



Volume 1: Non-Technical Summary

Cairnoch Hill Wind Farm

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Figure 1: Site Location

Figure 2: Application Boundary

Figure 3: Proposed Site Layout



Acronyms and Abbreviations

BMMS	Bat Monitoring and Mitigation Strategy
CEMP	Construction and Environmental Management Plan
CTMP	Construction Traffic Management Plan
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
FLS	Forestry and Land Scotland
ha	Hectare
HGV	Heavy Goods Vehicles
HMP	Habitat Management Plan
MW	Megawatts
NATS	National Air Traffic Services
NPF4	National Planning Framework 4
NTS	Non-Technical Summary
ZTV	Zone of Theoretical Visibility



1.0 Introduction

This Non-Technical Summary (NTS) summarises the Environmental Impact Assessment (EIA) Report for the proposed Cairnoch Hill Wind Farm.

Eurowind Energy Limited (“the Applicant”) is seeking planning permission, from Stirling Council, to construct and operate up to four wind turbines (up to 180m to blade tip) and associated infrastructure (collectively referred to as “the Proposed Development”) on land owned by the Scottish Ministers and managed by Forestry and Land Scotland (FLS) at Cairnoch Hill within the administrative boundary of Stirling Council (“the Site”).

The Site location and application boundary are shown in **Figure 1** and **Figure 2** respectively. The Site is centred at British National Grid reference NS 69768 85606. The nearest settlement to the Site is the hamlet at Carron Valley reservoir dam, approximately 1.25km to the east. Fintry is located approximately 6km to the west.

Based on the wind resource across the Site, the Proposed Development would produce a minimum of approximately 70,000 Megawatt hours of electricity per year. This is equivalent to the annual consumption of approximately 21,000 average UK households¹.

An application is being submitted to Stirling Council under the Town and Country Planning (Scotland) Act 1997 (as amended). The generating capacity of the Proposed Development would exceed 20MW but be less than 50MW and would therefore be classed as a Major development under the Schedule to the Town and Country Planning (Hierarchy of Development) (Scotland) Regulations 2009.

The Scottish Government has set a target of achieving net zero carbon emissions by 2045. This target relies on a large increase in renewable energy generation across Scotland, which the Proposed Development would help to achieve.

The potential direct and indirect environmental effects of the Proposed Development have been considered in the EIA. The EIA Report presents the findings of the EIA process by describing the current conditions at the Site and the likely effects (as well as their significance) which may result from the Proposed Development. Where appropriate, mitigation is proposed, and any residual effects are reported. The results of the EIA are presented within the EIA Report and summarised in this NTS.

2.0 The Proposed Development

2.1 Design Evolution and Alternatives (EIA Report Chapter 2)

A number of parameters and considerations informed the Site selection and design of the Proposed Development.

The Site was chosen as a good location for onshore wind development for several reasons, including:

- Initial desk-based studies and wind monitoring on Site suggest that there is a good wind resource;
- The Site does not support any international or national ecological or landscape designations;
- The Site is FLS managed land, and is largely covered by conifer plantation. The co-location of wind turbines and conifer plantation is considered to be a productive use

¹ Calculated using the most recent statistics from Department of Energy Security and Net Zero (DESNZ) showing that annual GB average domestic household consumption is 3,323kWh (as of December 2025).



of the land, avoiding potentially more ecologically valuable areas, and allowing for existing onsite infrastructure such as forestry tracks, to be utilised;

- The topography surrounding the Site limits visibility of wind turbines from settlements in the wider area, including but not limited to Fintry, Kilsyth, Cambusbarron, Stirling, Denny, Kippen and Gargunnock; and
- The Site is located in the central belt of Scotland, relatively close to large population centres and therefore in close proximity to the majority of Scottish energy demand.

In terms of design evolution, the Proposed Development involved an iterative process aimed at refining the layout of the proposed wind turbines and associated infrastructure, to minimise potential environmental and visual effects, while optimising energy generation. Some of the key considerations that fed into the design evolution are as follows:

- Visibility of the proposed wind turbines from key locations such as Sir John de Graham's Castle, the hamlet at Carron Valley reservoir dam, Fintry, walking routes to the south of Carron Valley reservoir, and nearby summits such as Meikle Bin (amongst many others);
- Potential noise and visual amenity effects at the closest residential properties to the Site;
- Potential effects on telecommunications infrastructure, aviation radar and other types of radar (such as those operated by the Met Office);
- The topography of the Site i.e. areas with steep slopes;
- Watercourses on Site;
- Peat on Site;
- Potential effects on birds, such as removal of nesting sites and the risk of collisions with wind turbine blades; and
- The size of wind turbine blade that could be transported to Site.

The design process considered the above constraints, the results from environmental assessments and also from stakeholder feedback (including public exhibitions).

Throughout the design evolution, the layout was continuously refined to balance energy generation with the need to minimise potential adverse environmental effects where possible. As a result of the design evolution process, the Proposed Development has had the proposed wind turbine height reduced from 200m to 180m, and wind turbines moved further north, away from the Carron Valley reservoir (amongst other changes).

The final design reflects a comprehensive consideration of environmental, technical, and stakeholder inputs (see **Chapter 2: Design Evolution and Alternatives** of the EIA Report, and the **Design and Access Statement**).

2.2 Proposed Development and Infrastructure / Works (EIA Report Chapter 3)

The Proposed Development is described in detail in **Chapter 3: Description of the Development** of the EIA Report.

The layout of the Proposed Development is shown in **Figure 3**. In summary the Proposed Development comprises the following main elements:

- Wind Turbines;



- Four wind turbines including internal transformers, with blade tip heights of up to 180m.
 - Wind turbine foundations, each approximately 27m in diameter.
 - Crane hardstanding approximately 99m × 35m and 1m deep, with additional temporary crane pad areas.
- On Site Access Tracks;
 - Approximately 7.4km of upgraded access tracks (existing forest tracks).
 - Approximately 2.3km of new access tracks.
 - New and upgraded access tracks would have a typical running width of 6m (wider at bends and junctions), with a further 3m allowance on either side for drainage and cabling.
- Underground Cabling;
 - Approximately 10km of underground cabling along access tracks to connect the wind turbine locations, and the onsite electrical substation.
- Substation Compound;
 - One onsite substation which would accommodate 33kV switchgear to collect electricity generated by the Proposed Development.
 - The substation compound would have an area of approximately 75m × 100m.
 - The compound would include a control and metering building approximately 16m × 11m and 5m high.
- Anemometry Mast (for gathering weather and wind data);
 - One permanent anemometry mast up to 122.5m in height.
 - The mast would have a main foundation area of approximately 3m × 3m, together with four anchor points to support guy wires.
- Temporary Construction Compounds; and
 - Two temporary construction compounds (12,000m² and 4,000m²) respectively.
- Borrow Pit (small on Site quarry).
 - Use of one existing on Site borrow pit, which would be expanded and worked to a total area of approximately 1.82ha.

In addition to the above main components of the Proposed Development, construction of the Proposed Development would also require:

- Forest Felling;
 - Felling totalling 75.8ha would be required for construction of the Proposed Development. 34.4ha of this would be permanent felling, while 41.4ha would be replanted.

2.2.1 Operational Life

It is anticipated that the Proposed Development would have an operational life of 40 years. At the end of this period, the Proposed Development would be decommissioned, or an application may be submitted to extend the project life or repower the Site.



2.2.2 Grid Connection

The Applicant is currently awaiting the outcome of the Gate 2 Variation Offer process (the Proposed Development has been confirmed as a Gate 2 project, however is still awaiting a formal Gate 2 offer) and, consequently, the connection point, route and infrastructure requirements remain unknown. The grid connection point for the Proposed Development is subject to confirmation by the network operator. The route of the grid connection cabling (or the form it would take, i.e. whether overhead lines, underground cables or a combination of both) has not been determined, meaning that its effects are not identifiable / assessable as it has yet to be designed and an application has not yet been made.

The Court of Session, in February 2026, issued a judgement on *Raeshaw Farms Limited v Scottish Ministers* and *Energiekontor* [2026] CSIH 10. The Court confirmed that decision makers must evaluate, on a case by case and fact specific basis, whether or not a wind farm and its grid connection form a single project for the purposes of EIA. Whilst this is for decision makers to consider and arrive at their decision, **Technical Appendix 3.3: Connection to the Electricity Grid - Raeshaw Farms Judgement** of the EIA Report, provides detail to support this decision-making process.

The grid connection would require separate consent under Section 37 of the Electricity Act 1989. The application for the grid connection would be made by SP Energy Networks, which is responsible for the transmission network in the area of the Proposed Development and would own the electrical infrastructure beyond the Site substation. Any cumulative effects associated with the grid connection and the Proposed Development would be considered as part of the separate Section 37 application.

2.3 Habitat Management / Enhancements

An outline Habitat Management Plan (HMP) is included as part of the EIA Report for the Proposed Development. A detailed version of this document would be agreed with key stakeholders (including Stirling Council) and would be implemented throughout the operational life of the Proposed Development in order to facilitate habitat restoration, compensation and enhancement across the Site.

