



BALBLAIR WIND FARM

Design and Access Statement
Wind Power North Two Limited
February 2025

Contents

1	INTRODUCTION	2
1.1	Background	2
1.2	Purpose of the DAS	3
1.3	Site Context	3
1.4	Environmental Designations	4
1.5	Project Description	5
1.6	The Applicant	5
2	PLANNING, ENERGY AND CLIMATE POLICY AND GUIDANCE	6
2.1	Climate Change and Renewable Energy Context	6
2.2	National Policy and Guidance	6
2.3	Local Planning Policy and Guidance	7
2.4	Other Documents	8
2.5	Policy Summary	8
3	DESIGN STATEMENT	9
3.2	Site Selection	9
3.3	Alternative Sites	9
3.4	Design Strategy	10
3.5	Design Evolution	11
4	ACCESS STATEMENT	15
4.2	Access	15
5	SUMMARY AND CONCLUSION	18

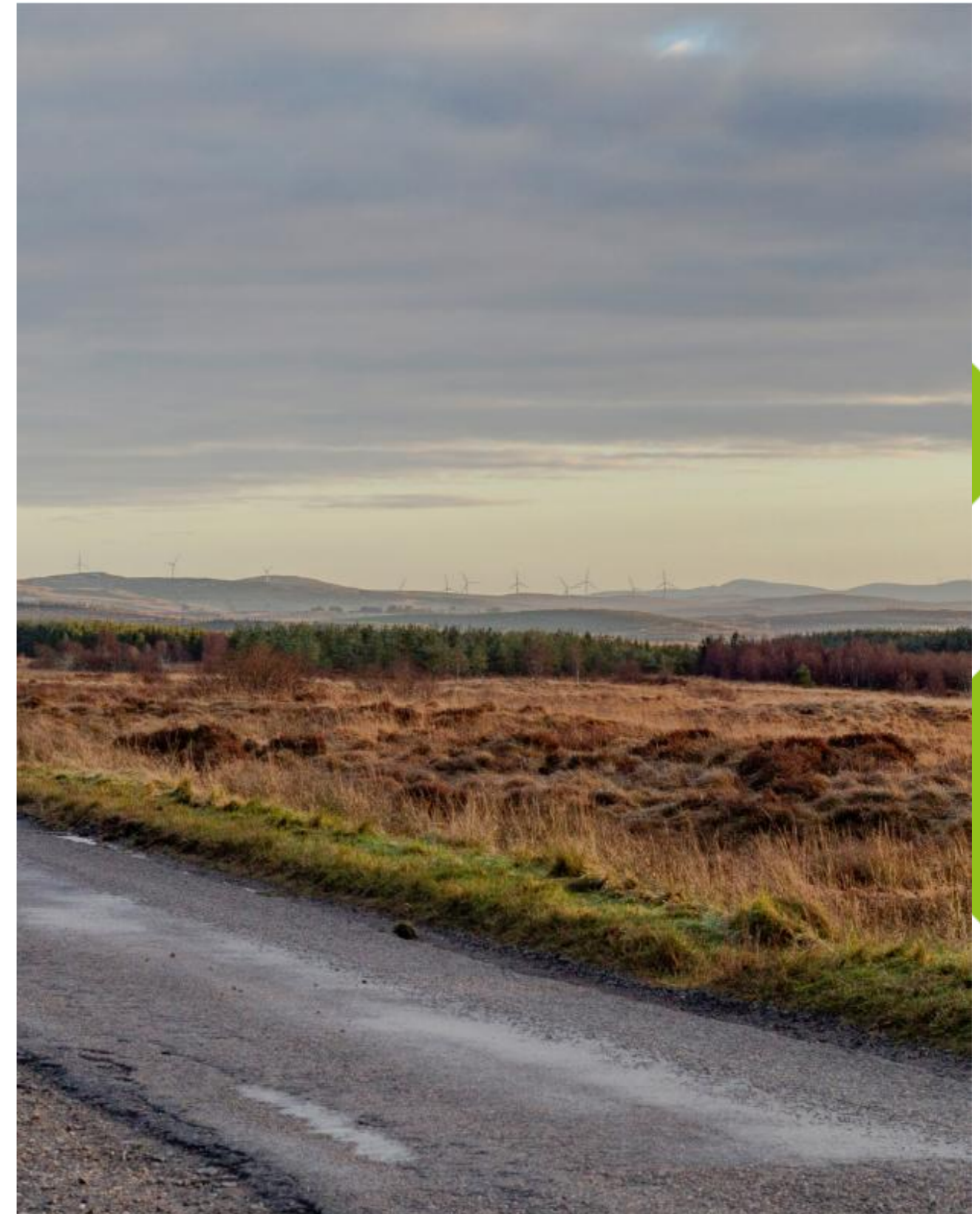


Image of Viewpoint 15: A836 Rhian Bridge

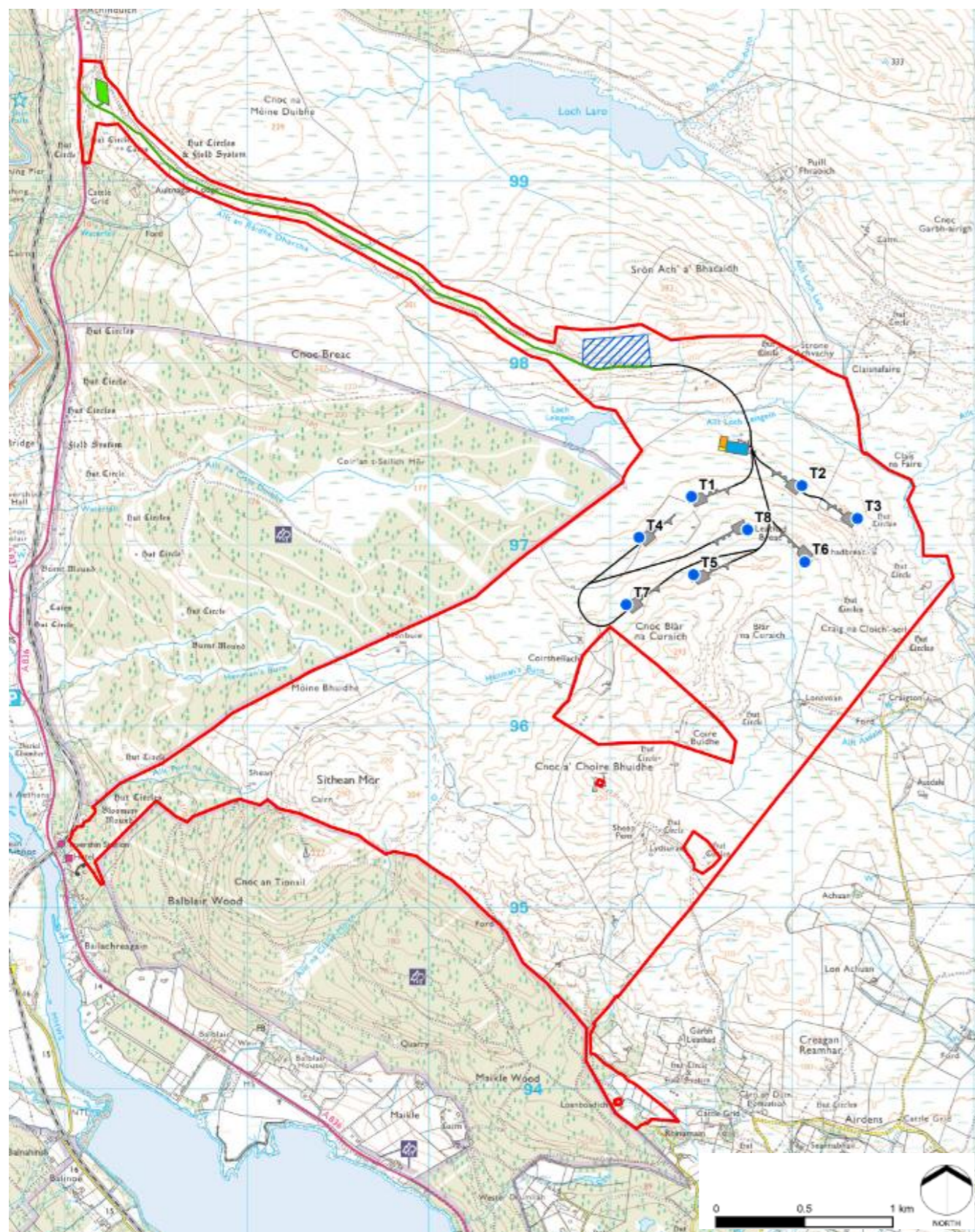


Figure 1.1: Site Layout Plan

1 INTRODUCTION

1.1 Background

1.1.1 This Design and Access Statement (DAS) has been prepared by Stephenson Halliday Ltd and RSK Environment Limited on behalf of the Applicant, Wind Power North Two Limited (hereby known as ‘the Applicant’) to accompany an application for consent to construct and operate the Balblair Wind Farm, comprising of up to 8 turbines and battery energy storage, together with associated infrastructure and ancillary development (as shown in **Figure 1.1**). The proposed Development layout is discussed further in this report.

1.1.2 The Site (the red line boundary area) is located on the Balblair Estate with access across the Achinduich Estate and lies approximately 2 km to the north-west of Bonar Bridge, within the jurisdiction of The Highland Council (‘THC’). The red line boundary, which includes the access road area and the Balblair Estate boundary, is shown on **Figure 1.2**.

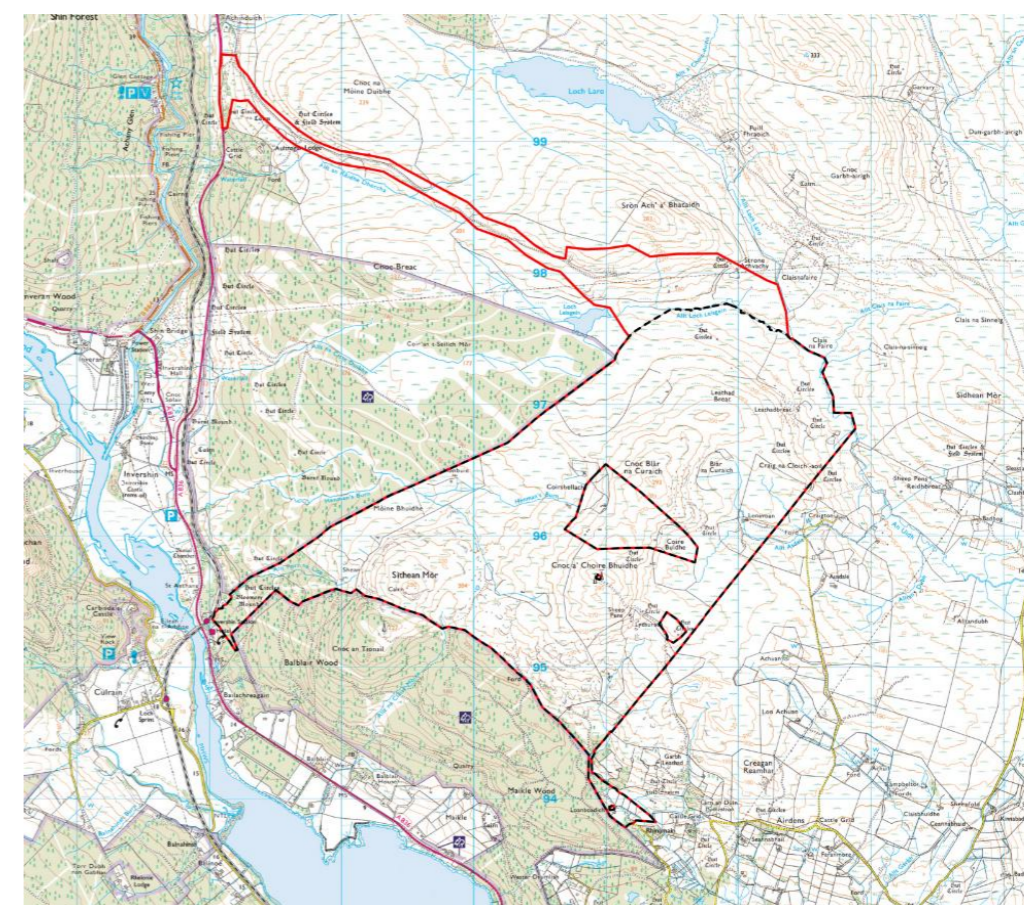


Figure 1.2: Red Line Boundary

1.1.3 As the total combined installed capacity of the proposed Development, which comprises a 36 MW wind farm and 30 MW battery energy storage exceeds 50 megawatts (50MW), the application will be considered under Section 36 of the Electricity Act 1989. The Application has been submitted to the Scottish Government Energy Consents Unit (ECU) for decision by the Scottish Ministers. In addition, the Applicant has requested that planning permission is deemed

to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended.

