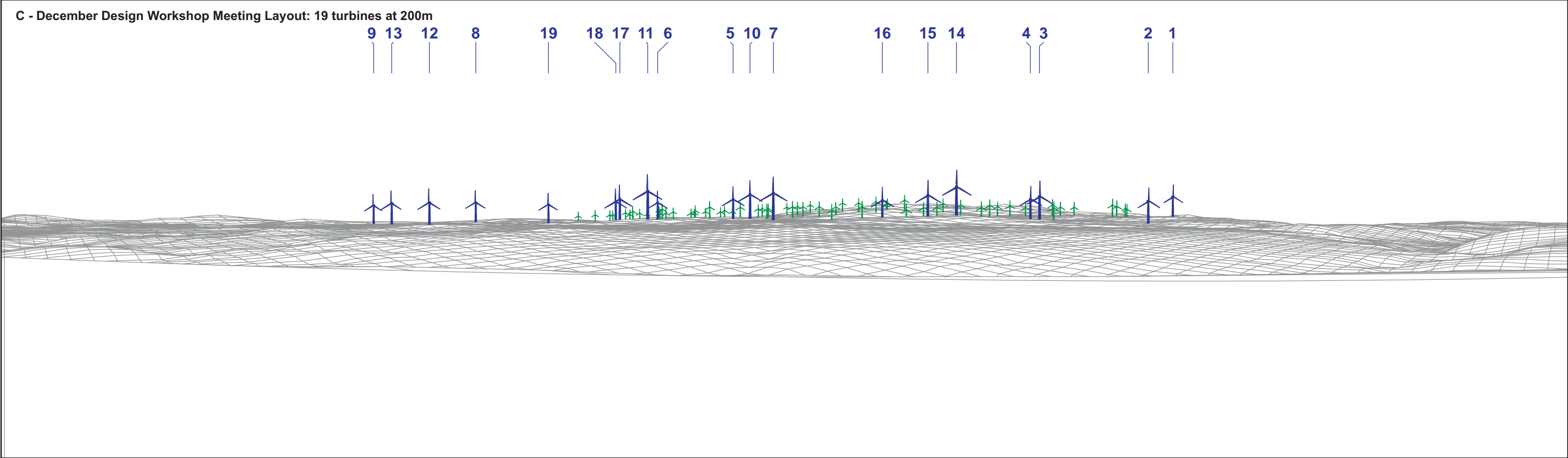


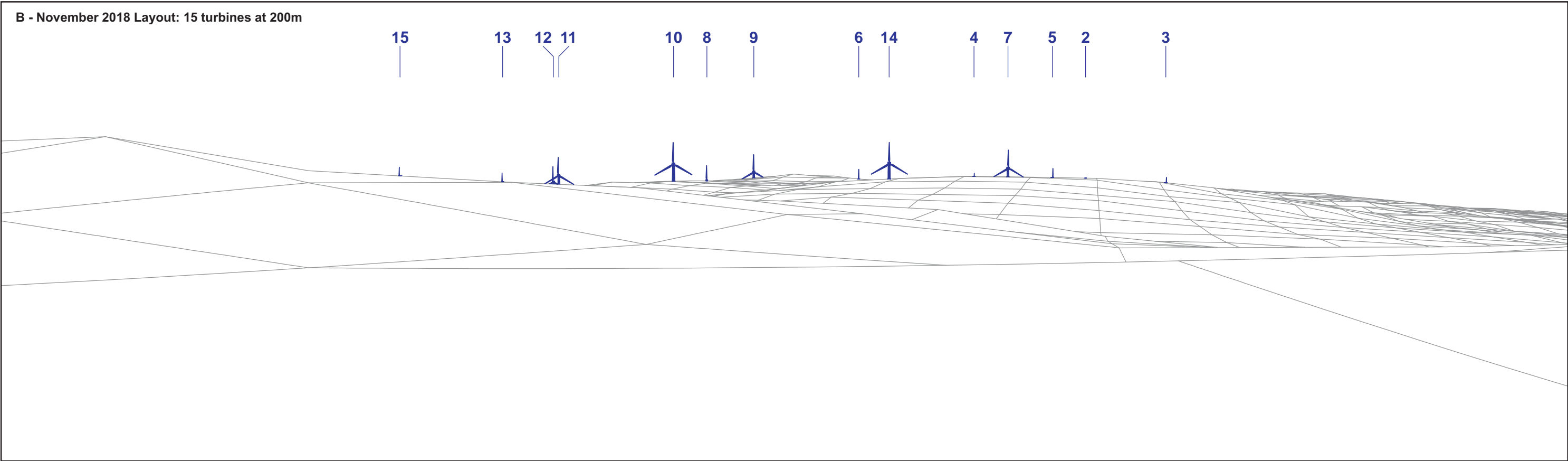
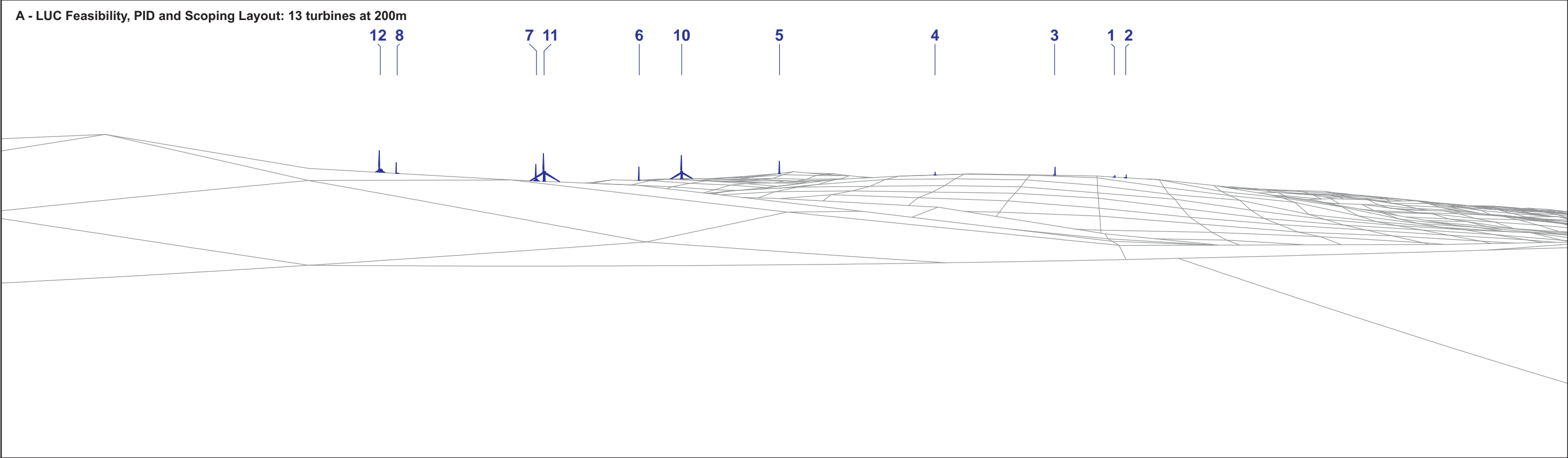


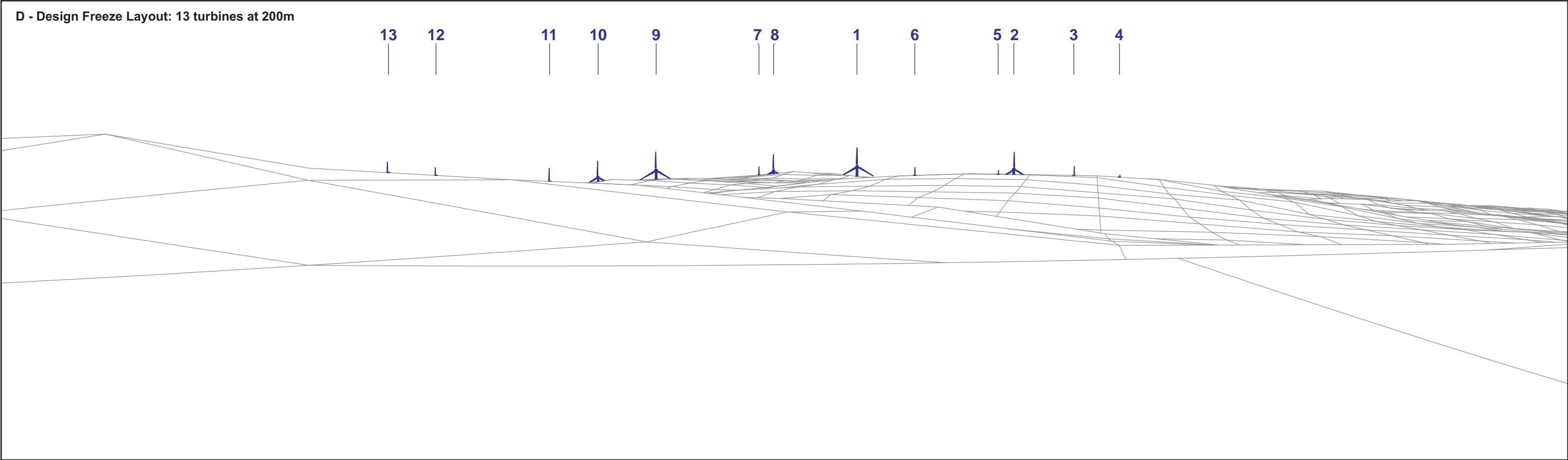