The outline HMP proposes the following for the Site:

- Native woodland;
 - Planting 15.46ha of broadleaf woodland creation.
 - 8.81ha of wet woodland management.
- Riparian zones;
 - 11.83ha of riparian improvement.
- Restoration of peatland;
 - 13.71ha of peatland restoration.
 - 13.92ha peatland buffer around broadleaf woodland creation areas.
- Pond creation and improvement;
 - Improvement of existing ponds totalling approximately 0.03ha.
 - Creation of new ponds totalling approximately 0.02ha.
 - Buffers around ponds of approximately 1.36ha.
 - Connection corridors between ponds totalling approximately 0.18ha.
- Provision and maintenance of wildlife boxes/nests;



- Various locations across the Site targeting pine marten, reptiles, amphibians, bats, barn owls, and woodland birds.
- Invasive species removal;
 - Removal of giant hogweed.

2.4 Contribution Towards Government Targets

The Proposed Development would:

- Contribute towards the Scottish Government's goal for Scotland to have a fully decarbonised energy system by 2045;
- Make a valuable contribution towards UK generation targets and the reduction in emissions of greenhouse gases, principally carbon dioxide, in becoming carbon neutral in approximately 1.2 years; and
- Make Scotland, and therefore the UK, less reliant on imported and price-volatile fossil fuels.

2.5 Community Benefit and Shared Ownership

Should the Proposed Development receive consent, a Community Benefit Fund would be established for communities located in the vicinity of the Site. The fund would be provided in line with Scottish Government guidance and would support local projects and initiatives throughout the operational life of the wind farm.

Based on a conservative estimate for the installed capacity (20MW) of the Proposed Development and the current Scottish Government recommended rate of £5,000 per MW per year, the Community Benefit Fund would provide at least approximately £100,000 per year for local communities. Over the 40-year operational life of the Proposed Development, this could result in several million pounds of investment in the local area.

The Applicant is committed to exploring opportunities for community involvement in the Proposed Development. In addition to a Community Benefit Fund, the Applicant would seek to investigate potential models for community shared ownership in line with Scottish Government Good Practice Principles. This approach would provide an opportunity for local communities to participate financially in the Proposed Development and to share in the benefits arising from renewable energy generation.

The precise form and structure of any shared ownership arrangement would be discussed with local communities and developed as the project progresses. Community shared ownership has the potential to deliver long-term economic benefits to local communities while supporting Scotland's transition to a low-carbon energy system.

3.0 Renewable Energy and Planning Policy (EIA Report Chapter 4)

This section summarises the renewable energy, climate change and planning policy framework within which the Proposed Development is being considered (see **Chapter 4: Policy Context** of the EIA Report, and the **Planning Statement** for more detail).

3.1.1 Climate Change and Renewable Energy Policy

At an international level, governments have recognised the urgent need to address climate change through coordinated action to reduce greenhouse gas emissions and limit global temperature rise. Successive global climate conferences have reinforced the requirement for rapid emissions reductions and a substantial increase in renewable energy generation



worldwide, including wind and solar power, alongside measures to strengthen electricity networks and energy storage.

Within the UK, these international commitments have been translated into domestic legislation requiring the achievement of net zero greenhouse gas emissions by 2050. UK energy policy recognises that renewable electricity generation represents one of the most cost-effective and scalable means of decarbonising the energy system while improving energy security and reducing reliance on imported fossil fuels.

Scotland has adopted an even more ambitious climate change framework, with a statutory target of achieving net zero emissions by 2045. Scottish Government policy makes clear that meeting this target will depend on a rapid and sustained increase in renewable energy deployment over the coming decade.

The Scottish Government's 'Onshore Wind Policy Statement 22' (OWPS 22) was published in December 2022. The OWPS 22 has been published with a purpose of restating the importance of onshore wind as a tool to accelerate Scotland's transition towards a net zero society. The statement emphasises the importance of onshore wind in Scotland as a cheap and reliable source of zero carbon electricity. Within the statement, the Scottish Government commits to an overall ambition of 20GW of total installed onshore wind capacity by 2030.

3.1.2 Planning Policy

The key planning policy documents relevant to the Proposed Development are as follows:

- National Planning Framework 4 (2023) (NPF4); and
- Stirling Local Development Plan (2018) (including relevant Supplementary Guidance).

Both of these documents are supportive of renewable energy projects in general, so long as certain criteria (detailed within these documents) are met.

NPF4 was adopted by the Scottish Government on 13th February 2023. It sets out the principles for spatial development, defines national developments and regional priorities and sets out national planning policy.

NPF4 sets out significant and increased emphasis on the climate change and net zero agenda to bring together cross-cutting priorities and achieve sustainable development through three key themes: sustainable places, liveable places and productive places.

In terms of renewable energy generation, NPF4 (Annex B – National Developments of Need) recognises that a large and rapid increase in electricity generation from renewable sources will be essential in order to meet statutory net zero emissions targets.

4.0 Environmental Impact

4.1 Landscape and Visual (EIA Report Chapter 7)

EIA Report **Chapter 7: Landscape and Visual** contains an assessment of the potential impacts of the Proposed Development on Landscape and Visual receptors and designations.

4.1.1 Existing Environment

The Site is located at Cairnoch Hill, immediately north of Carron Valley Reservoir, within a landscape characterised by commercial forestry, upland hills, open moorland and waterbodies. The Site lies within the Southern Hills Local Landscape Area and forms part of a wider landscape that includes the Fintry, Gargunnock and Touch Hills, the Campsie Fells and Kilsyth Hills. The surrounding landscape is also influenced by a number of existing and consented wind energy developments, including Earlsburn, Earlsburn North, Craigengelt,



Craigannet and Shelloch Wind Farms. The surrounding area contains a range of people and places that experience views of the landscape, including nearby communities, users of local roads, walkers, cyclists and visitors enjoying outdoor recreation. Views towards the Site are influenced by the varied topography, extensive forestry cover, the Carron Valley Reservoir and the presence of existing wind farm developments, which provide an established renewable energy context within the wider landscape.

4.1.2 Assessment Methodology Overview

The Landscape and Visual Impact Assessment considered how the Proposed Development may affect both the character of the landscape and the views experienced by people in the surrounding area. The assessment was informed by site surveys, photography, computer modelling and a review of published landscape studies and planning guidance.

The assessment considered the likely effects on the landscape itself, including landscape character areas and designated landscapes, as well as the visual effects experienced by people living in nearby communities, travelling on local roads, using walking routes and visiting popular viewpoints. A series of representative viewpoints was used to assess how the Proposed Development would appear from different locations and distances.

The assessment also considered the influence of existing wind farms in the surrounding area, the effects of aviation lighting during hours of darkness, and the potential for cumulative effects arising from other operational, consented and proposed wind energy developments. The findings were used to identify where significant landscape and visual effects may occur and where effects would be limited by distance, landform, forestry cover or the presence of existing wind energy development.

4.1.3 Potential Effects

The potential landscape and visual impacts of the Proposed Development have been thoroughly assessed, considering both the construction and operational phases of the Proposed Development.

4.1.3.1 Potential Effects During Construction

During construction, landscape effects would arise primarily from tree felling, earthworks, the creation and upgrading of access tracks, construction compounds, crane hardstandings and wind turbine foundations. These activities would introduce temporary changes to the appearance of the Site and its immediate surroundings and would be most noticeable at close range.

Construction activities would also be visible from some nearby roads, walking routes and viewpoints, where the presence of construction plant, machinery and exposed ground could temporarily affect views. These effects would be localised and short-term in nature, as they would be limited to the construction period and confined largely to the Site and its immediate surroundings.

The assessment found that construction effects would be more limited than those experienced during operation, as they would be temporary and would cease once the wind farm becomes operational and areas affected by construction are reinstated.

4.1.3.2 Potential Effects During Operation

During operation, the most noticeable change would be the introduction of four wind turbines into the landscape. The turbines would be visible from some nearby locations and would become a new feature in views towards Cairnoch Hill. The extent to which the wind turbines would be seen would vary depending on a person's viewing location, how far they are from the Site, and the influence of landform, forestry and existing wind farms in the area.



People living nearby, travelling on local roads, or visiting the area for recreation may experience changes to their views. The effects would generally be greatest closer to the Site and in locations with open views towards the proposed wind turbines. In some places, the wind farm would become a noticeable feature within the landscape, while in others it would form part of a wider view that already includes existing wind energy developments.

The assessment also considered the effect of aviation lighting required for safety purposes. These lights would be visible during hours of darkness and would introduce new points of light into the night-time landscape. The influence of the lighting would be most noticeable from locations closest to the Site.

Maintenance activities would be limited to occasional visits to the Site and would not normally be noticeable to most people.

Significant effects are predicted for several receptors that were considered during the assessment. These include significant effects on the Southern Hills Local Landscape Area, the Carron Valley Reservoir Shore Trail, Meikle Bin and the B818 amongst several others.

4.1.3.3 Potential Cumulative Effects

The assessment considered how the Proposed Development may be seen in combination with other existing, consented and proposed wind farms in the surrounding area. In some locations, people may be able to see more than one wind farm within the same view, which can increase the overall presence of wind energy development in the landscape.

The greatest combined effects would occur within approximately 6km of the Site, where the Proposed Development may be seen alongside other nearby wind farms. In these locations, views may contain a greater number of wind turbines and wind energy may become a more noticeable feature of the landscape. Further away from the Site, the combined effects generally become less apparent due to distance, landform and forestry reducing visibility.