1.1.4 The Application, including this DAS, has been submitted alongside an Environmental Impact Assessment Report (EIA Report), which provides a detailed description of the baseline environment and assessment of impacts upon it, committed mitigation, and anticipated residual effects. The DAS should be read in conjunction with the other documentation accompanying the Application, in particular:

- the EIA Report (January 2025) comprising:
 - Volume 1 Non-Technical Summary (NTS);
 - Volume 2 Environmental Impact Assessment Report particularly Chapter 3, Site Selection and Alternatives Considered;
 - Volume 3 Figures and Visualisations; and
 - Volume 4 Technical Appendices.
- Planning Statement (Stephenson Halliday)
- Pre-Application Consultation Report
- Socio-economic Statement

1.1.5 This DAS comprises four parts, namely:

- **Planning, Energy and Climate Policy and Guidance:** This section provides an overview of relevant policy and guidance that has influenced the proposed Development's design progression. Further detail on relevant policy can be found in **Volume 2, Chapter 5 Planning and Energy Policy Context** of the EIA Report and a detailed assessment of the proposed Development against relevant policy is set out within the Planning Statement.
- **The Design Statement:** This section details the key design iteration stages and provides further details of the Site and its surroundings, the assessment of the design by the technical consultants at each stage and how this influenced the design iteration process. The proposed Development has evolved through the iterative EIA design process.
- **The Access Statement:** This section details how the Site will be accessed throughout the construction and operational phases. The Access Statement outlines that potential effects have been considered and details any mitigation measures proposed.

1.1.6 A DAS is not statutorily required for Applications under Section 36 of the Electricity Act 1989; however, the Applicant considers it is a useful tool to explain the design evolution process of the proposed Development to the decision makers and consultees, including the community. In

particular, it helps identify the design mitigation process required by NPF4 to demonstrate the efforts by the Applicant and consultant team to seek to reduce and mitigate any environmental effects of the proposed Development, as far as possible through design.

1.2 Purpose of the DAS

1.2.1 The purpose of the DAS is to provide information on the principles and approaches that have guided the design process. This DAS demonstrates how the proposed Development and its surroundings have been fully considered to ensure the final design achieves a balanced design considerate of a range of factors, including:

- Environmental;
- Technical (constructability and wind energy capture); and
- Economic factors which arose during the EIA process and how it relates to national and local policy.

1.2.2 This DAS also provides details on the access arrangements in terms of transport during construction and operation and the implications of the proposed Development on public access.

1.2.3 The DAS describes the design process and explains how the design has evolved, taking account of increasingly detailed environmental information and feedback from consultees and the public at each stage.

1.2.4 **Planning Advice Note 68: Design Statements**¹ states that a design statement '*should explain the design principles on which the development is based and illustrate the design solution.*'

1.2.5 This DAS seeks to fulfil these requirements by exploring the design evolution process from initial concepts to final design and the factors that have influenced this. It also provides the details considered in the design of the access route arrangements and the implications of the proposed Development for public access and recreation.

1.3 Site Context

1.3.1 The Site covers an area of approximately 771 hectares (ha). The context of the Site is outlined below.

- The proposed Development would occupy an area which consists primarily of raised and blanket bogs, seasonally wet and wet grassland, temperate shrub heathland, dry grasslands, and mesic grassland. The land is crofted and predominantly used for rough grazing. The proposed development, excluding the access route from the public road, is set on Common Grazings.
- The Site also includes minor patches of mixed deciduous and coniferous woodland, as well as various wetlands and scrub types. Additionally, Scots pine woodland, broad-leaved

¹ <https://www.gov.scot/publications/planning-advice-note-68-design-statements/>

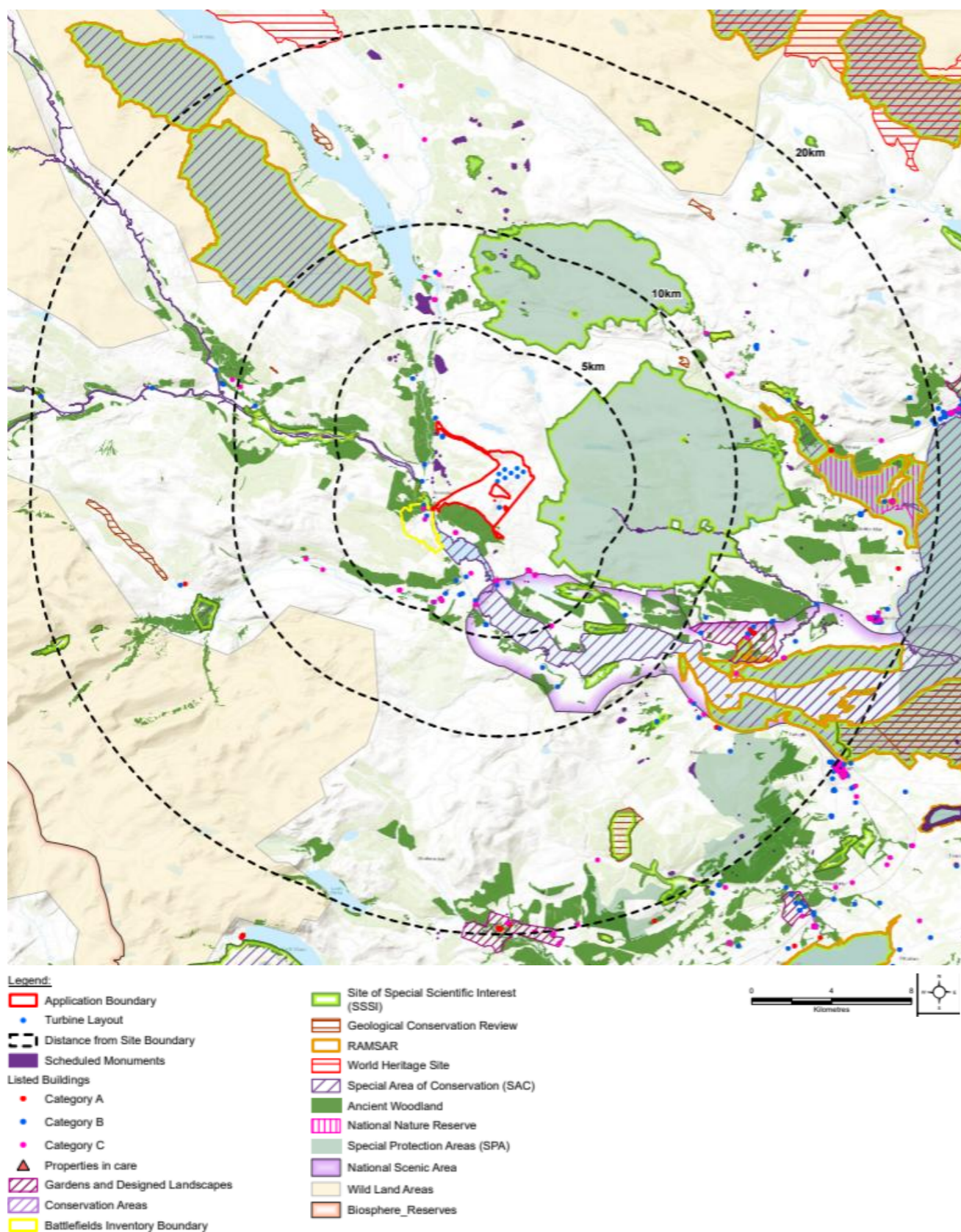


Figure 1.3: Environmental Designations

deciduous woodland, and commercial coniferous plantations are found along the western border, with the area primarily used for rough grazing. Forestry and Land Scotland (FLS) owns the forests which adjoin the Estate to the north-west and south. Parts of the blanket bog habitats are degraded by self-seeded non-native conifer.

- The land to the north is subject to consent for development for the Garvary Wind Farm, while Lairg Wind Farm and its extension is located further north. Access to the Site is expected to be shared with the proposed access for the Garvary Wind Farm from the west via the A836 at Invershin.
- The area surrounding the proposed Development features various crofts and scattered residential properties to the east.

1.4 Environmental Designations

1.4.1 The key environmental designations within the surrounding area are shown in **Figure 1.3**, to the left. Site specific constraints are detailed under **Section 3: Design Statement**.

1.4.2 The Site of the proposed Development is not subject to any specific environmental designations. Designations within 10km of the Site include:

- Alladale Pinewood Site of Special Scientific Interest (SSSI);
- Alladale Pinewood SSSI;
- Allt Doir' a' Chatha Geological Conservation Review Sites (GCRS);
- Amat Wood SSSI;
- Black Park, Edderton SSSI;
- Caithness and Sutherland Peatlands Special Areas of Conservation (SAC)/Special Protection Areas (SPA)/ Ramsar Site;
- Craigroy Burn SSSI;
- Dornoch Firth SSSI/ Ramsar Site;
- Dornoch Firth and Loch Fleet SPA/ Ramsar Site;
- Dornoch Firth and Morrich More SPA/ Ramsar Site;
- Easter Fearn SSSI;
- Grudie Peatlands SSSI;
- Kyle of Sutherland Marshes SSSI;
- Ledmore Wood SSSI/Special Area of Conservation (SAC);

- Loch Airighe Bheg GCRS;
- Migdale Rock SSSI;
- River Evelix SPA;
- Strath Carnaig and Strath Fleet Moors SSSI/ SPA; and
- Spinningdale Bog SSSI.

1.5 Project Description

1.5.1 The proposed Development is to generate electricity from renewable energy sources and directly responds to national planning and energy policy objectives and emissions reduction law. The Scottish Government's Energy Strategy (2017) highlights the crucial role of onshore wind developments in reducing carbon emissions from electricity supplies. Additionally, the Scottish Government's Onshore Wind Policy Statement (2022) outlines an ambitious goal to deploy 20 GW of onshore wind capacity by 2030. Importantly, this target is not a cap; Scottish Ministers acknowledge that renewable energy generation will be necessary beyond 2030 to meet increasing energy demands. The Scottish Government consulted on the Draft Energy Strategy and Just Transition Plan between January 2023 and May 2023², which provides a way to achieve a flourishing net-zero energy system by 2030 and beyond. The Draft Strategy identifies the clear benefits of onshore wind projects and states that the generation of surplus electricity will enable the export of electricity and production of renewable hydrogen to support decarbonisation across Europe and provide energy security through the development of Scotland's own energy resources and storage. Significant weight is required to be given to these contributions in the planning balance.