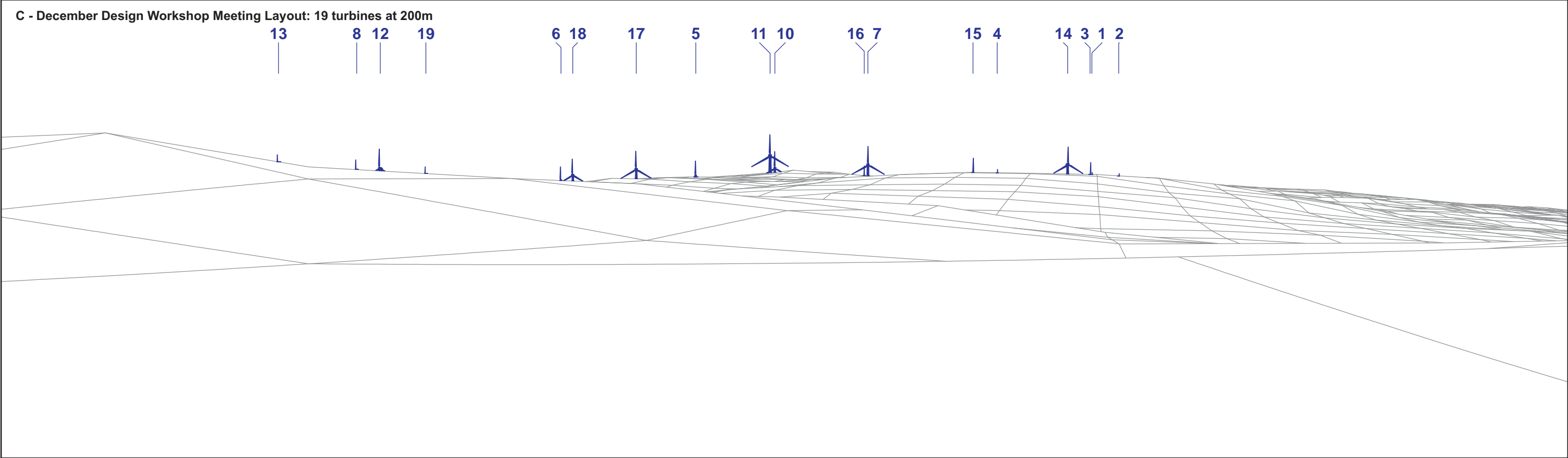





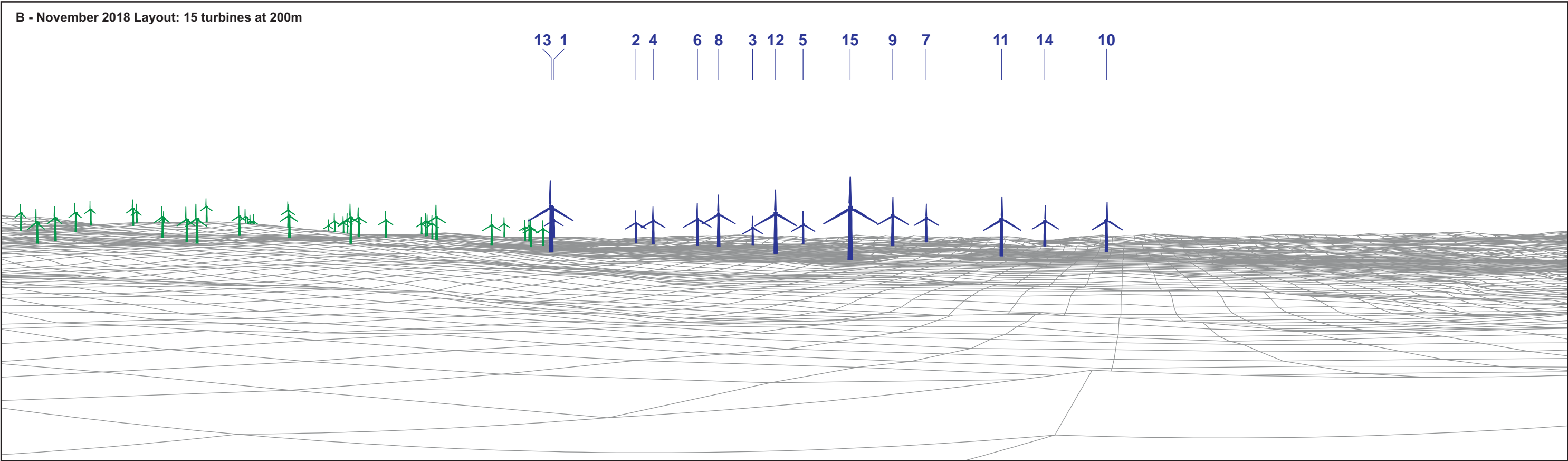
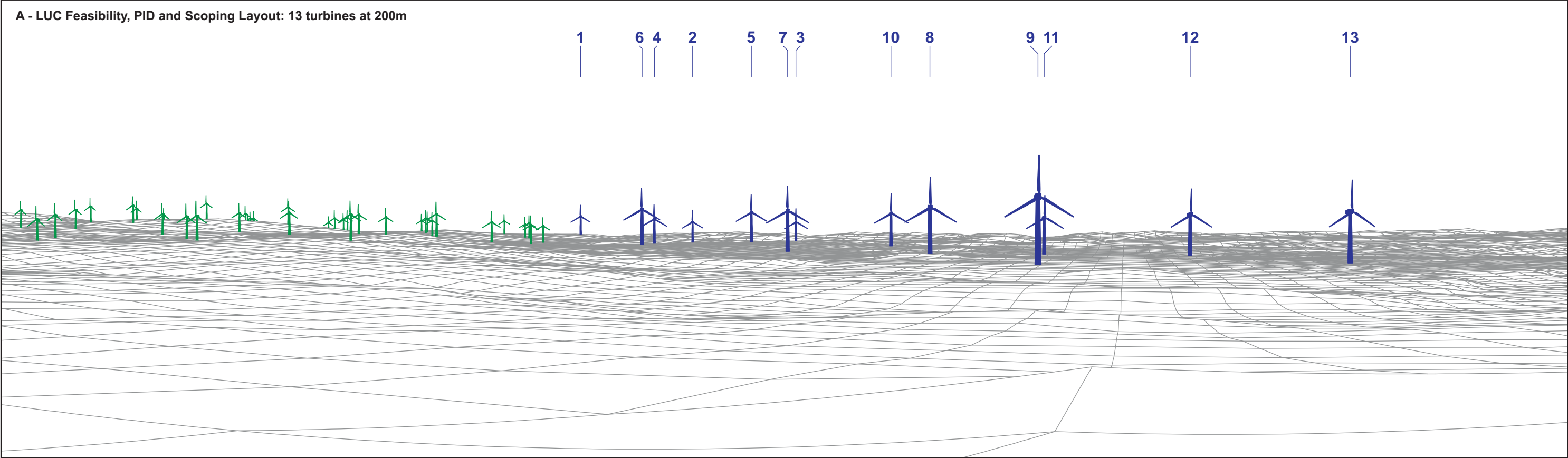




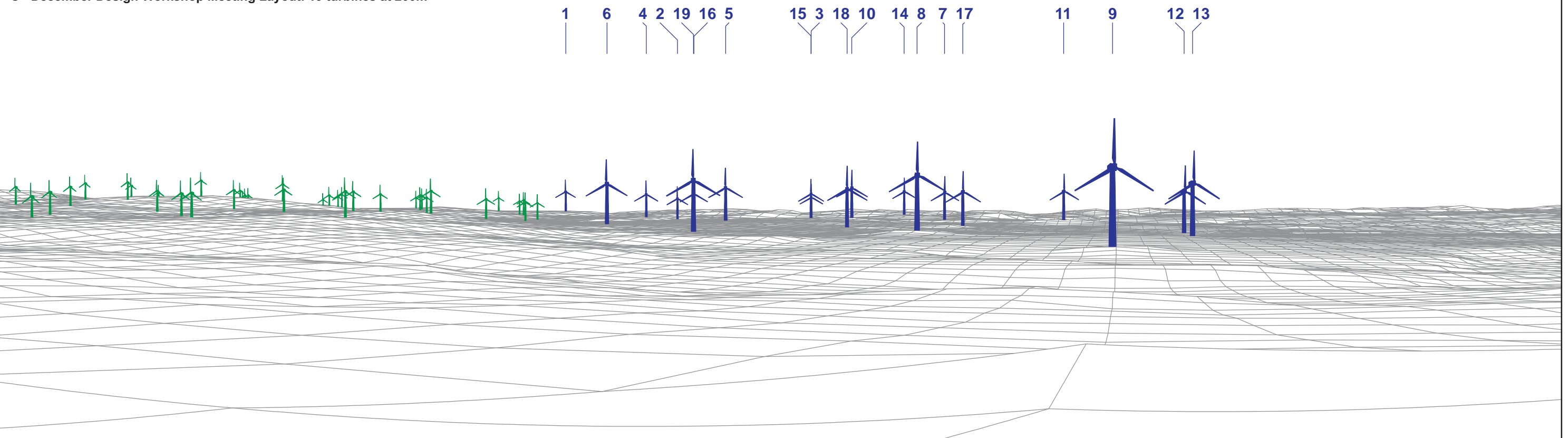