Overall, the combined effects are expected to be limited to particular locations where several wind farms can be seen at the same time. For much of the wider area, the additional change resulting from the Proposed Development would be limited.

4.1.4 Mitigation measures

Measures to reduce landscape and visual effects were incorporated into the design of the Proposed Development from an early stage. The final layout was developed through an iterative design process that took account of landscape and visual considerations. This process led to changes in turbine height, turbine positioning and the overall layout of the Proposed Development.

To reduce effects during hours of darkness, it is proposed, subject to agreement with the Civil Aviation Authority, to reduce the intensity of the aviation lighting on wind turbines, during certain weather conditions (clear days with good visibility).

4.1.5 Assessment Results

The assessment found that the most noticeable landscape and visual effects would occur within approximately 6km of the Site, where the wind turbines would be most visible and would represent a new feature within the landscape from some views. Some significant landscape and visual effects are predicted, particularly from nearby roads, walking routes, viewpoints and locations around Carron Valley reservoir.

Beyond approximately 6km from the Site, the influence of the Proposed Development generally reduces due to distance, landform, forestry cover and the presence of existing wind farms within the wider landscape. As a result, effects become less noticeable from many locations further away.



The assessment also found that the integrity of nationally designated landscapes would not be significantly affected.

4.2 Ecology (EIA Report Chapter 8)

EIA Report **Chapter 8: Ecology** assesses the potential impacts of the Proposed Development on ecological receptors and designations.

4.2.1 Existing Environment

The Site is predominantly composed of commercial forestry plantation, with areas of wet woodland, wetlands, watercourses and a small area of degraded blanket bog also present. Small areas of higher-value habitats, including peatland and wetland habitats, occur within and around the Site and contribute to local biodiversity.

Several sites designated for ecological reasons are located within the surrounding area, including the Endrick Water Special Area of Conservation and Site of Special Scientific Interest, which are designated for Atlantic salmon, brook lamprey and river lamprey. Other designated sites are present in the wider landscape but are generally separated from the Site by distance or limited ecological connectivity.

Protected species recorded within the Site include otter, badger, pine marten, red squirrel and several bat species. Bat surveys identified at least six species, with common pipistrelle and soprano pipistrelle being the most frequently recorded. No bat roosts or protected mammal resting places that could be affected by the Proposed Development were identified during the surveys.

Watercourses within the Site drain towards the Endrick Water and Carron Valley Reservoir. Although no fish were recorded within Site watercourses during surveys, fish species are known to occur in downstream watercourses and the reservoir. Overall, the Site supports a range of habitats and species of ecological value at both local and wider geographic scales.

4.2.2 Methodology Assessment Overview

The assessment was informed by desk studies, consultation responses and a programme of ecological field surveys undertaken between 2022 and 2024. The surveys identified the habitats and species present within the Site and established the ecological baseline against which potential effects of the Proposed Development were assessed. The study area varies by receptor, with habitat surveys covering the Site plus buffers of 250m around turbines and 100m around other infrastructure, and species-specific areas extending up to 500m for great crested newt and 200 m for protected mammals and aquatic assessments.

The assessment considered the potential effects of the construction and operation of the Proposed Development on designated sites, habitats and protected species. Effects were assessed in accordance with recognised ecological impact assessment guidance and considered direct effects, such as habitat loss, as well as indirect effects, including disturbance, changes in habitat condition and effects on ecological connectivity.

The assessment also considered cumulative effects arising from the Proposed Development in combination with other developments in the surrounding area, together with opportunities to enhance biodiversity through habitat restoration and long-term habitat management.

4.2.3 Potential Effects

The assessment considered the potential effects of the construction and operation of the Proposed Development on designated sites, habitats and protected species. Potential effects included habitat loss and disturbance, changes to habitat condition, impacts on protected species, effects on water-dependent ecological features, and the potential for



disturbance or collision risk for bats. The assessment also considered potential cumulative effects.

4.2.3.1 Potential Effects During Construction (without further mitigation)

Construction of the Proposed Development would result in the loss of areas of habitat which are required for wind turbines, new access tracks and associated infrastructure. Most habitat loss would comprise commercial conifer plantation woodland (approximately 33.4ha of permanent loss), with smaller areas of wet woodland (approximately 0.20ha of permanent loss), and wetlands (approximately 0.75ha of permanent loss) also affected.

There is also the potential for temporary disturbance to habitats and protected species from construction activities, increased vehicle movements, noise and the presence of personnel. Construction activities have the potential to affect watercourses and connected habitats if not carefully managed.

The assessment considered potential effects on designated sites, habitats, protected mammals, bats, fish and other ecological features. Habitat losses associated with the Proposed Development are generally limited in extent, with most losses affecting habitats of lower ecological value.

Overall, the assessment concluded that no significant effects on designated sites, habitats, protected mammals, fish or other ecological features are anticipated during construction.

4.2.3.2 Potential Effects During Operation (without further mitigation)

During operation, the Proposed Development could affect habitats and wildlife through the presence and operation of the wind turbines and associated infrastructure. Potential effects considered included effects on designated sites and habitats, disturbance to wildlife, and collision risk for bats.

The assessment found that no significant effects on designated sites, habitats, protected mammals, fish or other ecological features are anticipated during operation.

Bat surveys identified that common pipistrelle and soprano pipistrelle bats are active within the Site and could potentially be at risk of collision with operational wind turbines. Applying a precautionary approach, the assessment identified the potential for a significant effect on local populations of these species in the absence of further mitigation.

Overall, the assessment concluded that bats represent the principal ecological receptor requiring further consideration during operation. No significant operational effects were identified for other ecological features.

4.2.3.3 Potential Cumulative Effects

The assessment considered whether the effects of the Proposed Development on ecology could act in combination with those of other existing, consented and proposed wind farms in the surrounding area.

No significant cumulative effects on ecology are anticipated.

4.2.4 Mitigation Measures

A range of measures would be implemented to avoid, reduce or offset potential effects on ecological features during the construction and operation of the Proposed Development.

These measures include the implementation of good practice environmental management measures during construction.

Species protection measures would be implemented for protected wildlife, supported by pre-construction surveys and ecological supervision by an Ecological Clerk of Works (ECoW).



Measures would also be adopted to protect watercourses, control pollution risks and minimise disturbance to habitats and wildlife.

A Bat Monitoring and Mitigation Strategy (BMMS) would be implemented to monitor bat activity following construction. If monitoring identifies potentially significant effects on bats, additional measures, such as turbine curtailment during periods of higher bat activity, would be implemented where required.

A HMP would be implemented throughout the operational life of the Proposed Development. This would deliver habitat restoration, management and biodiversity enhancement measures, including native woodland creation, riparian woodland planting, wet woodland management, peatland restoration, pond creation and enhancement, provision of bat boxes, and the control of invasive non-native species.

These measures would provide compensation for habitat losses associated with the Proposed Development and deliver long-term biodiversity enhancements across the Site.

4.2.5 Assessment Result

The assessment concluded that, once the proposed mitigation is applied, no significant effects are anticipated on designated sites, habitats, protected mammals, fish, amphibians, reptiles or other ecological features as a result of the Proposed Development.

The assessment identified the potential for significant effects on local populations of common pipistrelle and soprano pipistrelle bats during operation in the absence of further mitigation. A BMMS would therefore be implemented to monitor bat activity and introduce additional mitigation if required.

A HMP would be implemented throughout the lifetime of the Proposed Development. This would provide habitat restoration, compensation and biodiversity enhancement through measures including woodland creation, peatland restoration, wetland management, pond enhancement and the management of invasive non-native species.

Following the implementation of the proposed mitigation, monitoring and habitat enhancement measures, no significant residual effects on important ecological features are anticipated. The HMP would also deliver substantial long-term biodiversity enhancement across the Site.

4.3 Ornithology (EIA Report Chapter 9)

EIA Report **Chapter 9: Ornithology** contains an assessment of the potential effects of the Proposed Development on birds.

4.3.1 Existing Environment

The Site is located within a landscape of commercial forestry, moorland and open water associated with Carron Valley reservoir. These habitats support a range of bird species and provide areas for breeding, feeding and movement throughout the year.

Bird surveys undertaken between 2021 and 2023 recorded a variety of species of conservation importance within and around the Site. These included osprey, goshawk, red kite and peregrine, together with breeding waders such as curlew, lapwing, snipe and oystercatcher. Greylag goose and pink-footed goose were also recorded using the area. Osprey was the most frequently recorded species during the surveys.

The habitats surrounding Carron Valley reservoir and the extensive areas of forestry and open ground in the wider landscape provide suitable habitat for a number of these species, particularly birds of prey and breeding waders.



Overall, the Site supports a bird community typical of upland forestry and moorland habitats in central Scotland, including a number of species that are of conservation importance at a regional and national level.

4.3.2 Methodology Assessment Overview

The ornithology assessment considered the potential effects of the Proposed Development on bird species recorded within and around the Site, with particular focus on species of conservation importance.

The assessment was informed by bird surveys undertaken between 2021 and 2023, together with existing records and a review of designated sites in the surrounding area. This information was used to understand how birds use the Site and the surrounding landscape for breeding, feeding and movement.