1.5.2 The proposed Development includes up to eight wind turbines, with six having a maximum blade tip height of 180 m and the remaining two having a maximum blade tip height of 200 m. Associated infrastructure and ancillary development will include:

- a means of access from the public road to the Site to be shared with the now consented Garvary wind farm;
- turbine foundations and crane hardstandings;
- transformer/switchgear housings located adjacent to turbines;
- new internal access tracks and upgrade of a segment of existing track with associated drainage, and new watercourse crossings;
- underground electrical cables connecting the turbines to the on-site substation;

- temporary wind farm construction compound areas, laydown areas and car parking;
- a substation compound with a control building with closed-circuit television mast(s) and communication mast(s);
- battery energy storage;
- borrow pit search areas; and
- habitat enhancements

1.5.3 The proposed Development has undergone a robust design iteration process, taking consideration of the pre-application and scoping responses from statutory consultees and has gone through a series of community consultation events, and technical discipline design input. The detailed Site layout is illustrated in **Section 3: Design Statement**. The layout has been designed to maximise energy yield effectively whilst seeking to minimise environmental effects. This is in line with current national policy which seeks to maximise the energy potential of suitable sites.

1.6 The Applicant

1.6.1 The Application has been made by Wind Power North Two Limited (the 'Applicant'), a wholly owned subsidiary of Vestas Development A/S ('Vestas') and developed under the terms of an agreement between Force 9 Energy Limited (Force 9) and Vestas. Through this agreement, Force 9 leads on the development process of wind farm proposals up to consent. Force 9 is supported during this period by Vestas both financially and with staff resources requested by Force 9 on issues such as access, engineering design, turbine selection, wind flow and optimisation of energy capture.

1.6.2 Force 9 is a dedicated wind farm development company with a focus on the UK market. To date, and at the time of writing, Force 9 has taken 16 developments through the planning/consenting process, ten of which have been consented. Six of these sites are in operation and three are in pre-construction.

1.6.3 Vestas is, by many measures, the leading global manufacturer and supplier of wind turbines. Vestas has installed over 85,000 turbines with a capacity of over 171,000 MW in 88 countries worldwide. In addition, Vestas has a broad range of experience of project development issues including turbine siting and optimisation, grid connection and construction management. They maintain and service over 85,000 turbines worldwide amounting to 146,000 MW.

²<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/01/draft-energy-strategy-transition-plan/documents/draft-energy-strategy-transition-plan/draft-energy-strategy-transition-plan/govscot%3Adocument/draft-energy-strategy-transition-plan.pdf>

2 PLANNING, ENERGY AND CLIMATE POLICY AND GUIDANCE

2.1.0 A separate Planning Statement has been prepared for the Application which outlines the planning, climate and energy policy context and provides an assessment against relevant considerations. This section of the DAS outlines the relevant energy and climate context and national and local planning policy, which has been taken into account in the design iteration process.

2.1 Climate Change and Renewable Energy Context

2.1.0 The **Green Industrial Strategy**³, published by the Scottish Government on 11 September 2024, identifies areas of competitive global growth and opportunities for Scotland to realise the maximum possible economic benefit in the transition to Net Zero. The Strategy outlines the significant opportunities for attracting onshore and offshore wind. Page 21 states: *“Onshore wind is the biggest single technology in Scotland’s current mix of renewable electricity generation, comprising 62% of installed capacity. A thriving onshore wind sector is therefore critical to the decarbonisation in Scotland and the UK.”*

2.1.1 The **Draft Energy Strategy and Just Transition Plan**⁴ (January 2023) (DESJTP) was published for consultation until May 2023. The DESJTP sets out the importance of utilising Scotland’s vast renewable energy resource in order to meet Scotland’s climate change ambitions and to *“deliver maximum benefits to Scotland’s people, workers, communities and economy”*. The DESJTP reflects upon the Scottish Government’s Onshore Wind Policy Statement 2022, which set the ambition of increasing Scotland’s existing renewable electricity capacity from 9GW in 2022 to 20GW by 2030.

2.1.2 The **Onshore Wind Policy Statement 2022**⁵, (21 December 2022) (OWPS) alongside NPF4 provides guidance on the key considerations for assessing onshore wind applications. As the most recently approved policy document relating specifically onshore wind, the OWPS should be given significant weight in the decision-making process. The 20 GW of onshore wind by 2030 is not a cap, but a minimum requirement. Paragraph 5.3.8 of the OWPS recognises the value and benefits of co-locating onshore wind with battery storage.

2.1.3 The OWPS also reflects the need for energy security and affordability and confirms that *“continued deployment of onshore wind will be key to ensuring our 2030 targets are met”* and that *“Onshore wind has the ability to be deployed quickly, is good value for consumers and is widely supported by the public.”*

2.1.4 The OWPS recognises that to achieve the 20 GW target there is a need for taller turbines which

³ <https://www.gov.scot/publications/green-industrial-strategy/documents/>

⁴ <https://www.gov.scot/publications/draft-energy-strategy-transition-plan/>

⁵ <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/>

will result in changes to the landscape. Paragraph 3.6.1 states: *“Meeting our climate targets will require a rapid transformation across all sectors of our economy and society. This means ensuring the right development happens in the right place. Meeting the ambition of a minimum installed capacity of 20 GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape.”*

2.2 National Policy and Guidance

2.2.1 In 2019, Scottish Government was one of the first in the world to announce a climate emergency⁶ and has since set ambitious climate change legislation, with total, interim and yearly targets towards net zero emissions of all greenhouse gases by 2045⁶. Increasing the proportion of renewable energy in the national energy mix is a key component to achieving greenhouse gas emission reduction and the Onshore Wind Policy Statement (2022) emphasises the Scottish Government’s intent to maintain a supportive policy and regulatory framework for onshore wind, co-located with battery, in order to ensure Scotland continues to build its onshore wind capacity. It sets a minimum challenging target of 20GW onshore wind by 2030. Not only would this reduce the carbon intensity of Scotland’s energy mix and contribute to climate change targets but would also improve energy security and reduce reliance upon energy commodities such as gas which are subject to global price shocks.

2.2.2 To achieve these ambitions, there has been a significant shift in policy and guidance, recognising the need for taller machines and that this will change the landscape. Scottish planning policy protects the most valued Scottish landscapes, including National Parks and National Scenic areas, indicating that with careful design and mitigation, there is scope elsewhere to accommodate onshore wind development.

2.2.3 This DAS confirms the relevant policy and guidance taken into account and the response, a careful design iteration process to mitigate the proposed Development as far as possible. It also sets out the proposed Developments contribution to meeting:

- The climate crisis;
- The nature crisis; and
- Renewable energy generation requirements.

National Planning Framework 4

2.2.4 National Planning Framework 4 (NPF4)⁸ was adopted in February 2023 and forms part of the Development Plan. It sets out Scotland’s spatial principles, regional priorities, national developments, and national planning policy. The national spatial strategy of NPF4 is for Scotland’s future places to be *“net zero, nature-positive places that are designed to reduce*

⁶<https://www.gov.scot/publications/global-climate-emergency-scotlands-response-climate-change-secretary-roseanna-cunninghams-statement/>

⁷ <https://www.gov.scot/policies/climate-change/>

⁸ <https://www.gov.scot/publications/national-planning-framework-4/>

emissions and adapt to the impacts of climate change whilst protecting, recovering, and restoring our environment.”

2.2.5 **Policy 11** of the NPF4 is the most relevant Development Management policy within the Development plan. It sets out the Scottish Government's intent to encourage, promote and facilitate renewable energy developments and the desire to expand “renewable, low-carbon and zero-emission technologies”. It recognises that significant landscape and visual impacts are to be expected for some forms of renewable energy and where these are localised and/or design mitigation has been applied, will be generally acceptable. In considering impacts it also introduces a significant weight to be given to the contribution to renewable energy and greenhouse gas emission targets when balancing the benefits against any impacts.

2.2.6 Specifically, Policy 11 requires that the Applicant demonstrates how Site design and mitigation has addressed the following impacts:

- communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;
- landscape and visual impacts;
- public access, including impact on long-distance walking and cycling routes and scenic routes;
- aviation and defence interests including seismological recording;
- telecommunications and broadcasting installations;
- road traffic and on adjacent trunk roads, including during construction;
- historic environment;
- hydrology, the water environment and flood risk;
- biodiversity, including impacts on birds;
- impacts on trees, woods and forests;
- proposals for the decommissioning of developments, including ancillary infrastructure, and Site restoration;
- the quality of Site restoration plans including a safeguard or guarantee to effectively implement those plans; and
- cumulative impacts.

Additional National Policy and Guidance

2.2.7 **Planning Advice Note 68: Design Statements**⁹, states it is highly desirable to include a design statement in planning submissions for major developments. It asserts that “*design issues should, where appropriate be considered as part of the scoping process for significant planning applications, which require an environmental assessment*”.

2.2.8 **Planning Circular 2/2022: Development Management Procedures**⁹ while not applicable to Section 36 Applications outlines in paragraph 3.28 what should be addressed within a design and access statement, and has been used to inform this statement:

A design and access statement is a document containing both a design statement and written statement about how issues relating to access to the development for disabled people have been dealt with. It must explain the policy or approach adopted as to access and how:

- (i) policies relating to such access in the development plan have been taken into account; and*
- (ii) any specific issues which might affect access to the development for disabled people have been addressed’.*

2.3 Local Planning Policy and Guidance

2.3.1 The Local Development Plan for the Site is the Highland-wide Local Development Plan (HwLDP), adopted in April 2012, and the CaSPlan, adopted in August 2018. Policy 67 – Renewable Energy Developments is considered to be the HwLDP policy most relevant to the proposed Development.

2.3.2 The HwLDP and CaSPlan were adopted prior to the adoption of the NPF4 in February 2023. The Chief Planner letter published on 08 February 2023 outlined that in the event of any incompatibility between a provision of NPF4 and a provision of an LDP, whichever of them is later in date is to prevail (Town and Country Planning (Scotland) Act 1997, section 24 (3)).

2.3.3 The CaSPlan refers to the importance of renewable energy in achieving a strong and diverse economy, stating: “Investment in renewable energy generation in North Highland is not only helping to meet Council and national climate change targets, but it has also delivered economic benefits for the area. Onshore wind energy has grown significantly over recent years, particularly in the south and north-east of the Plan area.”

2.3.4 An assessment of proposed Development against the relevant policies is contained in the Planning Statement which accompanies the application.

Planning Advice Notes

2.3.5 A series of Planning Advice Notes supplement Scottish Planning Policy and were referred to, where appropriate in design of the project. In addition to PAN 68- Design Standards, the following are of most relevance to design of the proposed Development:

⁹ <https://www.gov.scot/publications/planning-advice-note-68-design-statements/>

- PAN 50 Planning Advice Note 50: controlling the environmental effects of surface mineral workings (1996);
- PAN 60 Planning for Natural Heritage (2000);
- PAN 61 Sustainable Urban Drainage Systems (2001);
- PAN 75 Planning for Transport (2005);
- PAN 51 Planning, Environmental Protection and Regulation (Revised 2006);
- PAN 79 Water and Drainage (2006);
- PAN 51 Planning, Environmental Protection and Regulation (Revised 2006);
- PAN 3/2010: Community Engagement (2010);
- PAN 1/2011 Planning and Noise (2011);
- PAN 2/2011 Planning and Archaeology (2011)
- PAN 1/2013 Environmental Impact Assessment (as amended) (2013);
- Onshore Wind Turbines: Planning Advice (2014);
- Flood Risk: Planning Advice (2015); and
- Biodiversity: Draft Planning Guidance (2023).