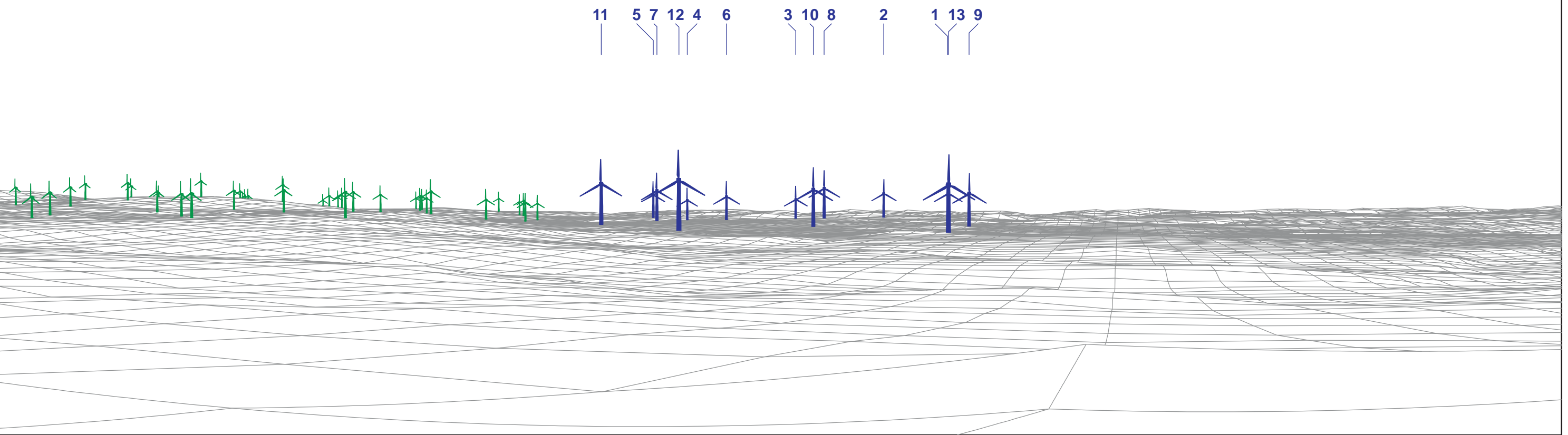
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C - December Design Workshop Meeting Layout: 19 turbines at 200m