The assessment considered the potential effects of habitat loss, disturbance to birds, changes to bird movements and the risk of collisions with wind turbines. It also considered whether effects from the Proposed Development could combine with those from other wind farm developments in the surrounding area.

The assessment focused on bird species considered to be of greatest conservation importance within the study area, including osprey, greylag goose, pink-footed goose, curlew, lapwing, snipe, oystercatcher, goshawk, red kite and peregrine.

Mitigation measures were incorporated into the design of the Proposed Development and additional measures were identified, where required, to avoid or reduce potential effects on birds.

4.3.3 Potential Effects

The assessment considered the potential effects of the Proposed Development on birds during the construction and operational phases, taking account of the species and habitats present within and around the Site. Potential effects considered included habitat loss, disturbance to birds, changes to bird movements and the risk of collisions with wind turbines.

4.3.3.1 Potential Effects During Construction (without further mitigation)

Construction activities have the potential to affect birds through the temporary loss of small areas of habitat and increased levels of activity associated with construction works. There is also potential for disturbance to breeding and foraging birds in the vicinity of construction areas.

The assessment considered potential effects on species of conservation importance recorded within and around the Site, including nightjar, osprey, greylag goose, pink-footed goose, curlew, lapwing, snipe, oystercatcher, goshawk, red kite and peregrine.

Particular consideration was given to the potential for temporary disturbance to breeding birds and the loss of small areas of habitat used for nesting or foraging. The assessment also considered the potential for birds to avoid areas close to construction activities for a limited period.

No significant effects are predicted for any of the species assessed, as a result of the Proposed Development.

4.3.3.2 Potential Effects During Operation (without further mitigation)

The assessment considered the potential for birds to be affected by the presence of the wind turbines and associated infrastructure, when operational. Potential effects included disturbance or displacement of birds from areas used for breeding or feeding, changes to bird flight patterns and the risk of collisions with turbine blades.



Particular consideration was given to species of conservation importance recorded within and around the Site, including nightjar, osprey, greylag goose, pink-footed goose, curlew, lapwing, snipe, oystercatcher, goshawk, red kite and peregrine.

The assessment found that there is limited potential for the proposed wind turbines to have a displacement or barrier effect, once operational, on the species considered in the assessment.

No significant effects as a result of predicted collisions between birds and the proposed wind turbines, once operational, have been identified, with the exception of osprey. Significant effects have been identified on osprey due to a predicted average annual collision rate of approximately 2.6 ospreys.

In summary, most species are unlikely to experience significant effects during operation of the Proposed Development. However, osprey was identified as having the greatest potential to experience significant effects due to its regular use of the area and the potential risk of collision with wind turbine blades.

4.3.3.3 Potential Cumulative Effects

The assessment considered whether the effects of the Proposed Development on birds could act in combination with those of other existing, consented and proposed wind farms in the surrounding area. Potential cumulative effects included habitat loss, disturbance to birds, changes to flight behaviour and the risk of collisions with wind turbines.

The assessment found that cumulative effects on most bird species would be limited. While some species may encounter more than one wind farm within the wider landscape, the overall effects on bird populations are expected to remain low.

No significant cumulative effects on bird populations are anticipated.

4.3.4 Mitigation Measures

A range of measures would be implemented to protect birds during the construction and operation of the Proposed Development. These include the use of good practice measures during construction.

Prior to construction, surveys would be undertaken where necessary to identify any active bird nests close to working areas. Appropriate protection measures would then be put in place to avoid disturbance to breeding birds. An ECoW would provide advice during construction and oversee the implementation of relevant mitigation measures.

Additional measures are proposed for osprey, the species identified as having the greatest potential to be affected by the Proposed Development. These include the provision of artificial nesting platforms (and ongoing monitoring) further away from the proposed wind turbine locations, to help reduce collision risk and support continued breeding activity in the area.

4.3.5 Assessment Results

The assessment found that the construction and operation of the Proposed Development would not result in significant effects on bird populations following the implementation of the proposed mitigation measures.

During construction, effects on species such as curlew, lapwing, snipe, oystercatcher, goshawk, red kite and peregrine are expected to be limited and temporary. Appropriate measures would be implemented to avoid disturbance to breeding birds and to protect active nests where required.



During operation, the assessment concluded that effects on greylag goose, pink-footed goose, curlew, lapwing, snipe, oystercatcher, goshawk, red kite and peregrine would not be significant. Predicted effects on these species are expected to be low due to the limited levels of activity recorded within the Site and the availability of suitable habitat in the surrounding area.

Osprey was identified as the species with the greatest potential to be affected by the Proposed Development, principally as a result of collision risk. Specific mitigation measures, including the provision of artificial nesting platforms have therefore been proposed. Following implementation of these measures, the residual effects on osprey are assessed as not significant.

The assessment also concluded that no significant cumulative effects on bird populations are anticipated when the Proposed Development is considered alongside other wind farm developments in the surrounding area.

Overall, the assessment concluded that the residual effects of the Proposed Development on ornithology would be not significant.

4.4 Hydrology, Hydrogeology, Geology and Soils (EIA Report Chapter 10)

EIA Report **Chapter 10: Hydrology, Hydrogeology, Geology and Soils** contains an assessment of the potential effects of the Proposed Development on soils and the water environment.

4.4.1 Existing Environment

The Site is located on Cairnoch Hill and drains into the Carron Valley reservoir, Earls Burn and Endrick Water catchments. The area is characterised by commercial forestry, upland terrain, numerous small watercourses and areas of peat and peaty soils. The Carron Valley reservoir and Endrick Water catchments are designated as Drinking Water Protected Areas, and the Endrick Water is part of a nationally and internationally important nature conservation designation due to its importance for fish and freshwater habitats.

The Site is underlain by volcanic bedrock, glacial deposits and generally shallow peat, with most recorded peat depths being less than 0.5m. Groundwater resources are limited and associated with a low-productivity aquifer, while surface water quality within the surrounding catchments is generally classified as good. Flood risk within the Site is largely confined to existing watercourses and surface water flow paths. Private water supplies, drinking water catchments, peat deposits, groundwater, surface waters and designated freshwater habitats were identified as the key environmental receptors considered within the assessment.

4.4.2 Methodology Assessment Overview

The assessment considered the potential effects of the Proposed Development on surface water, groundwater, geology, soils and peat during both construction and operation. Information was gathered through a combination of desk-based studies, consultation responses and Site surveys, including peat depth surveys, hydrological walkovers, watercourse surveys and private water supply investigations.

The assessment identified key environmental features that could potentially be affected by the Proposed Development, including watercourses, peat deposits, groundwater resources, drinking water catchments, private water supplies and designated freshwater habitats. The existing environmental conditions were then used to assess how these features may respond to the proposed works.



The assessment also considered how embedded design measures and standard good practice would avoid or reduce potential effects. In addition, the assessment examined the potential for cumulative effects with other nearby wind energy developments and took account of future changes that may arise as a result of climate change. Overall, the assessment focused on identifying where effects could occur, their likely importance, and whether any additional mitigation measures would be required.

4.4.3 Potential Effects

The potential effects of the Proposed Development on hydrology, hydrogeology, geology and soils have been thoroughly assessed, considering both the construction and operational phases of the project. The assessment considered potential effects on surface water, groundwater, private water supplies, water quality, drainage and flood risk within and around the Site.

4.4.3.1 Potential Effects during Construction (without further mitigation)

During construction, there is potential for effects on soils, peat, surface water and groundwater as a result of activities such as vegetation clearance, excavation works, access track construction, watercourse crossing upgrades, foundation excavations and the storage and movement of materials. These activities have the potential to disturb peat and soils, alter local drainage patterns, increase sediment entering watercourses, and affect surface water quality.

There is also potential for pollution incidents associated with the use of fuels, oils, concrete and other construction materials. If unmanaged, these could affect nearby watercourses, groundwater resources, drinking water catchments and water-dependent habitats. Construction activities could also increase the risk of erosion and sediment being transported into nearby watercourses during periods of heavy rainfall.

Other potential effects include temporary disturbance to peat deposits and carbon-rich soils, potential effects on designated freshwater environments connected to the Site, and impacts on infrastructure such as Scottish Water assets located close to the proposed access arrangements. Construction activities may also affect the movement of water across the Site, which could influence local water levels and runoff patterns if not appropriately managed. These effects would be temporary and would be associated with the construction phase only.

With the good practice construction techniques employed during construction, there are no significant effects predicted.

4.4.3.2 Potential Effects during Operation (without further mitigation)

During operation, potential effects on the water environment are considerably lower than during construction, as no major ground disturbance activities would be taking place. However, there remains potential for minor effects associated with routine maintenance activities, including vehicle movements, maintenance of tracks and drainage infrastructure, and the storage and handling of oils and other substances associated with wind turbine operation.

There is also potential for the presence of the wind farm infrastructure to influence local surface water drainage patterns, particularly where tracks, hardstandings and other permanent infrastructure alter the way water moves across the Site. In addition, the long-term presence of infrastructure within peat and soil areas could affect local hydrological conditions and the movement of water through the ground.