2.4 Other Documents

- 2.4.1 The Scottish Government published *Tackling the Nature Emergency – Scottish Biodiversity Strategy to 2045* in September 2023.

2.4.2 Scottish Natural Heritage's (now NatureScot) *Siting and designing wind farms in the landscape version 3a* (2017) has also been consulted during the design evolution process.

2.4.3 *Environmental Assessment of Traffic and Movement* July 2023 (Institute of Environmental Assessment (IEMA). Institute of Highways and Transportation (IHT) publications - "Guidelines for Traffic Impact Assessment", 1998.

2.5 Policy Summary

2.5.1 In summary, there is a strong and increasingly urgent need for development proposals to address the climate and nature crisis and contribute to the transition to Net Zero. Onshore wind is recognised as a driver of climate change mitigation and critical to the decarbonisation of the UK energy system. Given the abundance of renewable energy sources in Scotland, it is also recognised as a driving force for economic growth.

2.5.2 Planning policy aims to protect Scotland's environmental resources, reduce impacts, and where possible, enhance existing conditions to address the Nature Crisis, which is recognised in policy to be inherently linked to the Climate Crisis.

2.5.3 The key tensions addressed in the design of the proposed Development were to sensitively design the project to maximise renewable energy production while also enhancing biodiversity on the Site. Additionally, the design aimed to minimise any negative effects on both the Site and the surrounding environment.

2.5.4 The application is supported by a Planning Statement which provides a full assessment against the relevant policy considerations. It concludes that the proposed Development will make a significant contribution to meeting the renewable energy generation targets and Net Zero emissions targets. Due consideration has been given to relevant considerations including climate change, energy and planning policy. The proposed Development gains significant support from these policies and is considered to comply with the requirement of NPF4 and the Highland wide Local Development Plan.



Image of Viewpoint 10: Struie Viewpoint on B9176 (Post Development)

BALBLAIR WIND FARM

DESIGN AND ACCESS STATEMENT

February 2025

3 DESIGN STATEMENT

3.1.1 The following section provides a summary of the design evolution, the Applicant’s approach to Site selection and design, and the key decisions made prior to submission of the Application. It both summarises the key points made in **Volume 2, Chapter 3: Site Selection and Alternatives Considered** of the EIA Report whilst expanding on the justification and rationale for making these design decisions.

3.2 Site Selection

3.2.1 The Applicant identified potential sites for wind farm development in Scotland through a constraints-based feasibility approach, with sites being evaluated against the following criteria:

- an adequate wind resource;
- feasibility of access for abnormal indivisible loads (AILs);
- favourable topography and access to enable the construction of projects;
- access to grid;
- planning policies which support the development of renewable energy;
- avoidance of environmentally designated sites;
- avoidance of sensitive landscapes; and
- appropriate distance from residential properties.

3.2.2 An essential element of the search for potential sites is the identification of landowners interested in development.

3.2.3 The Site was confirmed as a Site for development following feasibility work by the Applicant and technical consultant team.

3.3 Alternative Sites

3.3.1 The Applicant has a well-established process for selecting sites and identifying land for wind farm development. The overall approach to the Site selection is to identify land where the siting of a wind farm would result in minimal environmental effects, be outwith significant technical constraints, and be economically viable. Site identification involved:

- A review of current and emerging planning policy (at the National and Local level);
- Geographical Information System (GIS) constraints analysis, including analysis of wind speed data; and
- A review of suitable Site access points and related transportation issues.

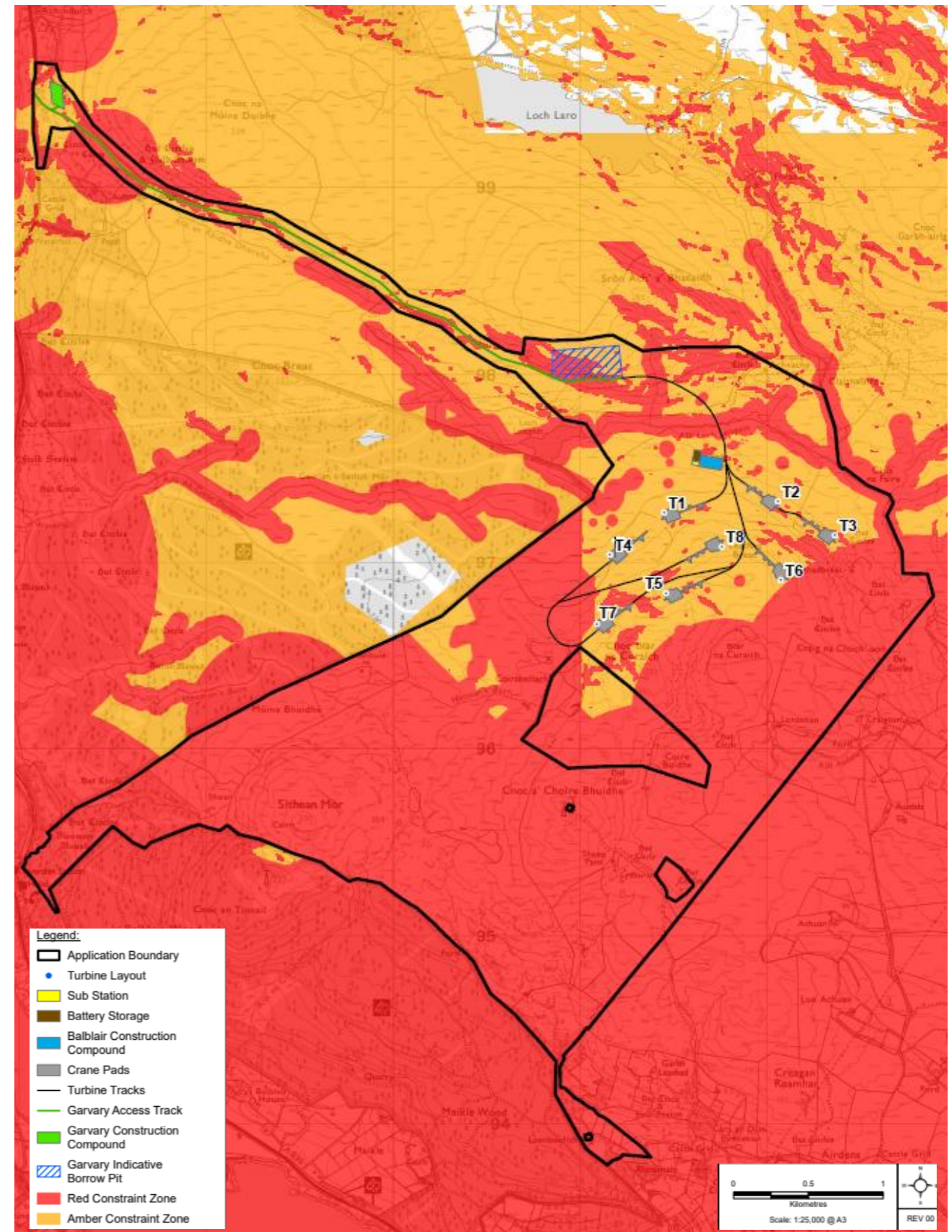


Figure 3.1: Site Constraints Heat Map

3.4 Design Strategy

3.4.1 The wind farm design and layout were adapted and altered in response to technical and environmental constraints on the Site and surrounding areas, and in response to consultation feedback during scoping and pre-application consultation.

Siting and Environmental Constraints

3.4.2 **Figure 3.1** is an early stage composite constraints plan of the Site overlain by the final proposed Development layout. The red shaded areas indicate those parts of the Site and surrounding areas, including appropriate buffers and setbacks, where it was considered important to avoid the placement of turbines and infrastructure where possible and if not to minimise impact. The amber shaded areas indicate those parts of the Site where it was considered turbines and associated infrastructure could be located subject to detailed environmental assessment and mitigation.

3.4.3 The red shaded areas include a setback from the nearest residential receptors to minimise potential visual amenity, noise and shadow flicker effects; a setback from Black grouse leks; a setback to mapped watercourses to protect waterbodies; and areas where peat depths exceeded 1 m, as determined from Phase 1 peat probing; and telecommunications links and associated buffers.

3.4.4 A key constraint was the presence of telecommunication links which are broadcast from the existing tower near the centre of the Site. The applicant undertook consultations with telecommunications operators to determine the presence of microwave and UHF links across the Site and the buffers to be applied. The links and associated buffers were added to the site constraints plan to inform the placement of turbines to avoid impacts on these links.

3.4.5 Other constraints were identified in baseline assessments conducted by the project team. The potential for impacts on the setting of a Category A Listed Building, Scheduled Monuments and Gardens and Designed Landscapes were considered in the design process. Visibility from these features with potential setting effects was avoided where possible. The potential for direct impacts on non designated heritage assets within the Site, and the setting of Category B and C listed buildings, was also factored into design, when considering locations for turbines, tracks and associated infrastructure.

3.4.6 Constraints which related to constructability included peat depths greater than 1m, and slopes greater than 12 degrees to ensure placement of turbines in locations where roads and crane pads can be built so as not to exceed manufacturers specifications in the interest of health and safety. In addition, the Applicant looked for opportunities to use existing access tracks or share access to minimise the development footprint and impacts on the local road network.

3.4.7 As the project progressed, the applicant became aware of SSEN's proposed 400kV Spittal – Loch Buidhe – Beauly 400kV overhead line. The options for routing the proposed line were to the north of the site, in proximity to the proposed Development. The applicant consulted with SSEN, and a minimum three times rotor diameter separation distance from the alignment of the proposed overhead line to the turbines was established.

Key Landscape and Visual Factors

3.4.8 In relation to the placement of turbines within the Site, the key landscape and visual factors considered in the design were:

- maximising the separation distance between turbines in the proposed Development and the Dornoch Firth National Scenic Area (NSA)
- avoiding siting turbines on the more visible and sensitive south west slopes within the Site around Cnoc a' Choire that would have increased the visibility of the proposed Development from the NSA
- avoiding siting turbines on higher ground within the south western part of the Site around Cnoc a' Choire Buidhe and Sithean Mòr; and
- maximising the separation distance of turbines from nearby residential properties.

3.4.9 Other landscape and visual considerations included the visibility of the turbines from nearby settlements of Bonar Bridge and Ardgay, and from along roads, railway and walking routes within the Dornoch Firth NSA.

Overall Design Objectives

3.4.10 The overarching objectives of the design can be summarised as:

- positioning turbines in locations on the Site where they would be most effective in generating electricity
- allowing sufficient spacing between turbines so they can operate efficiently and without undue wear and tear
- ensuring a cohesive and sensitive layout which is considerate of its surroundings, minimises potential impacts on nearby receptors, and respects the physical and environmental constraints of the Site and surrounding areas
- identifying and securing biodiversity enhancements over and above mitigation throughout the operational lifetime of the project, to provide biodiversity net gain in direct response to the nature crisis, as identified in Policy1, and as required by Policy 3 of NPF4.

3.4.11 Based on the physical and environmental constraints within the Site, and the key landscape and visual factors identified, it was determined that the area of the Site most suited to turbines is to the north and west. However, it was also known that the southern portion of the Site had the greatest potential for energy capture. In the project design, a balance had to be struck between accommodating physical limitations of the Site and avoiding environmental constraints while maximising energy capture.