D - Design Freeze Layout: 13 turbines at 200m



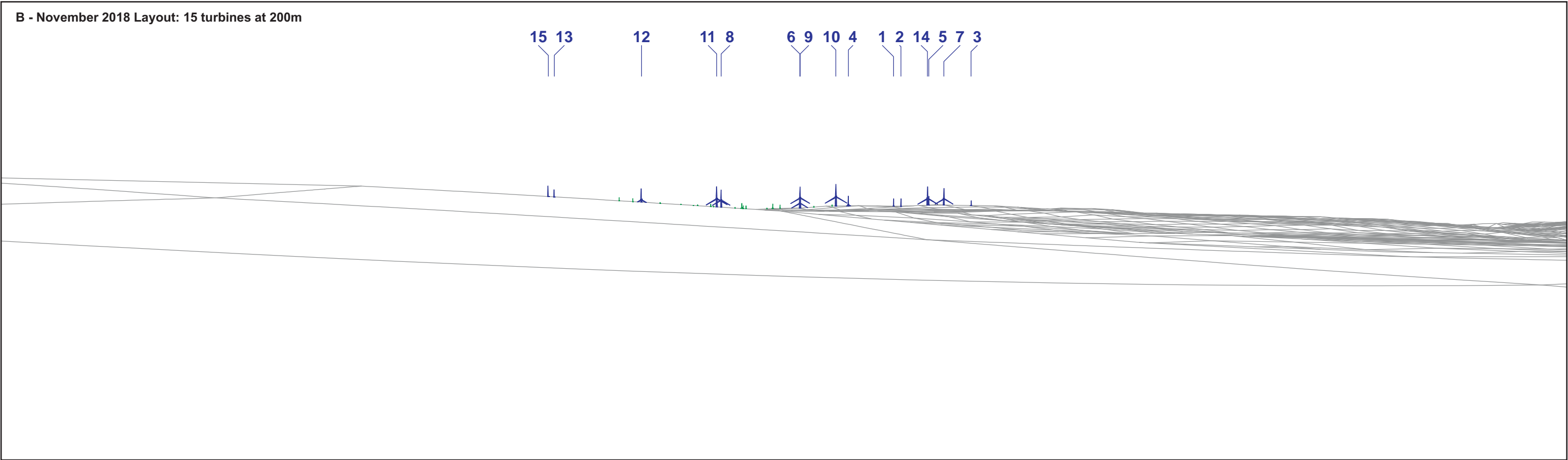
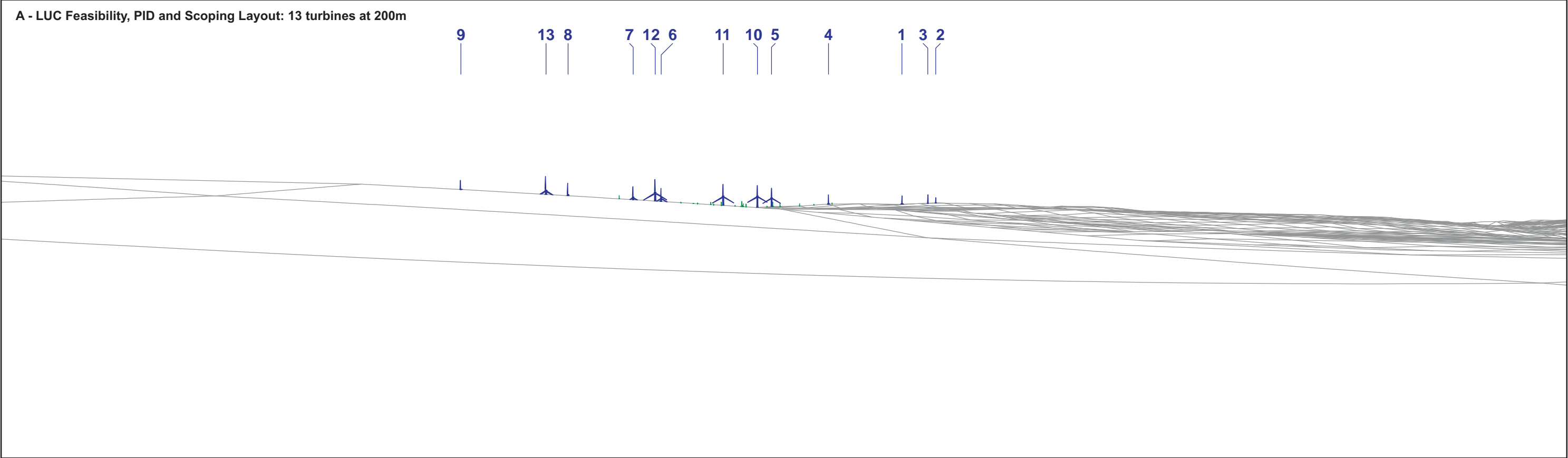