Operational effects could potentially extend to downstream watercourses, groundwater resources, drinking water catchments and water-dependent habitats if changes to water



quality or water flow were to occur. There is also potential for effects on designated freshwater environments connected to the Site. However, operational activities are limited in nature and frequency when compared with the construction phase, and any effects would be expected to arise over a longer timescale.

Routine maintenance visits would be infrequent and are not expected to result in substantial disturbance to soils, peat, surface water or groundwater beyond that associated with the permanent presence of the Proposed Development.

With the good practice maintenance techniques employed during operation, there are no significant effects predicted.

4.4.3.3 Potential Cumulative Effects

The assessment considered the potential for the Proposed Development to act in combination with other nearby wind energy developments within the same surface water catchments. Cumulative effects could arise where multiple developments influence the same watercourses, groundwater resources, peat deposits or drinking water catchments.

Potential cumulative effects may include changes to water quality, increased sediment entering watercourses, disturbance of peat and soils, and changes to surface water drainage patterns. These effects would be most relevant where developments are located within the same catchment and have the potential to affect shared water resources.

Several operational and consented wind farms are located within the wider area. However, the assessment found that the potential for cumulative effects on hydrology, hydrogeology, geology and soils is low because these developments are subject to similar environmental controls and management measures. As a result, the additional contribution of the Proposed Development to cumulative effects on the water environment is expected to be limited.

No significant cumulative effects are predicted.

4.4.4 Mitigation Measures

A range of measures have been incorporated into the design of the Proposed Development to protect soils, peat, groundwater and surface water resources. These include avoiding sensitive areas where possible, minimising works near watercourses, reducing disturbance of peat, and making use of existing infrastructure where practicable.

Construction activities would be managed through a Construction Environmental Management Plan (CEMP), which would include measures for pollution prevention, sediment control, drainage management and peat handling. Water quality monitoring would also be undertaken during construction to identify and address any unexpected changes.

Additional measures include the use of sustainable drainage systems, protection of drinking water resources and private water supplies, and the implementation of good practice measures for watercourse crossings and the storage and handling of fuels and other potentially polluting materials. Routine inspection and maintenance of drainage infrastructure would continue throughout the operational life of the wind farm.

4.4.5 Assessment Result

The assessment concluded that, with the implementation of the proposed mitigation measures and good practice construction methods, the Proposed Development would not result in significant effects on hydrology, hydrogeology, geology, soils or peat.

The design has sought to avoid sensitive environmental features where possible, including deeper peat deposits, private water supplies and watercourses. Measures to protect surface water, groundwater and drinking water resources would ensure that water quality and water flow are maintained during construction and operation.



Overall, no significant residual effects are predicted on surface water, groundwater, peat, soils, private water supplies, drinking water catchments, designated freshwater environments or flood risk. Similarly, no significant cumulative effects are anticipated as a result of the Proposed Development.

4.5 Cultural Heritage and Archaeology (EIA Report Chapter 11)

EIA Report **Chapter 11: Cultural Heritage and Archaeology** contains the assessment of the potential effects of the Proposed Development on Cultural Heritage and Archaeology assets.

4.5.1 Existing Environment

The Site is located on Cairnoch Hill within a landscape that contains a rich archaeological and historic legacy spanning prehistoric, medieval and post-medieval periods. While no designated heritage assets are located within the Site itself, a range of recorded archaeological remains are present within and around the Site, including former farmsteads, field boundaries, enclosures, burial monuments and the remains of past agricultural activity.

The wider landscape has been shaped by centuries of human activity and includes important cultural landmarks such as Sir John de Graham's Castle, prehistoric cairns and standing stones. The setting of some of these assets contributes to their cultural significance through their relationship with the surrounding hills, valleys, watercourses and historic routeways. The landscape has also been influenced by more recent changes, including the creation of Carron Valley reservoir, commercial forestry and existing wind farms, all of which form part of the current historic landscape context.

4.5.2 Methodology Assessment Overview

The assessment for cultural heritage considered the potential effects of the Proposed Development on both known and previously unrecorded archaeological remains, as well as the settings of historic assets in the surrounding area. The assessment was informed by desk-based research, consultation with Historic Environment Scotland and Stirling Council, Site walkover surveys, historic maps, aerial photographs and field inspections of selected heritage assets.

The assessment considered heritage assets within the Site and the surrounding area, including Scheduled Monuments, listed buildings, conservation areas, Gardens and Designed Landscapes, battlefields and non-designated archaeological remains. Particular attention was given to assets whose significance may be influenced by their landscape setting, views or relationship with surrounding historic features.

The assessment examined the potential for direct effects resulting from construction activities, indirect effects on buried archaeological remains, and changes to the setting of heritage assets during operation. It also considered whether the Proposed Development could contribute to cumulative effects when viewed alongside other existing, consented or proposed wind energy developments in the surrounding landscape.

4.5.3 Potential Effects

The potential effects of the Proposed Development on archaeology and cultural heritage have been assessed for both the construction and operational phases of the project. The assessment considers the potential for direct impacts on archaeological remains, as well as effects on the setting and cultural significance of heritage assets within the surrounding area.



4.5.3.1 Potential Effects during Construction (without further mitigation)

During construction, there is potential for archaeological remains within the Site to be affected by excavation and other groundworks required to build the wind farm. This could include both known historic features and any previously unidentified remains that may survive below ground.

Construction activities would also introduce temporary changes to the surrounding area through the presence of construction machinery, vehicles, temporary compounds and other works. These activities could temporarily alter the way some historic places are experienced, although such changes would be limited to the construction period.

The assessment identified a small number of historic features within the Site that could be affected by construction activities, together with a low potential for previously unknown archaeological remains to be present. Any effects would be confined to the areas where construction works take place and would not extend across the wider historic environment.

There are no significant effects predicted during construction of the Proposed Development.

4.5.3.2 Potential Effects During Operation (without further mitigation)

During operation, potential effects on cultural heritage would arise primarily from the presence of the wind turbines within the landscape and the way they may change the surroundings of some historic sites and monuments. In particular, the assessment considered whether the wind turbines could influence the experience, appreciation or understanding of heritage assets whose cultural significance is partly connected to their views, landscape setting or relationship with other historic features. The assessment identified that some prehistoric monuments and Sir John de Graham's Castle may experience changes to their setting as a result of the Proposed Development. In these locations, the wind turbines would become a noticeable feature in some views and may alter how parts of the historic landscape are experienced. However, many heritage assets within the wider area would experience little or no change because of distance, limited visibility, topography, forestry cover or the influence of existing development within the landscape.

No physical effects on archaeological remains are expected during operation, as operational activities would be limited to routine maintenance and would not involve substantial new ground disturbance.

Significant effects are predicted, as a result of the Proposed Development, on three cultural heritage assets. These are the Todholes cairns Scheduled Monuments (SM2492) (SM4491), located to the north west of the Site, and Sir John de Graham's Castle (SM4278) located to the west of the Site. The assessment finds however, that although these heritage assets are predicted to experience a significant effect from the Proposed Development, the integrity of their setting would not be significantly impacted.

4.5.3.3 Potential Cumulative Effects

The assessment considered how the Proposed Development may affect the setting of historic sites and monuments when viewed alongside other existing, consented and proposed wind farms in the surrounding area. In some locations, people may experience more than one wind farm within the same view, increasing the presence of wind energy development within the historic landscape.

The greatest combined effects are predicted for a small number of heritage assets located closest to the Site, where the Proposed Development would be seen alongside other nearby wind farm developments. In these locations, the presence of multiple wind farms may influence how parts of the surrounding historic landscape are experienced and understood.



Overall, the assessment concluded that the Proposed Development would not substantially increase cumulative effects beyond those identified for the wind farm on its own. Significant cumulative effects are however predicted on the Todholes cairns Scheduled Monuments (SM2492) (SM4491), located to the north west of the Site, and Sir John de Graham's Castle (SM4278) located to the west of the Site. The assessment finds however, that although these heritage assets are predicted to experience a significant effect from the Proposed Development, the integrity of their setting would not be significantly impacted.

4.5.4 Mitigation Measures

Measures to protect cultural heritage have been incorporated into the design of the Proposed Development from an early stage. This included avoiding known heritage assets where possible and refining the layout to reduce potential effects on important archaeological sites and historic landmarks within the surrounding area. The design process also sought to minimise effects on the setting of heritage assets by considering the location and arrangement of wind turbines in relation to key historic sites.

Where construction activities have the potential to affect archaeological remains, appropriate measures would be implemented to identify, protect, record and manage any heritage features encountered during the works. Procedures would also be in place to ensure that any previously unknown archaeological remains discovered during construction are appropriately dealt with.

4.5.5 Assessment Result

The assessment concluded that the Proposed Development would not result in any significant effects on known archaeological remains during construction.

No significant effects are predicted on previously unrecorded archaeological remains.

During operation, most heritage assets within the wider area are not expected to experience significant effects. However, significant effects on the setting of three Scheduled Monuments were identified: two prehistoric cairns at Todholes (SM2492) (SM4491), and Sir John de Graham's Castle (SM4278). For these assets, the Proposed Development would introduce changes to parts of their historic landscape setting and how they are experienced. However, although these three heritage assets are predicted to experience a significant effect from the Proposed Development (and cumulatively with other developments considered), the integrity of their setting would not be significantly impacted.