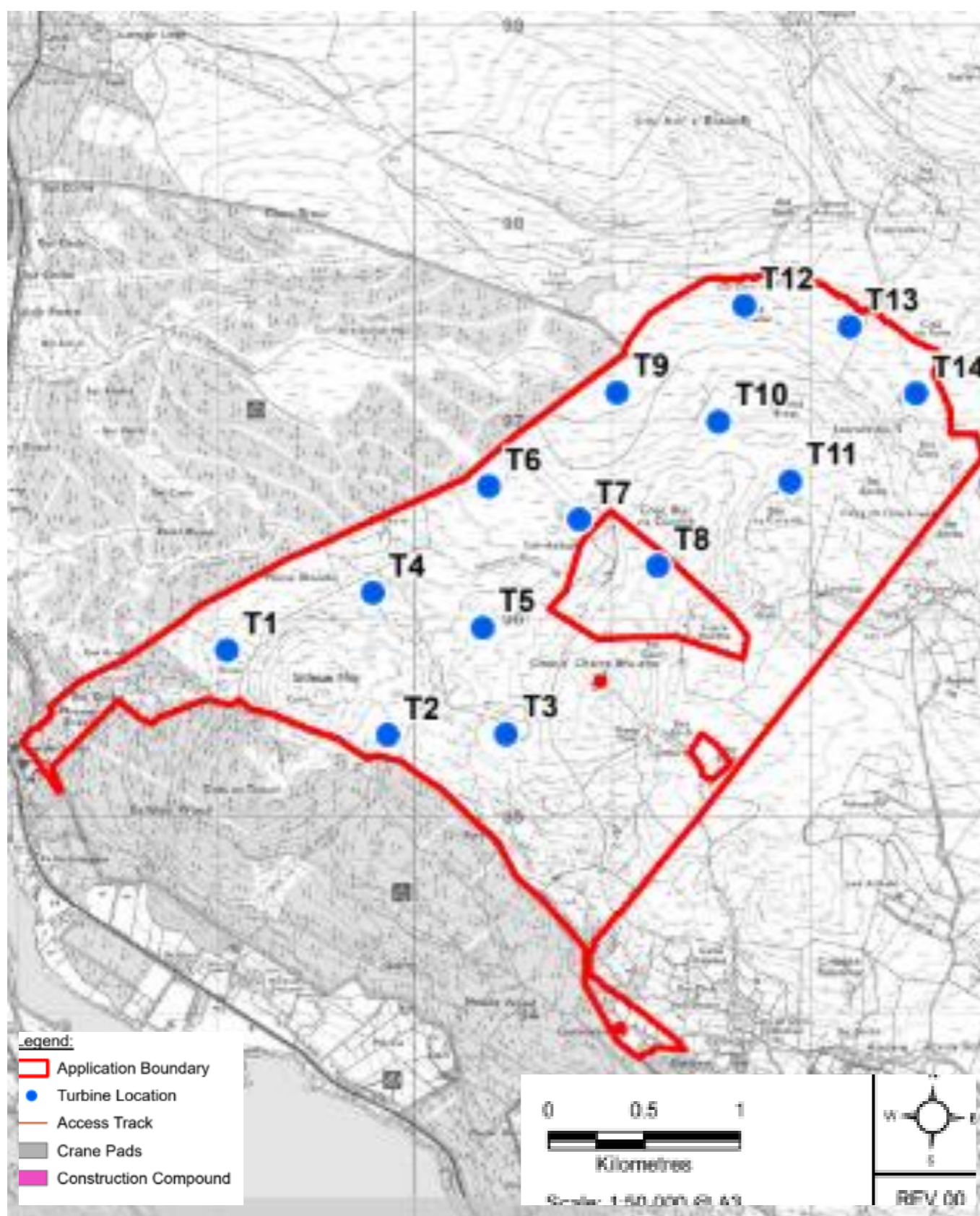


Figure 3.2: Pre-Scoping Turbine Layout Iteration

3.5 Design Evolution

3.5.1 The proposed Development has undergone a series of principal design iterations, evolving in response to findings from environmental surveys and technical assessments, and feedback from statutory and non-statutory consultees, and consultation with the community. The main iterations for the design of the proposed Development are illustrated in **Figures 3.2 – 3.6** as now described.

3.5.2 The design also sought to ensure that the proposed Development met the requirements of NPF4. As set out in **Section 2: Planning Policy and Guidance**, NPF4 Policy 11 notes that significant landscape effects are to be expected for some forms of renewable energy and that where the landscape and visual effects are localised and appropriate design mitigation has been applied, they will generally be considered acceptable.

3.5.3 As outlined in the Design Strategy, during each design iteration, careful consideration was given to minimising effects on environmental features and responding to matters raised during scoping and community consultation responses, whilst maximising on-site renewable energy generation potential and achieving the objectives of the proposed Development.

3.5.4 An assessment of proposed Development against the relevant policies is contained in the Planning Statement which accompanies the application.

Pre-Scoping Layout

3.5.5 The initial proposal was a 14-turbine layout aimed at maximising wind yield, illustrated in **Figure 3.2**. This layout maximises energy yield from the site, using turbines with a 200 m blade tip height. However, early modelling showed that in this layout, the turbines would have extensive visibility from the key design viewpoints of the NSA, Bonar Bridge and Arday as well as roads and rail routes through the area. The turbines were not set back into the landscape.

3.5.6 Early consultation with telecommunications operators on this layout also flagged the prevalence of numerous links from the mast on site meaning the turbines in the south and southwest of the site would impact on their operations. This design was later revised and a more informed design presented in the EIA Scoping Report.

Layout 1 – Scoping Turbine Layout Iteration 1 (TL01) - Consultations

3.5.7 The first iteration which was proposed at scoping was for a nine-turbine layout (TL01) (see **Figure 3.3**), utilising the Vestas V136 model with a 112 m hub and 180 m blade tip height.

3.5.8 The scoping layout was presented in community consultations which took place in early March 2024. Among the issues of concern raised in the consultations were the views of the turbines from Bonar Bridge.

3.5.9 This layout took into account buffers from the constraints identified such as a 1 km setback from residential properties; a 50 m buffer from watercourses; areas where peat depths were greater than 1 m and slopes greater than 12 degrees, and 300 m and 500 m disturbance buffers as informed by bird surveys which were initiated in 2021.

3.5.10 In this layout, turbines were positioned further back into the landscape, however turbines T7, T8, and T9 were still prominent in the key design viewpoints, such as from the NSA and Bonar Bridge. In its scoping consultation response, NatureScot highlighted that the turbine layout of the proposed Development “may significantly and adversely affect some of the Scenic Landscape Qualities (SLQs) of the Dornoch Firth”, namely, the contrast between the enclosed west and the expansive east; inhabited surrounds within a wilder backdrop of hills and moors; and the tranquillity of an undeveloped coastline.

3.5.11 There was further consultation with telecommunications links operators to better understand how the layout might impact services. A scoping consultation response received from JRC highlighted that turbines T4 and T7 required to be relocated to avoid impacts on links across the Site.

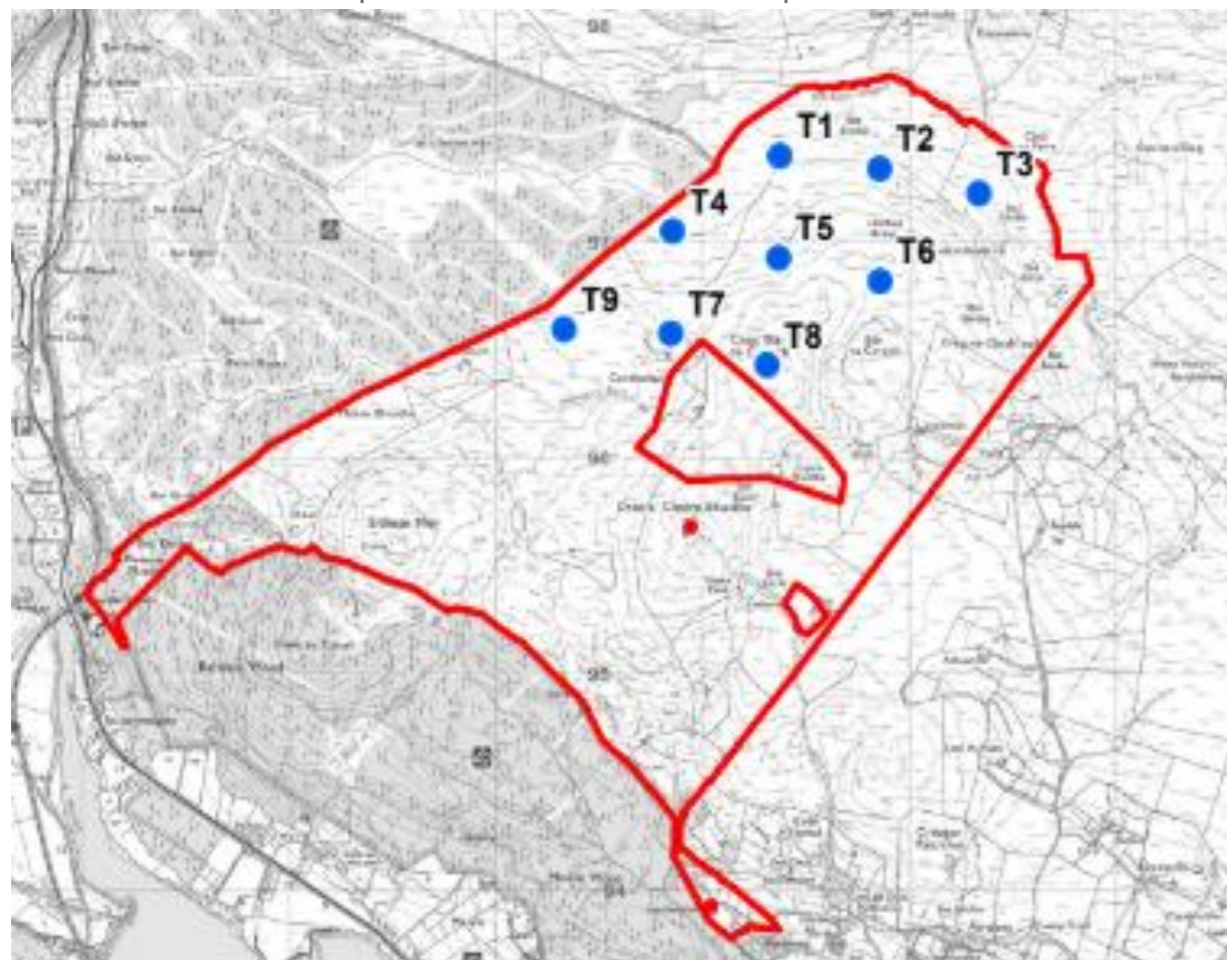


Figure 3.3: Turbine Layout Iteration 1

Layout 2 – Post Scoping Turbine Layout Iteration 2 (TL02) – Optimising energy yield

3.5.12 Following further surveys and analysis of constraints, scoping consultation responses and feedback from community consultation, two yield-based layouts with nine and 11 turbines were proposed by Vestas. These layouts were circulated to the project team for comment. On the basis of the feedback received, these layouts were discounted due to identified environmental constraints.

3.5.13 A Design Workshop was held in June 2024 with the Applicant and project team. The outcomes of the Design Workshop included setting the maximum blade tip height of turbines to 180 m, and positioning turbines outwith the telecommunications links buffers, pushing turbines as far as possible further north and west, and meeting the setback buffer from the proposed 400 kV overhead power line, determined through consultations with SSEN.

3.5.14 The turbine layout was later refined by Vestas to maximise energy capture. The ‘energy capture’ turbine layout was tested against the landscape design principles and turbines were found still be too prominent in views from the NSA.