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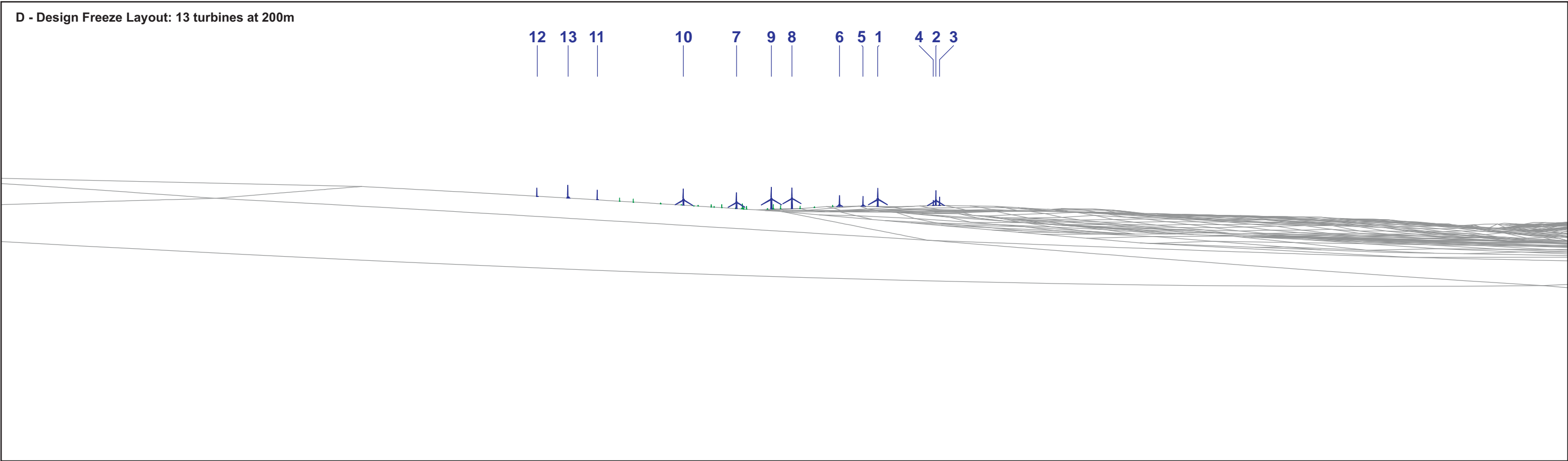
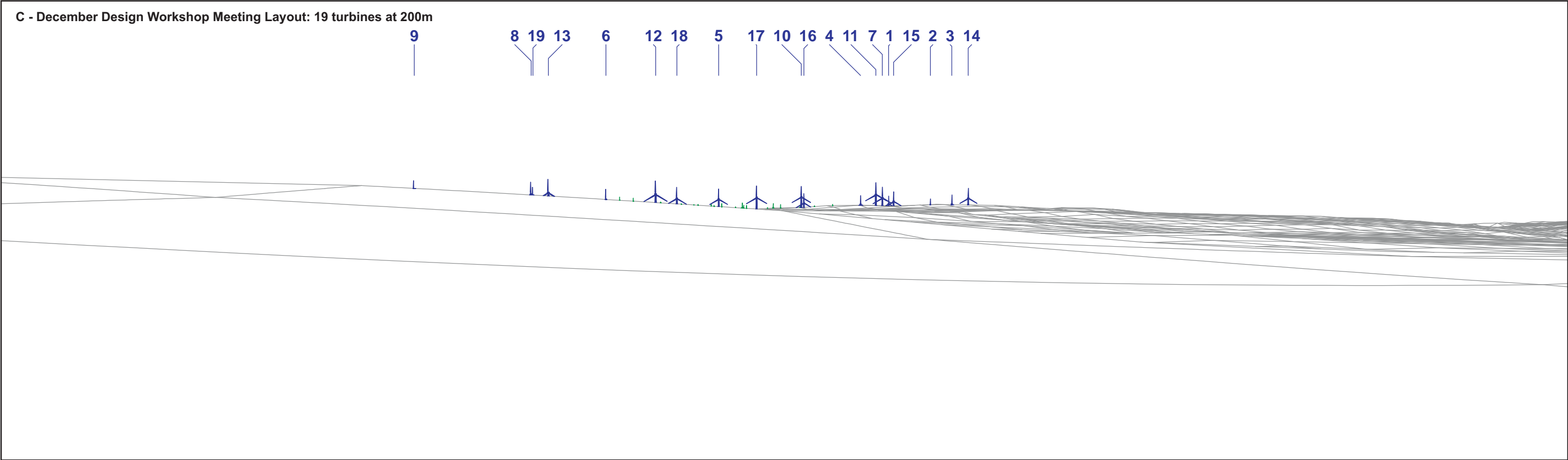
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