4.6 Traffic and Transport (EIA Report Chapter 12)

EIA Report **Chapter 12: Traffic and Transport** contains an assessment of the potential effects of the Proposed Development on the road network surrounding the Site.

4.6.1 Existing Environment

The Site is accessed from the B818, which connects to Denny and the wider road network. The surrounding roads are used by local residents, businesses, agricultural vehicles, pedestrians, cyclists and recreational users.

Traffic levels are generally low on roads closest to the Site, with more traffic on roads that are closer to population centres such as Denny, Fintry and Kilsyth. The B818 would provide the main route for construction traffic travelling to and from the Proposed Development.

4.6.2 Methodology Assessment Overview

The traffic and transport assessment considered the effects of vehicle movements associated with the construction of the Proposed Development on the local road network



and its users. The assessment was undertaken in accordance with recognised good practice guidance for the environmental assessment of traffic and movement.

The assessment was informed by traffic surveys, road safety information and a review of local road conditions. Predicted construction traffic, including Heavy Goods Vehicles (HGV) and abnormal load deliveries, was compared with existing and future traffic levels to identify where notable changes could occur.

Potential cumulative effects arising from other nearby developments were also considered.

4.6.3 Potential Effects

The potential traffic and transport effects of the Proposed Development have been assessed for the construction phase of the project. The assessment considered the effects of construction traffic, including HGVs and abnormal load deliveries, on the local road network and its users.

4.6.3.1 Potential Effects during Construction (without further mitigation)

Construction of the Proposed Development would generate additional traffic on roads used to access the Site, including cars, vans, HGVs and the abnormal loads required to transport wind turbine components. The greatest increase in traffic would occur during the busiest periods of construction activity.

Additional construction traffic has the potential to affect road users and nearby communities through changes in traffic levels, vehicle movements and the presence of larger vehicles on local roads. The assessment considered potential effects on pedestrians, cyclists, local residents and other road users, including road safety, driver delay, amenity and the movement of abnormal loads.

The B818, which provides access to the Site, is expected to experience the largest increase in traffic during construction. However, traffic increases on the wider road network would be considerably lower due to the existing traffic volumes on these roads. The assessment also considered the temporary effects associated with the delivery of wind turbine components, which would require a limited number of abnormal load movements along the approved delivery route.

No significant effects are predicted on the local road network during construction of the Proposed Development.

4.6.3.2 Potential Effects during Operation (without further mitigation)

Once operational, the Proposed Development would require only occasional vehicle visits for routine inspection and maintenance activities. As a result, very little traffic would be generated during operation.

Traffic levels associated with operation are expected to be low and would not be noticeable on the local road network. Consequently, no material effects on road users, local communities, pedestrians or cyclists are anticipated during the operational life of the Proposed Development. No significant effects are predicted during operation of the wind farm.

4.6.3.3 Potential Cumulative Effects

The assessment considered whether construction traffic associated with other planned developments could combine with traffic from the Proposed Development and affect the same sections of the local road network.

The assessment concluded that there is limited potential for cumulative traffic effects, as other wind farm developments in the area would use different access routes and would not



significantly overlap with the roads used by the Proposed Development. In addition, the assessment found that traffic associated with other planned developments would not result in material cumulative effects on the local road network when considered alongside the Proposed Development.

Overall, no significant cumulative effects on road users, local communities, pedestrians or cyclists are anticipated.

4.6.4 Mitigation Measures

A Construction Traffic Management Plan (CTMP) would be prepared and implemented to manage construction traffic and minimise disruption on the local road network. The plan would include measures relating to vehicle routing, timing of deliveries, communication with local communities and procedures for managing abnormal load deliveries.

Measures would also be implemented to promote safe use of the road network during construction, including the management of HGV movements, driver codes of conduct, advance notification of abnormal load deliveries and arrangements for monitoring road conditions.

Where required, temporary traffic management measures would be put in place to facilitate the safe delivery of wind turbine components and construction materials. These measures would help reduce potential effects on road users, local communities, pedestrians and cyclists during the construction phase of the Proposed Development.

4.6.5 Assessment Result

The assessment concluded that the traffic generated during construction of the Proposed Development would not result in significant effects on the local road network or its users. Although construction activities would increase traffic levels on roads used to access the Site, the predicted effects on road users, local communities, pedestrians and cyclists are expected to be limited and temporary.

The delivery of wind turbine components would require a small number of abnormal load movements. While these deliveries may result in short periods of disruption, the effects would be temporary and managed through appropriate traffic management measures.

No significant cumulative traffic and transport effects were identified.

During operation, only occasional maintenance vehicles would be required and no significant effects on the local road network are anticipated.

Overall, the assessment concluded that the residual effects of the Proposed Development on traffic and transport would be not significant.

4.7 Noise (EIA Report Chapter 13)

EIA Report **Chapter 13: Noise** assesses the potential noise effects of the Proposed Development on nearby residential receptors.

4.7.1 Existing Environment

The Site is located within a predominantly rural area characterised by commercial forestry, open moorland and scattered residential properties. The surrounding environment is generally quiet, with noise levels typically influenced by natural sources such as wind, vegetation and weather conditions, together with occasional traffic and agricultural activities.

The wider area also contains a number of existing wind energy developments. As a result, wind turbine noise already forms part of the existing sound environment experienced at some locations around the Site.



Overall, the existing noise environment is typical of a rural upland area where background noise levels vary according to weather conditions and local activities.

4.7.2 Methodology Assessment Overview

A construction noise assessment was undertaken at the 11 nearest residential receptors proximate to the Proposed Development.

A construction traffic noise assessment was undertaken at receptors proximate to the road sections designated for construction traffic and deliveries.

An operational noise assessment was undertaken at the 11 nearest residential receptors proximate to the Proposed Development. The operational wind turbine noise assessment was undertaken in three stages, which involved setting the Total Noise Assessment Criteria (which are limits for noise from all wind farms in the area) at the nearest noise sensitive receptors, predicting the likely effects (undertaking a cumulative noise assessment where required) and setting Site Specific Noise Limits for the Proposed Development.

4.7.3 Potential Effects

The assessment considered the potential effects of the Proposed Development on nearby residential properties during both the construction and operational phases of the project. Potential effects include temporary noise associated with construction activities and longer-term noise generated by the operation of the wind turbines, as well as the combined effects of other wind energy developments in the surrounding area.

4.7.3.1 Potential Effects During Construction (without further mitigation)

During construction, noise would be generated by activities such as Site preparation, construction of access tracks, foundations, crane hardstandings, the substation and the installation of wind turbines. Construction traffic travelling to and from the Site would also contribute to noise levels in the surrounding area.

Construction noise would be temporary and would vary throughout the construction programme as different activities take place across the Site. The highest noise levels would generally occur when activities are taking place closest to nearby residential properties.

The assessment considered the potential for construction noise to affect nearby residents, particularly those living closest to the Site. It also considered activities that may occasionally take place outside normal construction hours, such as wind turbine deliveries and certain construction operations.

The construction noise assessment found that the predicted construction noise levels are below the set noise thresholds at nearby residential receptors.

Whilst the change in noise levels from construction traffic may be noticeable at the closest residential receptors, for certain periods during the construction phases, this would be temporary in nature and limited to daytime periods.

Therefore, there are no significant noise effects predicted as a result of the construction of the Proposed Development.

4.7.3.2 Potential Effects During Operation (without further mitigation)

During operation, noise would be generated by the movement of the wind turbine blades and associated mechanical equipment within the wind turbines. The assessment considered the potential for operational noise to be experienced at nearby residential properties.



The assessment also considered the contribution of other existing and proposed wind energy developments in the surrounding area, recognising that multiple wind farms can contribute to the overall noise environment.

Operational noise levels were assessed against recognised noise limits that are designed to protect residential amenity. The assessment considered both daytime and night-time conditions, when sensitivity to noise can be greater. None of the 11 residential properties included in the assessment were predicted to experience noise levels within 2 decibels of relevant noise limit.

Overall, the assessment found that operational noise from the Proposed Development would remain within the applicable noise limits and significant effects on nearby residential properties are not anticipated.

4.7.3.3 Cumulative Effects

The assessment considered whether noise from the Proposed Development could combine with noise from other existing, consented and proposed wind energy developments in the surrounding area.

Potential cumulative effects may occur where noise from multiple wind farms is experienced at the same residential property. The assessment therefore considered the combined contribution of the Proposed Development and other wind energy developments within the wider area.

Construction-related cumulative effects could arise if construction activities associated with nearby developments were to occur at the same time as those for the Proposed Development. Operational cumulative effects could arise where several wind farms operate simultaneously.

The assessment found that cumulative noise levels would remain within the applicable assessment criteria and no significant cumulative noise effects are anticipated.

4.7.4 Mitigation Measures

During construction, best practice noise control measures would be applied through the CEMP. These measures would include the appropriate selection and maintenance of plant and equipment, careful management of construction activities and the control of working methods to reduce noise where practicable.

The design of the Proposed Development has also been developed to take account of nearby residential properties.

4.7.5 Assessment Results

The assessment concluded that noise generated during the construction of the Proposed Development would be temporary and would remain within the relevant noise limits at nearby residential properties. With the implementation of standard good practice measures, no significant construction noise effects are anticipated.