3.5.15 When buildability principles were applied to the ‘energy capture’ layout, it was determined that there would be a need for significant cut and fill to make the layout work and some turbines would be inaccessible because access track gradients would exceed the turbine specification limits. Engineering principles were applied to the design, which pushed turbines onto slopes which were accessible and where turbines and roads could be built reducing cut and fill across the Site. The resulting layout (TL02) was for seven turbines (refer to **Figure 3.4**).

3.5.16 Also, at this time, an access option which connects to the A836 and utilises existing tracks from the proposed Garvary Wind Farm, was identified as the preferred access route to the Site. This led to an amendment of the Application Boundary to better align with the emerging layout.

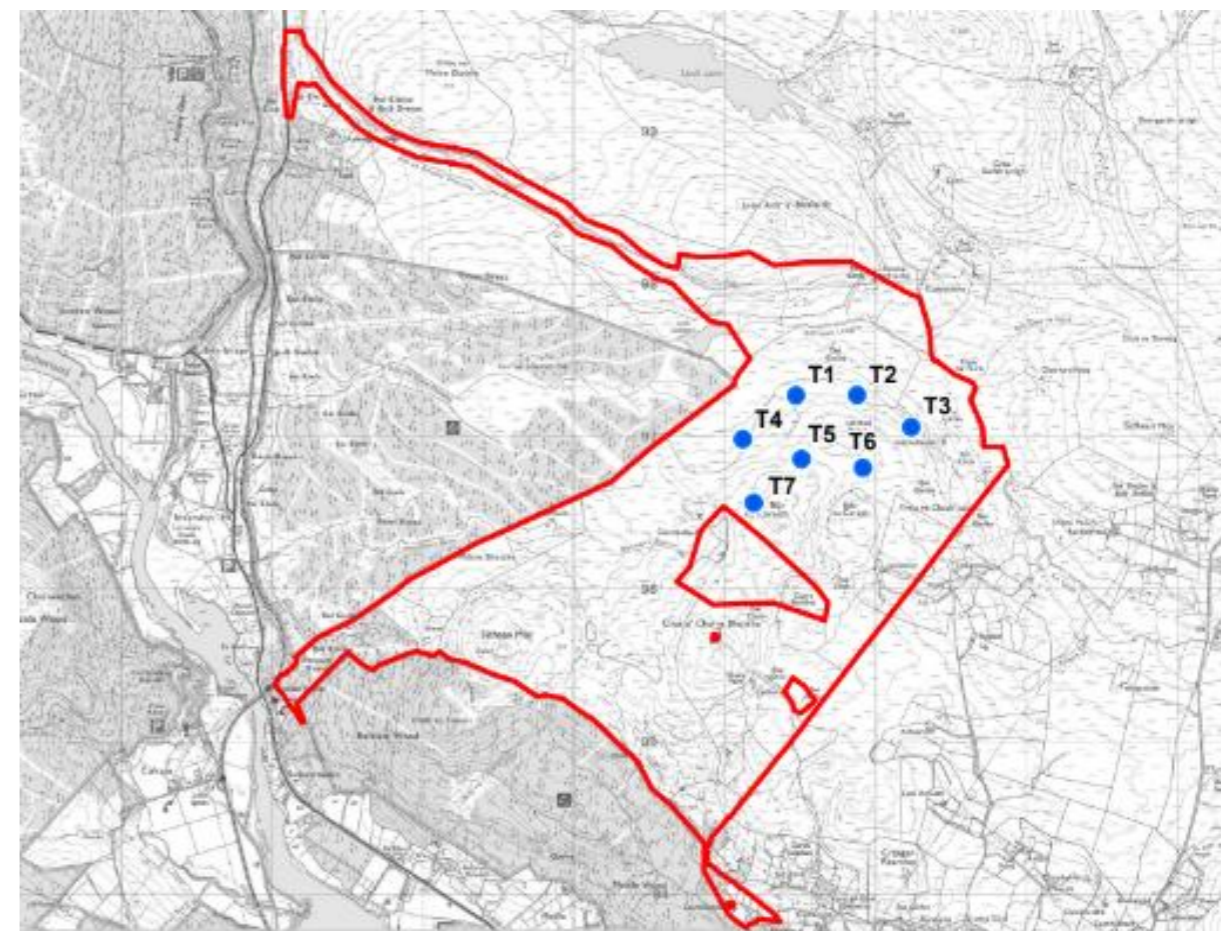


Figure 3.4: Turbine Layout Iteration 2

Layout 3 – Turbine Layout Iteration 3 (TL03) – Engineering design

- 3.5.17 Detailed civil engineering considerations were applied to layout TL02 to ensure a track layout which met with the turbine manufacturer’s specification and minimised the development footprint impacting on annex 1 habitats by carefully considering turbine positioning and crane pad orientation and access tracks to reduce cut and fill.
- 3.5.18 This resulted in changes to turbine positions and hardstanding and crane pad positioning. In this layout, a configuration of access tracks, crane pads and hardstandings was introduced, and potential locations for other infrastructure (i.e., substation (SS) and battery storage (BESS), borrow pits (BP) and a construction compound – (CC)) were identified.
- 3.5.19 This layout also introduced high-level construction sequencing to ensure the project’s buildability, including using the Garvary Indicative Borrow Pit to win stone to create access to the Site and then winning material from Turbine positions T2 and T3 to serve the remainder of the proposed Development.
- 3.5.20 At this point, a furthermore detailed consideration of engineering principles was applied to the layout and the turbines effectively split into two groups by the configuration of the access tracks. This introduced the potential to add an eighth turbine into the cluster which was considered carefully in key views.
- 3.5.21 Turbine Layout TL03 was issued for Phase 2 peat surveys to confirm the positions of the turbines, tracks and other infrastructure. Refer to **Figure 3.5**.

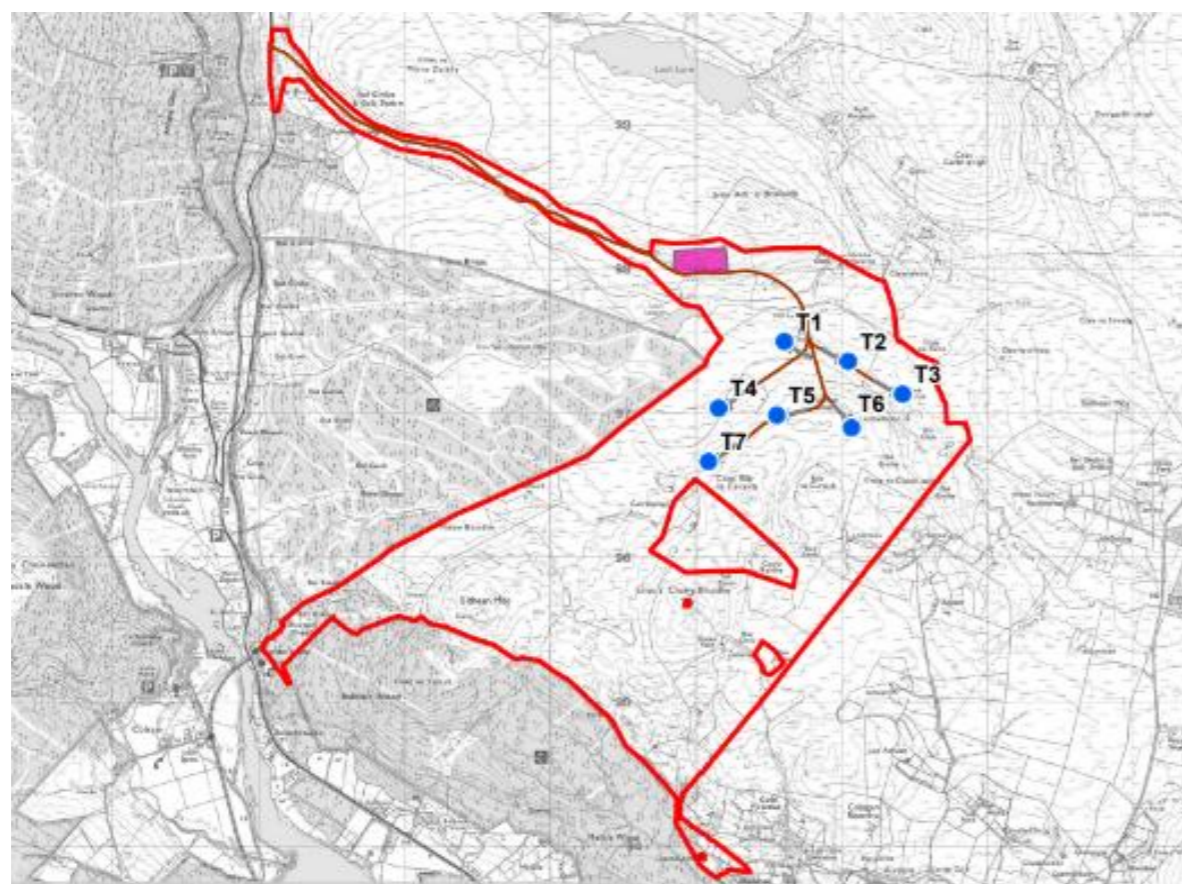


Figure 3.5: Turbine Layout Iteration 3

Layout 4 – Turbine Layout Iteration 4 (TL04) – Final layout

- 3.5.22 The final site layout (TL04) as shown in **Figure 3.6** consists of eight turbines with all associated infrastructure. The final layout succeeds in achieving the balance between accommodating physical limitations of the Site and avoiding environmental constraints while maximising energy capture. In respect of the key landscape and visual factors identified in the early stages of the project, the turbines have been positioned to the north and west of the Site as far as possible, considering firstly the siting limitations imposed on the design by the telecommunications links and the proposed 400 kV overhead line with their respective buffers; the setback from residential receptors; and the watercourse and bird buffers.
- 3.5.23 Changes from TL03 to TL04 included repositioning the SS, BESS and CC, adding an eighth turbine, and increasing the blade tip heights of two of the turbines.
- 3.5.24 The SS, BESS and CC were originally located to the east of the access track into the Site, but based upon data from Phase 2 peat surveys and due to the presence of non designated heritage assets, these infrastructure elements were re-positioned to the west of the access track.
- 3.5.25 Having previously considered the potential to add an eighth turbine to the layout, the design engineers identified a position for the turbine and associated access track, crane pads and hardstanding primarily considering slopes.
- 3.5.26 Turbines T2 and T3 were increased to 200 m blade tip height for enhanced wind yield. These turbines sat low compared to the others in the layout, and with the addition of an eighth turbine, a more balanced arrangement was achieved when considered from key viewpoints.
- 3.5.27 Based upon the final turbine layout, a reduced turbine lighting scheme for Balblair Wind Farm was approved by the Civil Aviation Authority. In the Landscape and Visual Impact Assessment (LVIA) (EIA Report **Volume 2, Chapter 6**), the visual effect of the lit turbines in the hours of darkness was assessed and considered to be not significant from all of the representative viewpoints.
- 3.5.28 The LVIA considered there would not be any significant effects on the SLQs of the Dornoch Firth NSA. There would be some limited non-significant effects on the SLQs identified by NatureScot in its EIA scoping consultation response, but these would not be of such a degree as to undermine the overall integrity of the NSA.
- 3.5.29 Having defined the optimal locations for the turbines and developed the design of access tracks and associated infrastructure, it left the remainder of the Site available for biodiversity enhancement proposals. These proposals are presented in the Outline Biodiversity Enhancement and Management Plan (OBEMP) (EIA Report **Volume 4 Technical Appendix 8.6**), the overall goal of which is to restore degraded habitats, enhance habitats, and create habitats of ecological value which will benefit flora and fauna, including moorland breeding birds, and increase biodiversity in general by strengthening and building nature networks and connections.