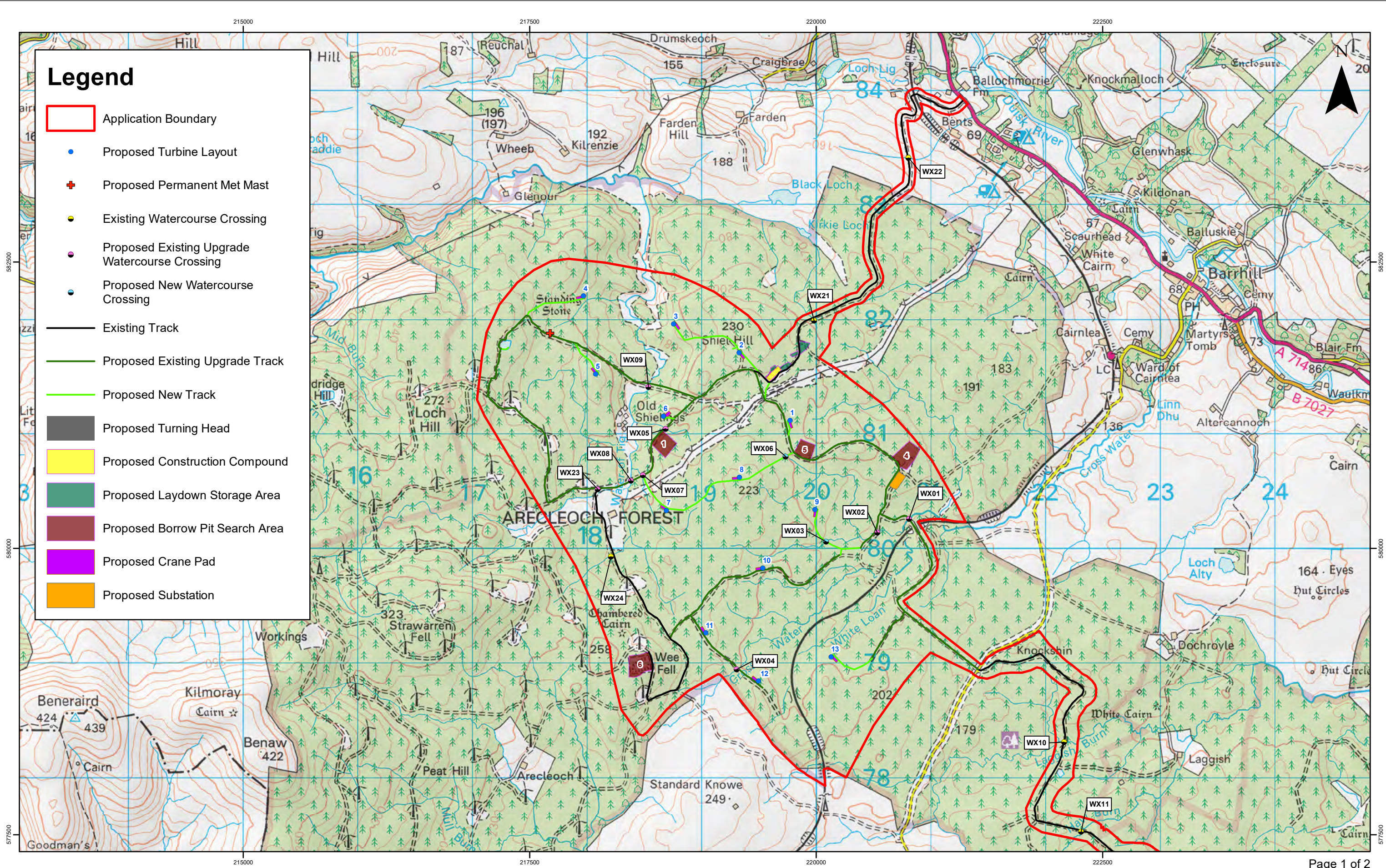
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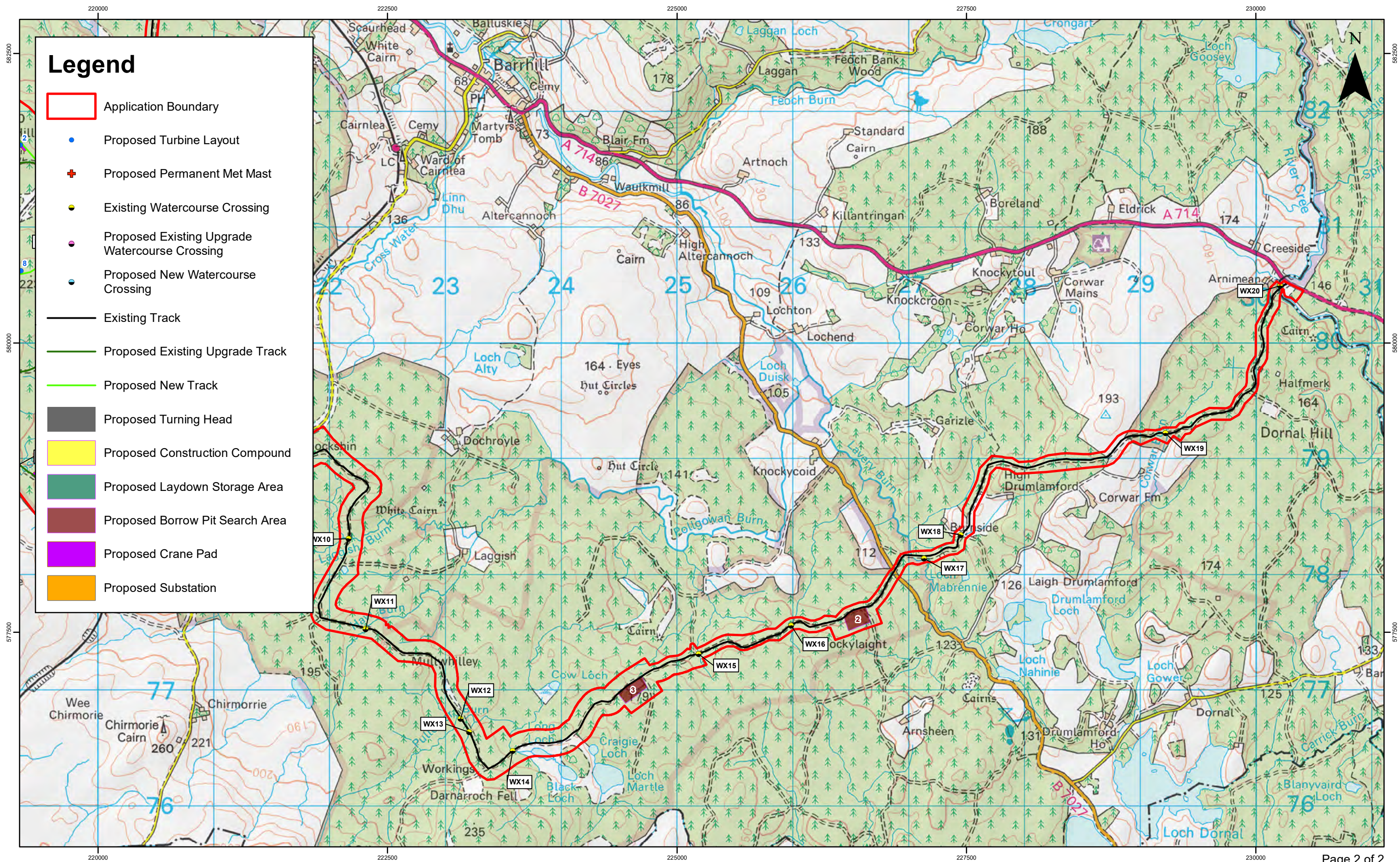
Arecleoch Windfarm Extension - EIAR
Design and Access Statement
View from Chirmorie Cairn

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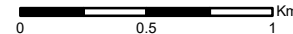






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Design and Access Statement

Proposed Site Layout

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