The assessment also found that operational noise from the wind turbines would comply with the applicable noise limits designed to protect residential amenity. As a result, no significant effects on nearby residential properties are expected during the operational life of the Proposed Development.

In addition, the assessment considered the combined effects of the Proposed Development with other existing and proposed wind energy developments in the surrounding area. The assessment concluded that cumulative noise levels would remain within the set noise limits, and no significant cumulative effects are anticipated.



Overall, the assessment concluded that the residual effects of the Proposed Development on noise would be not significant.

4.8 Aviation (EIA Report Chapter 14)

4.8.1 Existing Environment

The Site is located within Class G airspace, where both civil and military aircraft operate. The area is used by a range of aviation stakeholders and lies within the coverage of several civil and military radar systems. National Air Traffic Services (NATS) provide air traffic services in the wider area using a network of radar installations, while military aircraft also routinely operate within the surrounding airspace as part of the UK Low Flying System.

The Site is situated within an area monitored by a number of aviation and meteorological systems, including NATS radar infrastructure and the Met Office weather radar network.

Overall, the Site is located in an area where aviation activity is present, but it is not located within the safeguarded area of any nearby airport runway or aerodrome where direct physical obstruction issues would normally be expected.

4.8.2 Methodology Assessment Overview

The assessment was based on consultation with relevant aviation stakeholders, a review of aviation guidance and regulations, and technical analysis of the Proposed Development. This included reviewing the location, height and layout of the proposed wind turbines in relation to nearby aviation infrastructure and operations.

The assessment considered potential effects on civil and military aviation interests, including radar systems, air traffic control operations, airports, military low-flying activities and meteorological radar infrastructure. Technical radar modelling was undertaken to identify whether the proposed wind turbines could be detected by radar systems and to determine the potential for operational effects.

The assessment also considered aviation safeguarding requirements and whether any potential effects could influence the safe operation of aviation activities. Potential effects were assessed for the construction and operational phases of the Proposed Development, as well as any cumulative effects arising from other wind farm developments in the surrounding area.

4.8.3 Potential Effects

The potential effects of the Proposed Development on aviation have been thoroughly assessed, considering both the construction and operational phases of the project. The assessment considered potential effects on civil and military aviation activities, radar systems, air traffic services and aviation infrastructure within the surrounding area.

4.8.3.1 Potential Effects During Construction (without further mitigation)

During construction, the proposed wind turbines and associated construction infrastructure, such as cranes, have the potential to act as temporary obstacles to aircraft operating in the area. Construction activities could therefore affect aviation operations if information on the location and height of these structures is not appropriately communicated to aviation stakeholders.

There is also the potential for temporary effects on aviation activities associated with the presence of tall construction equipment and the wind turbines themselves. However, the wind turbines would not be operational (i.e. the blades would not be spinning) during construction and would therefore not generate the radar interference effects that can occur once wind turbines are operating.



Overall, potential construction effects are associated with the temporary presence of tall structures within the landscape and the need to ensure that aviation operators are aware of construction activities taking place within the Site.

4.8.3.2 Potential Effects During Operation (without further mitigation)

During operation, the principal aviation effects relate to the presence of the wind turbines within airspace used by civil and military aircraft. Wind turbines have the potential to be detected by radar systems, which can affect the performance of air traffic surveillance equipment and create additional radar returns on controllers' displays.

The assessment identified the potential for operational effects on radar infrastructure used by NATS, as well as potential effects on airport procedures and military low-flying activities. The wind turbines could also interact with aviation meteorological radar systems and other aviation infrastructure within the wider area.

In addition to potential radar effects, the wind turbines would represent permanent vertical structures within the landscape and could be a consideration for military low-flying operations. These effects would remain for the operational lifetime of the Proposed Development.

Visible aviation lighting would be required to be installed on the wind turbines, however in terms of effects of this lighting (beyond the intended aviation effects), it is considered that these would be landscape and visual related, and so this has been covered in Section 4.1 of this document, and **Chapter 7: Landscape and Visual** of the EIA Report.

Overall, the assessment concluded that potential operational effects associated with the Proposed Development could be addressed through appropriate measures agreed with the relevant aviation stakeholders.

4.8.3.3 Cumulative Effects

The assessment considered the potential for the Proposed Development to interact with other existing and proposed wind farms within the surrounding area. In combination, multiple wind farms have the potential to increase the extent of radar interference affecting aviation surveillance systems and air traffic management operations.

The assessment found that cumulative aviation effects could occur where wind farms are visible to the same radar systems or operate within the same area used for aviation activities. Potential cumulative effects were identified in relation to radar infrastructure and military low-flying operations.

Overall, the assessment concluded that any cumulative aviation effects associated with the Proposed Development could be addressed through appropriate measures agreed with the relevant aviation stakeholders, and the Proposed Development would not materially increase cumulative effects on aviation operations.

4.8.4 Mitigation Measures

A range of measures have been incorporated into the Proposed Development to ensure the continued safe operation of aviation activities. These include ongoing consultation with relevant aviation stakeholders, consideration of radar and aviation infrastructure during the design process, and compliance with aviation safeguarding requirements.

The Proposed Development would incorporate aviation lighting in accordance with applicable civil and military requirements. In addition, appropriate notifications would be provided to relevant aviation authorities before and during construction so that the development can be identified on aviation charts and within aviation information systems.



Where potential effects on radar systems or airport procedures are identified, further engagement would continue with the relevant aviation operators to agree appropriate solutions and ensure that aviation operations can continue safely throughout the lifetime of the Proposed Development.

4.8.5 Assessment Results

The assessment concluded that, with the implementation of the proposed mitigation measures and ongoing engagement with aviation stakeholders, the Proposed Development would not result in significant residual effects on aviation operations.

Potential effects were identified in relation to radar infrastructure, military low-flying activities and airport procedures. However, these effects can be appropriately managed through aviation lighting, notification procedures and the agreement of suitable solutions with the relevant aviation authorities and operators.

4.9 Other Issues (EIA Report Chapter 15)

EIA Report **Chapter 15: Other Issues** considers a range of environmental topics that are relevant to the Proposed Development but do not require assessment within a standalone technical chapter. These topics include shadow flicker, climate and carbon balance, risk of accidents and other disasters, population and human health, air quality, telecommunications and other infrastructure, and waste and environmental management.

The chapter considers whether the construction and operation of the Proposed Development could result in significant effects in relation to these topics and identifies any measures required to avoid, reduce or manage potential effects.

4.9.1 Shadow Flicker

Shadow flicker can occur when the sun passes behind rotating wind turbine blades, creating a moving shadow that may be visible through the windows of nearby properties. This effect only occurs under particular combinations of sunlight, weather conditions and wind turbine operation.

The assessment considered nearby residential properties that could potentially experience shadow flicker from the Proposed Development during its operational phase. The assessment was carried out based on a Study Area of 10 rotor diameters for the candidate wind turbine (plus 50m micro-siting) giving an overall Study Area of 1,670m from the proposed wind turbines. Only properties within this Study Area, of which there are five, were considered in the shadow flicker assessment.

The assessment found that two of the properties assessed would have the potential to experience over 30 hours of shadow flicker per year and over 30 minutes of shadow flicker on several days throughout the year. This however is based on a worst case scenario whereby the sun is always shining during daylight hours, the wind turbines are always turning, and there is no screening from vegetation. When the assessment considers a more realistic scenario in terms of average levels of sunshine and average time that the wind turbines are turning, the predicted shadow flicker anticipated at all properties is under 30 hours per year.

Although, when taking the likely case scenario, shadow flicker effects requiring mitigation are not predicted to occur at any receptors as a result of the Proposed Development, the Applicant has committed to develop a Shadow Flicker Protocol, which would be implemented during the operational lifetime of the wind farm. This would provide a process for investigating any complaints and, where necessary, applying mitigation measures such as temporarily controlling wind turbine operation during periods when shadow flicker could occur.



With these measures in place, no significant residual effects from shadow flicker are anticipated.

4.9.2 Climate and Carbon Balance

The Proposed Development would generate electricity from clean, non-fossil fuel sources, helping to reduce greenhouse gas emissions by displacing electricity that would otherwise be generated from fossil fuels. It is estimated that the potential savings in CO₂ emissions due to the Proposed Development, over its lifetime, would be 38,931 tonnes of CO₂ per year compared to a fossil fuel mix of electricity.

The Site design has sought to minimise disturbance to peat by locating infrastructure, where possible, in areas of shallower peat. Measures would also be implemented to manage excavated peat and minimise carbon losses during construction.

The assessment considered the carbon emissions associated with the construction, operation and eventual decommissioning of the wind turbines, including emissions related to construction activities, materials, and disturbance of peat soils. The assessment also considered the amount of carbon that would be saved through the generation of renewable energy over the lifetime of the Proposed Development compared to a fossil fuel mix of electricity. When comparing these it is anticipated that the Proposed Development would have a payback period of approximately 1.2 years, after which it would be contributing to national CO₂ reduction targets.

Overall, the Proposed Development would make a positive contribution towards climate change mitigation and the transition to a lower-carbon energy system. It is concluded that the potential savings in CO₂ emissions per year would result in a significant beneficial effect.