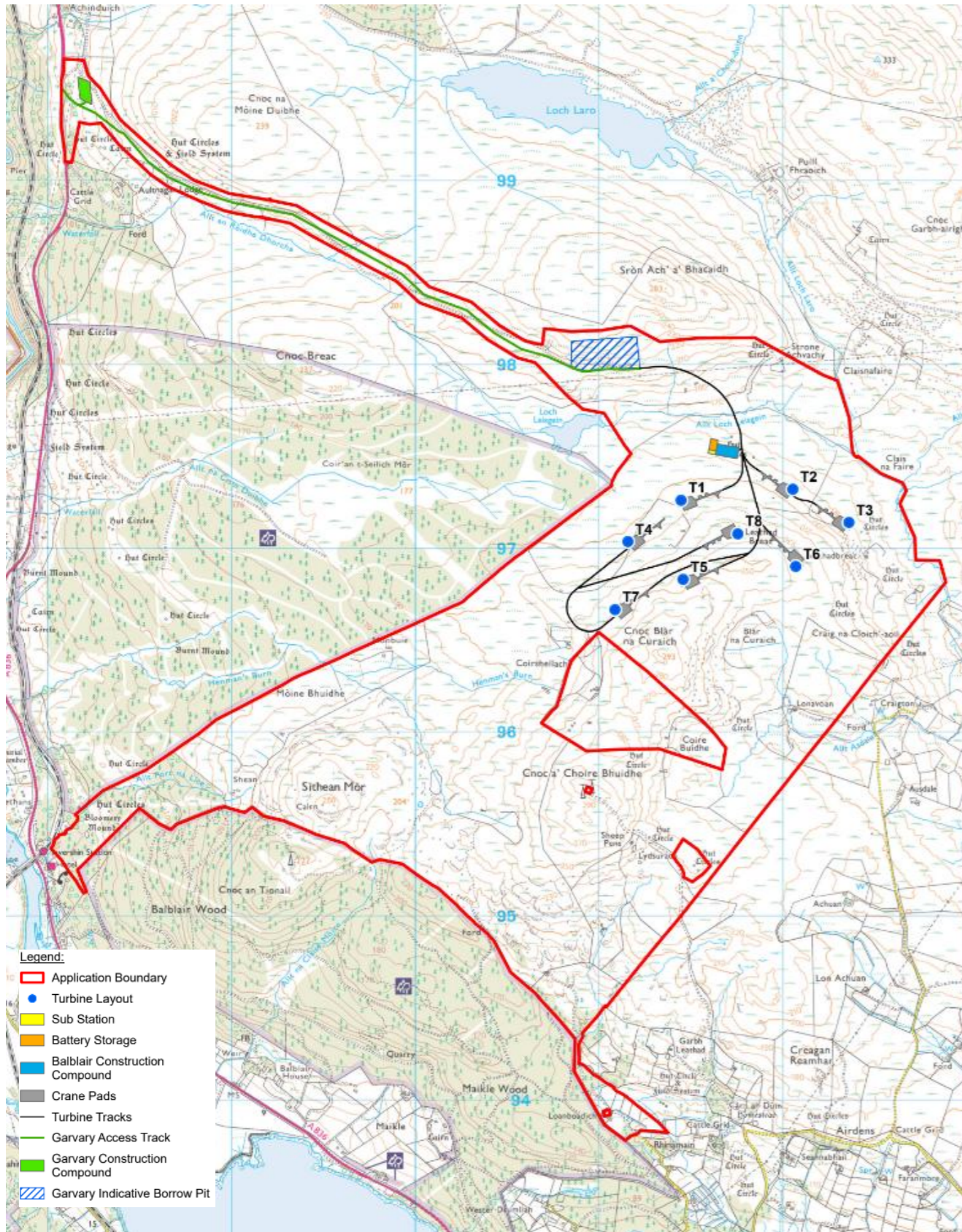


Figure 3.6: Final Proposed Development Layout



Image of Viewpoint 4: Ardgay (Post Development)



Image of Viewpoint 3: Core Path (Post Development)



Image of Viewpoint 2: Bonar Bridge (Post Development)

4 ACCESS STATEMENT

4.1.1 A detailed assessment of how construction vehicles will access the proposed Balblair wind farm are provided and the effects of increased traffic associated with construction as well as the operational and decommissioning phases of the development is provided in the EIA Report, in particular in **Volume 2: Chapter 12: Traffic and Movement**, and has been carried out in line with the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Traffic and Movement (2023).

4.2 Access

Public Access

4.2.1 THC's Interactive Core Paths Map indicates that there are no Core Paths recorded by THC on the Site. The Rogart Drove Road traverses the Site. It is classed as a heritage path. Such paths are promoted for leisure purposes but as there is no physical path on the ground, its use is understood to be very limited. Operation of the proposed Development will not impinge upon the rights of access afforded to the public in the Land Reform (Scotland) Act 2003. However, during construction, access to active parts of the Site will be restricted in the interest of health and safety in accordance with the Construction (Design and Management) Regulations 2015. There are no proposals to promote public access to site and normal rights under the Scottish Outdoor Access Code will apply.

Vehicular Access

4.2.2 Two access options from the public road to Site were considered for Balblair Wind Farm. These are shown in **Figure 4.1**. Site access **Option B**, coming off the A836 is to use existing Balblair Estate and FLS tracks (subject to upgrading). Site access **Option A** comes off the A836 and takes up the tracks for the proposed Garvary Wind Farm approaching from the north. This option was selected for the proposed Development, as the least cost and environmental impact option to Site, given it would share access with the Garvary Wind Farm.

4.2.3 This option assumes that Garvary Wind Farm will be consented and constructed before the proposed Development, subject to agreement with the Garvary Wind Farm developer, Coriolis. Otherwise, the Applicant will undertake all works.

Design Evolution of Access for Abnormal Indivisible Loads

4.2.4 Abnormal Indivisible Loads taking access to the Site will start at either The Port of Invergordon (Cromarty Firth Port Authority) or the Port of Nigg.

4.2.5 Initial Abnormal Indivisible Load (AIL) route surveys identified two potential routes to Site

- Route Option A Port to Invershin via A839 and Lairg, approaching the Site from the north (A9 to A839 to A836) – red and blue routes in **Figure 4.1**.
- Route Option B Invergordon to Invershin via A949 and Bonar Bridge, approaching the Site from the south (A9 to A949 to A836) – red and green routes in **Figure 4.1**.

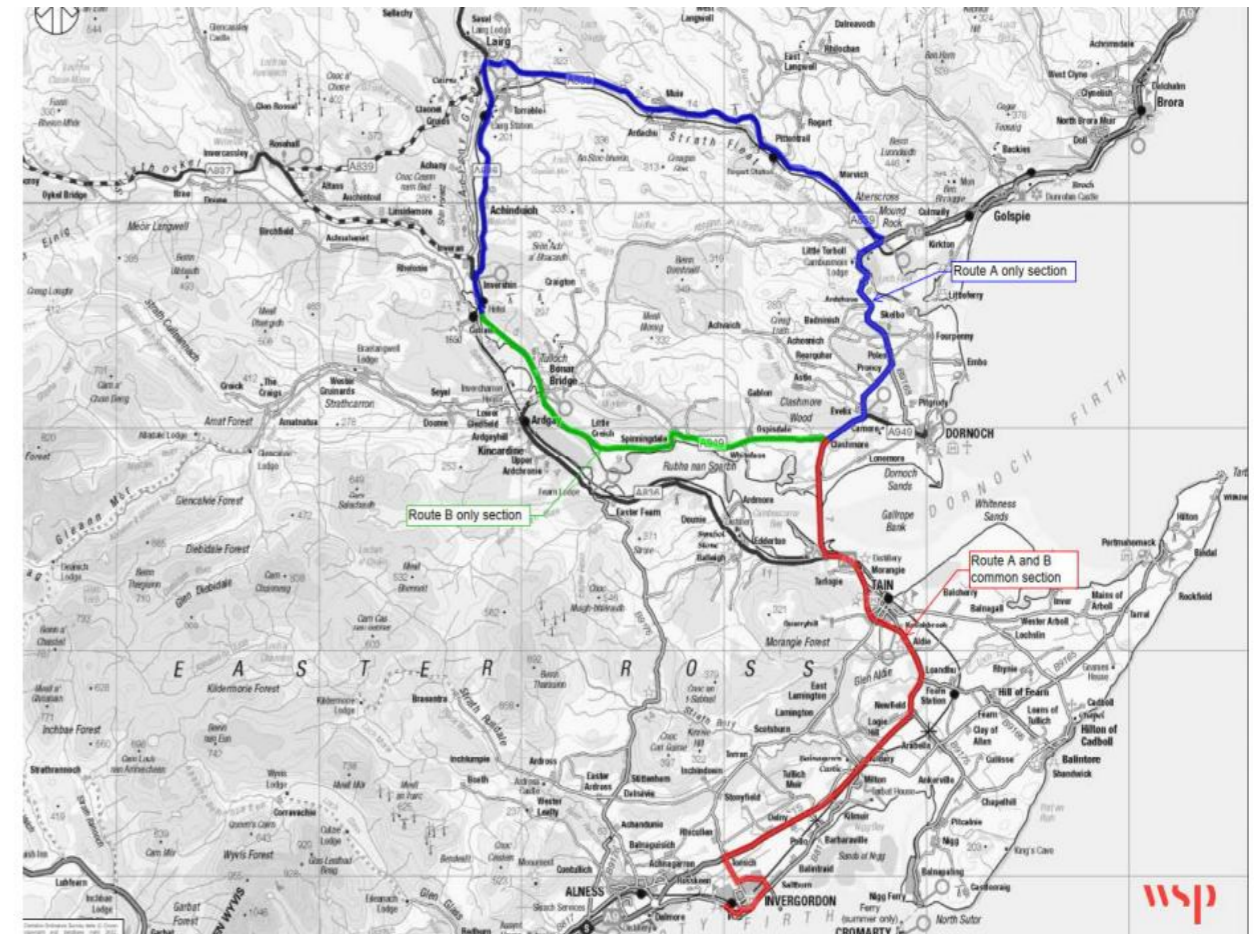


Figure 4.1: ALL Route Options

4.2.6 In the course of developing the Balblair Wind Farm project design, it became apparent that a number of wind farm developers were co-operating on work to establish **Route Option A** as a suitable transport route for wind turbine components. This route option was, selected as the preferred option for Balblair Wind Farm to enable sharing of access works necessary on the road infrastructure.

4.2.7 Turbine blades for the proposed Development (at 68 m) will be shorter than the blades proposed for other developments proposing to use the route (i.e., Garvary Wind Farm 73.7m blade length). The suitability of this route to transport abnormal loads by this route has, therefore, already been established. Wind turbine parts are transported in separate components to the Site and then assembled on the Site. The nacelle, blades and tower sections are classified as ALs due to their weight, length, width and height when loaded. One high-capacity erection crane would be transported to and from the Site during the construction phase this will be supplemented by a smaller support crane.

4.2.8 The route from Port would be subject to the potential requirement for localised temporary works at junctions to facilitate movements. Any modifications to junction layouts would be confirmed through trial runs and further surveys, and any modifications or works required to accommodate abnormal loads would be discussed with the respective road authority THC, and the necessary consents and permits would be obtained in advance of any works or delivery periods.

4.2.9 Delivery of abnormal loads would be subject to approval by the Police and Transport Scotland.

Other Construction Access Arrangements

- 4.2.10 Apart from the turbine components, most traffic would be normal construction plant and would include graders, excavators, high-capacity cranes, forklifts and dumper trucks. Most would arrive at the Site as a load on an articulated HGV (low loader). The choice of HGV route was based upon identifying the most suitable route between the access to the proposed Development and the primary Trunk or A-class road network.
- 4.2.11 The origin of vehicle traffic would depend on the location of the source of materials being imported. Potential sources of suitable concrete source materials near the proposed Development are at Bredon Ardchronie Quarry Ardchronie, which would be accessible from the A836, and Pat Munro Dornoch Bridge Quarry Clashmore, which would be accessible from the A9.
- 4.2.12 The primary source of stone material will be the on-site borrow pit at the excavation sites for turbine positions T2 and T3. It is expected to meet 100% of material requirements for the access tracks, hard standings and compound sub-bases.

Construction Staff and Activities

- 4.2.13 The number of people employed during the construction period would vary depending on the stage of construction and the activities ongoing on Site. It is anticipated that the peak workforce requirement would result in a 1100 weekday average two-way flow for general Site traffic (personnel).
- 4.2.14 Vehicle parking areas located at the Site mobilisation and construction compounds would have safe and secure barriers to segregate all personnel from Site plant and vehicle routes. All signage within designated car parking areas must be followed, with no vehicles parked in a way which restricts either vision or access. No parking whatsoever would be allowed on public roads; all cars that are directed to the Site car park would be required to reverse park to comply with the Applicant and the Principal Contractors requirements.
- 4.2.15 A requirement would be put in place for all delivery drivers to attend an induction to include a safety briefing, the need for appropriate care and speed control, particularly in sensitive areas, identification of specific sensitive areas, identification of the specified route, and the requirement not to deviate from the specified route.

Working Hours

- 4.2.16 It is anticipated that the main construction hours for the proposed Development would be between 07.00 and 19.00 from Monday to Friday, and 08.00 and 13.00 on Saturdays unless otherwise agreed with the Council.
- 4.2.17 All wind farm resurfacing and upgrading the existing track infrastructure and construction of new, fit-for-purpose tracks would ensure a suitable surface for all users who require access to the proposed Development for construction and operational purposes.

Construction Traffic Management

- 4.2.18 It is expected that a Construction Traffic Management Plan (CTMP) will be prepared and agreed with THC in advance of the construction phase and this will be secured to any consent for the proposed Development by condition. This will include working with other Developers, THC

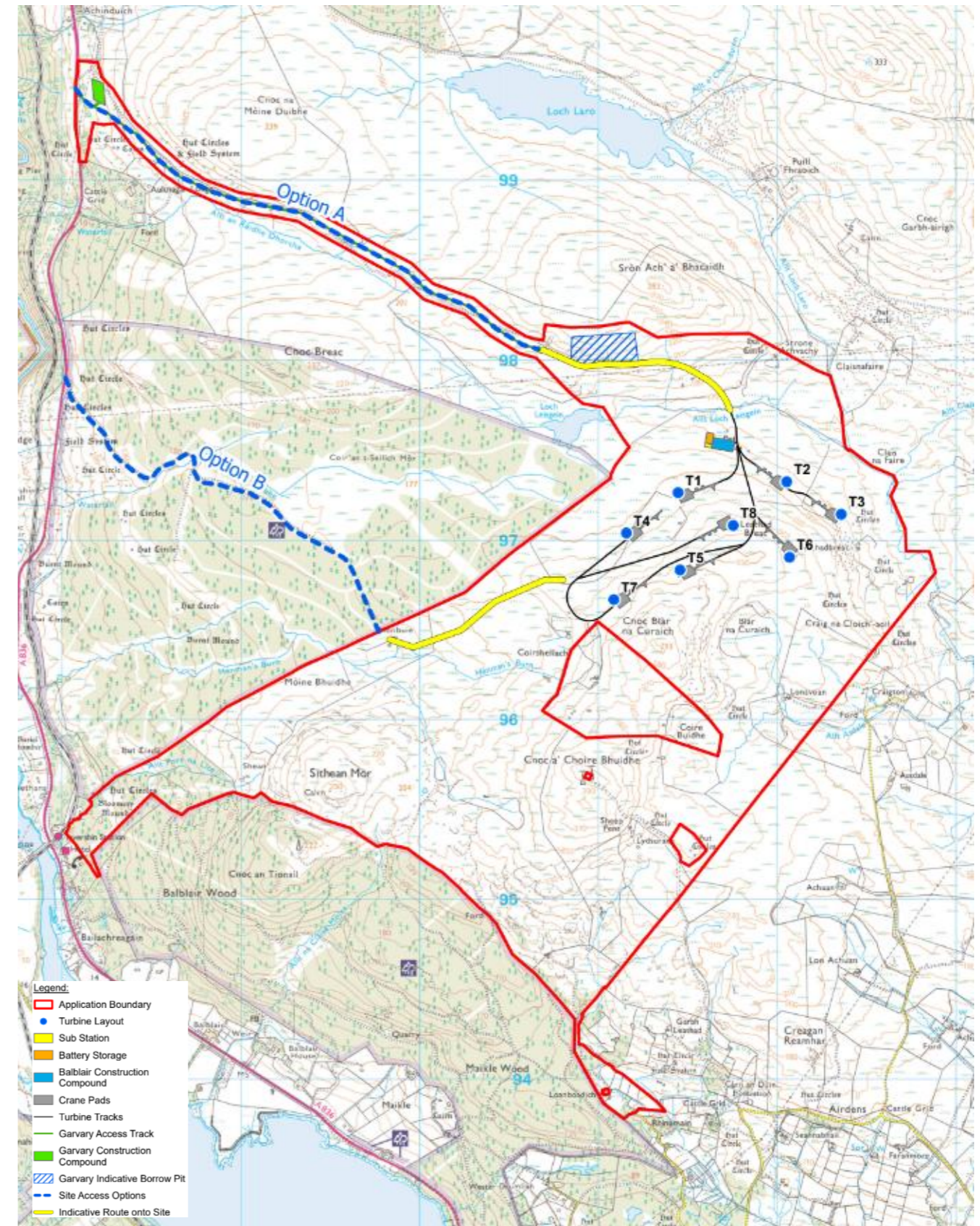


Figure 4.2: Site Access Options

Highways, the Local Police and the community to ensure traffic is managed in a coordinated way throughout the proposed access route.

4.2.19 The final CTMP would demonstrate compliance with national and local policy guidance and would set out detailed descriptions of actions required by Contractors to meet during the construction process. A CTMP would normally detail the following issues, however this is not an exhaustive list and the CTMP should be tailored to reflect the issues pertinent to the proposed Development:

- Where possible, further detailed design processes would minimise the volume of material to be imported to Site to help reduce HGV numbers;
- A Site worker transport and travel arrangement plan, including transport modes to and from the Site (including pick up and drop off times);
- A Traffic Management Plan to control the operation of the access junctions;
- All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Should there be evidence of this following this commencement of construction, suitable measures would be implemented within the Site to ensure deleterious materials are not transferred onto the highway;
- Road cleaning would take place, if required, to remove any deleterious materials that are carried from the Site;
- Normal Site working hours would be limited to between 07:00 - 19:00 Monday to Friday and 08:00 – 13:00 on Saturdays, unless otherwise agreed with the Council, though component delivery and turbine erection may take place outside these hours;

- Provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the Site; and • All drivers would be required to attend a detailed induction prior to undertaking any works on the Site.

4.2.20 Advance warning signs would be installed on the approaches to the affected road network. Information signage would be installed to help improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

4.2.21 The location and numbers of signs would be agreed post-consent and would form part of the wider traffic management proposals for the proposed Development.

4.2.22 The Applicant would also ensure information would be distributed through its communication team via project website, local newsletters and social media.

4.2.23 Post-consent/Pre-Construction, the Applicant would establish a Community Liaison Forum, in collaboration with the Council and local Community Councils.

4.2.24 The Applicant would enter into a Section 96 (wear and tear) Agreement or a suitable alternative for the local adopted roads / routes to be used by construction vehicles.



Image of Viewpoint 8: Auchintoul (Post Development)

BALBLAIR WIND FARM

DESIGN AND ACCESS STATEMENT

February 2025

5 SUMMARY AND CONCLUSION

- 5.1.1 This DAS has set out the principles which influenced the design of the proposed Development. It has explained the site specific environmental and technical constraints and features which shaped the positioning of turbines, crane pads, tracks and other ancillary development combined with an aspiration to generate as much renewable energy as possible from the development to achieve a balanced design. The design of the proposed Development resulted from an iterative process, influenced by numerous factors, including legislative requirements and development plan policies, alongside the economic, technical, and environmental aspects identified through the EIA process. Consultation with key consultees and the public provided an opportunity for them to comment on and influence the design of the development. The careful consideration of these factors and consultees' concerns has been addressed, wherever possible, through the design iteration and mitigation process.
- 5.1.2 The final proposed Development layout has been designed to respond to the character of the surrounding landscape and other environmental and technical constraints. The associated infrastructure has also been sympathetically sited to minimise visual disruption to the surrounding setting and landscape, as well as, where possible, avoiding environmental constraints such as watercourses and areas of peat. In addition, it has sought opportunities for biodiversity enhancement through the delivery of long-term beneficial habitat enhancement measures for habitats and species, including specific management for upland habitat restoration and enhancement (including priority peatlands) and creation/enhancement of a riparian corridor which will deliver significant biodiversity enhancement at the Site.
- 5.1.3 Access to the Site is proposed to be via the proposed Garvary Wind Farm, minimising the need for additional tracks and reducing environmental impact.
- 5.1.4 Through design mitigation, the aim was to limit impacts on peat, important habitats and cultural heritage features on the Site. Turbines have been located with careful consideration to avoid impacts on telecommunications and aviation, and to protect residential amenity.
- 5.1.5 The design of the proposed Development has undergone a number of iterations to ensure appropriate embedded design mitigation with landscape and visual factors as key drivers. This enabled the proposed Development to minimise landscape and visual impact effects, particularly at key views, to respect the NSA and protect its SLQs and overall integrity.

- 5.1.6 The proposed Development design has limited the extent of significant landscape and visual impact, which would only be visible during daylight hours due to the proposed aviation lighting mitigation. Visual amenity effects on residential properties do not reach the residential visual amenity threshold.
- 5.1.7 Significant visual effects would be experienced at seven of 16 viewpoints, eight core paths, Ardgay, a 5.2km stretch of the A836 (travelling north westward) and Far North railway line for a 4.6km part of the route, and cyclists on the John O'Groats Cycle Route on the A836 between Wester Fearn and Bonar Bridge and between Ardgay and Cornhill. Based on the findings reported in EIA Report **Volume 4 Technical Appendix 6.7**, it was concluded (paragraph 6.1.9) that the assessment has not identified any significant effects on the three SLQs identified by NatureScot for assessment, and therefore it is considered that the overall integrity of the NSA would not be compromised. Therefore, whilst some significant landscape and visual effects are predicted, these have been limited through design mitigation whereby turbines set back to the north of the Site, appear in the context of the surrounding hills and moorland rather than the NSA.
- 5.1.8 In conclusion, the design iteration process has secured appropriate mitigation through design to ensure that the final layout is skilfully sited and designed to balance maximising renewable energy generation to address the climate and nature crisis whilst also minimising social and environmental impacts on the Site and surrounding area.



Image of Viewpoint 9: Lairg Cemetery, overlooking Lairg (Post Development)

BALBLAIR WIND FARM

DESIGN AND ACCESS STATEMENT

February 2025