4.9.3 Risk of Accidents and Other Disasters

The assessment considered the potential risks associated with accidents, natural hazards and other events that could affect the Proposed Development during construction and operation.

This included consideration of public safety, traffic, extreme weather events and seismic activity. The assessment also took account of the measures that would be implemented through the detailed design, construction and operation of the Proposed Development to manage potential risks.

The Proposed Development would be constructed and operated in accordance with relevant health, safety and environmental legislation and industry standards. Appropriate safety measures, site management procedures and emergency response arrangements would be implemented throughout the life of the project.

The assessment concluded that the likelihood of major accidents or disasters occurring as a result of the Proposed Development, or impacting on the Proposed Development is low. With the proposed safety and management measures in place, no significant effects associated with accidents or disasters are anticipated.

4.9.4 Population and Human Health

The assessment considered the potential effects of the Proposed Development on population and human health. Where relevant, issues including landscape and visual effects, noise, traffic and transport, and the water environment, have been assessed within the relevant technical chapters of the EIA Report.

The findings of the EIA indicate that, with the proposed mitigation measures in place (those which have been outlined in the previous technical topic sections), the Proposed Development would not result in significant effects on population or human health.



4.9.5 Air Quality

The assessment considered the potential for dust and vehicle emissions to arise during the construction and operation of the Proposed Development.

Construction activities have the potential to generate temporary dust if not appropriately managed. However, the nearest non-financially involved residential properties are located a sufficient distance from the main construction areas, reducing the potential for significant effects.

A range of standard good practice measures would be implemented during construction to minimise dust generation and control emissions from construction activities and vehicles.

Taking account of the distance to nearby receptors and the implementation of these measures, the assessment concluded that effects on air quality would not be significant.

4.9.6 Telecommunications and Other Infrastructure

The assessment considered the potential for the Proposed Development to affect telecommunications networks and other infrastructure in the surrounding area.

Consultation was undertaken with relevant organisations responsible for telecommunications infrastructure.

The assessment found that no significant effects on telecommunications infrastructure are expected.

Television interference is considered unlikely due to the common use of digital transmitters, and should any unforeseen issues arise, mitigation measures are available to address them.

Overall, the assessment concluded that the Proposed Development would not result in significant effects on telecommunications or other infrastructure.

4.9.7 Waste and Environmental Management

The assessment considered how waste and environmental issues associated with the Proposed Development would be managed during construction and operation.

A range of measures would be implemented through the CEMP to minimise environmental effects, manage waste responsibly and promote the reuse and recycling of materials where practicable. Measures would also be put in place to manage excavated peat, protect environmental resources and reduce the generation of waste.

A site-specific Waste Management Plan would be prepared prior to construction to ensure that waste arising from the Proposed Development is appropriately handled, stored, reused, recycled or disposed of in accordance with relevant legislation and best practice.

With these measures in place, no significant effects relating to waste generation or environmental management are anticipated.

5.0 Summary of Significant Effects

Table 5-1 summarises residual significant effects predicted for the topics covered in the EIA Report.

Following the iterative design process for the Proposed Development, which took into account the findings of the EIA, and consultation feedback, there are seven topics with no predicted significant adverse residual effects (the significant effects remaining once proposed mitigation has been considered) from the Proposed Development, and two topics with predicted significant adverse residual effects. The two topics with predicted significant adverse residual effects are landscape and visual, and Cultural Heritage and Archaeology.

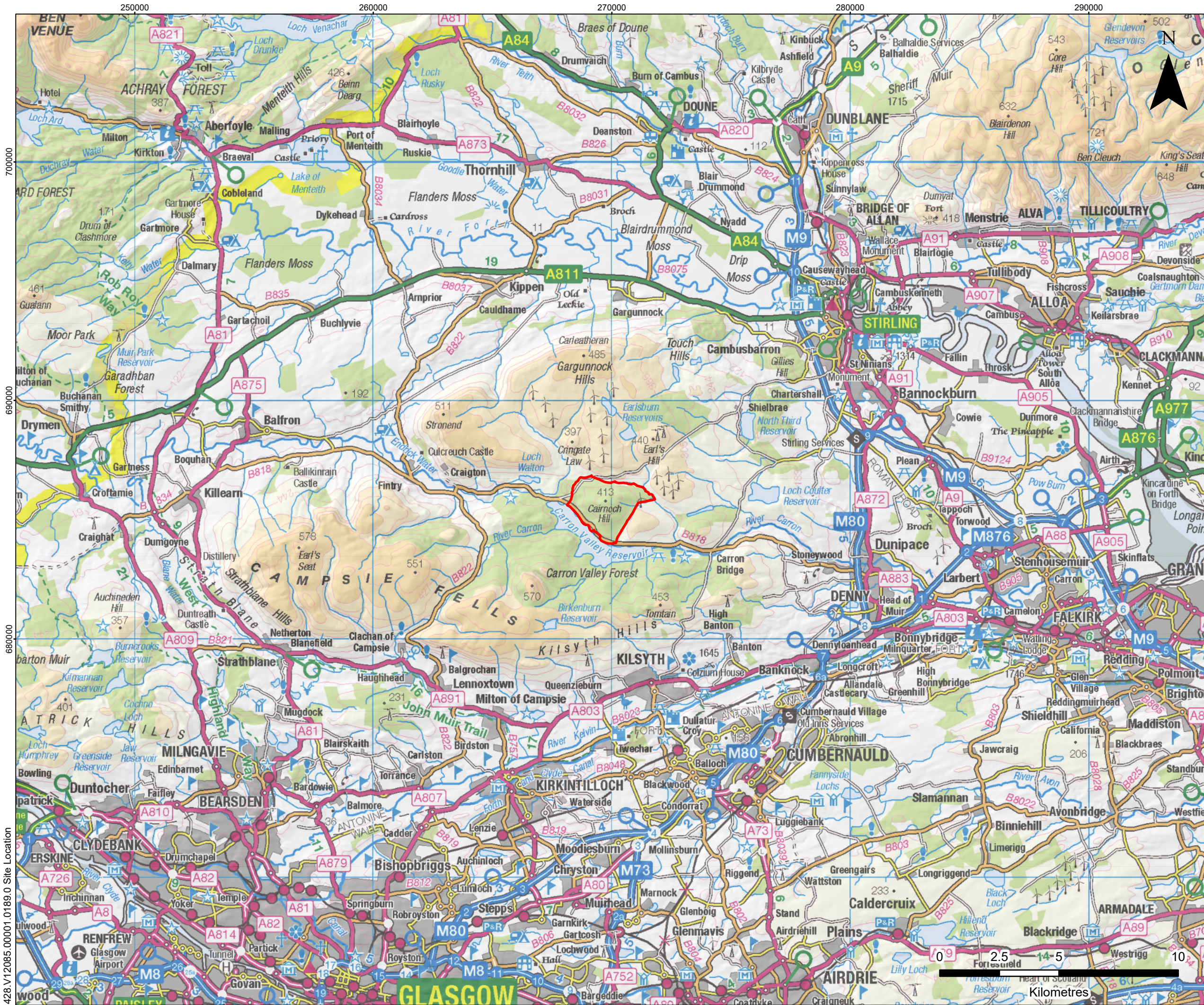


The significant landscape and visual residual effects are considered to occur primarily in the local area (within 6-7km of the Proposed Development). The significant Cultural Heritage and Archaeology residual effects are on three heritage assets (Sir John de Graham's Castle, and two Cairns (Todholes)). A significant beneficial residual effect, from the Proposed Development, is predicted in relation to climate and carbon balance, through the generation of renewable energy and associated carbon savings.

Table 5-1: Summary of Residual Significant Effects

Topic	Further Mitigation	Residual Significant Effects
Landscape and Visual	Embedded design measures. Reduced intensity aviation lighting.	Proposed Development would result in some significant landscape and visual effects, primarily within the local area.
Ecology	Embedded design measures, CEMP, SPPs, ECoW, BMMS and implementation of a HMP.	No significant residual effects are anticipated on designated sites, habitats or protected species. The HMP would deliver substantial long-term biodiversity enhancement across the Site.
Ornithology	Embedded design measures, CEMP, habitat protection measures and implementation of a HMP (including installation of at least one artificial osprey nest).	No significant residual effects anticipated.
Hydrology, Hydrogeology, Geology, and Soils	Embedded design measures. CEMP, Peat Management Plan (PMP), pollution prevention measures and protection of watercourses and groundwater resources.	No significant residual effects anticipated.
Cultural Heritage and Archaeology	Embedded design measures	Significant residual effects are predicted for three heritage assets (Sir John de Graham's Castle, and the two Todholes Cairns).
Traffic and Transport	CTMP, Abnormal Load Transport Management Plan (ALTMP).	No significant residual effects anticipated.
Noise	Embedded design measures, CEMP. Operational noise controls.	No significant residual effects anticipated.
Aviation	Embedded design measures. Agreement on reduced aviation lighting and mitigation requirements with relevant aviation stakeholders.	No significant residual effects anticipated.
Other Issues	Embedded design measures. Shadow Flicker Protocol, CEMP, waste management measures.	No significant residual adverse effects anticipated. The assessment identified a significant beneficial effect in relation to climate and carbon balance through the generation of renewable energy and associated carbon savings.





LEGEND

Site Boundary

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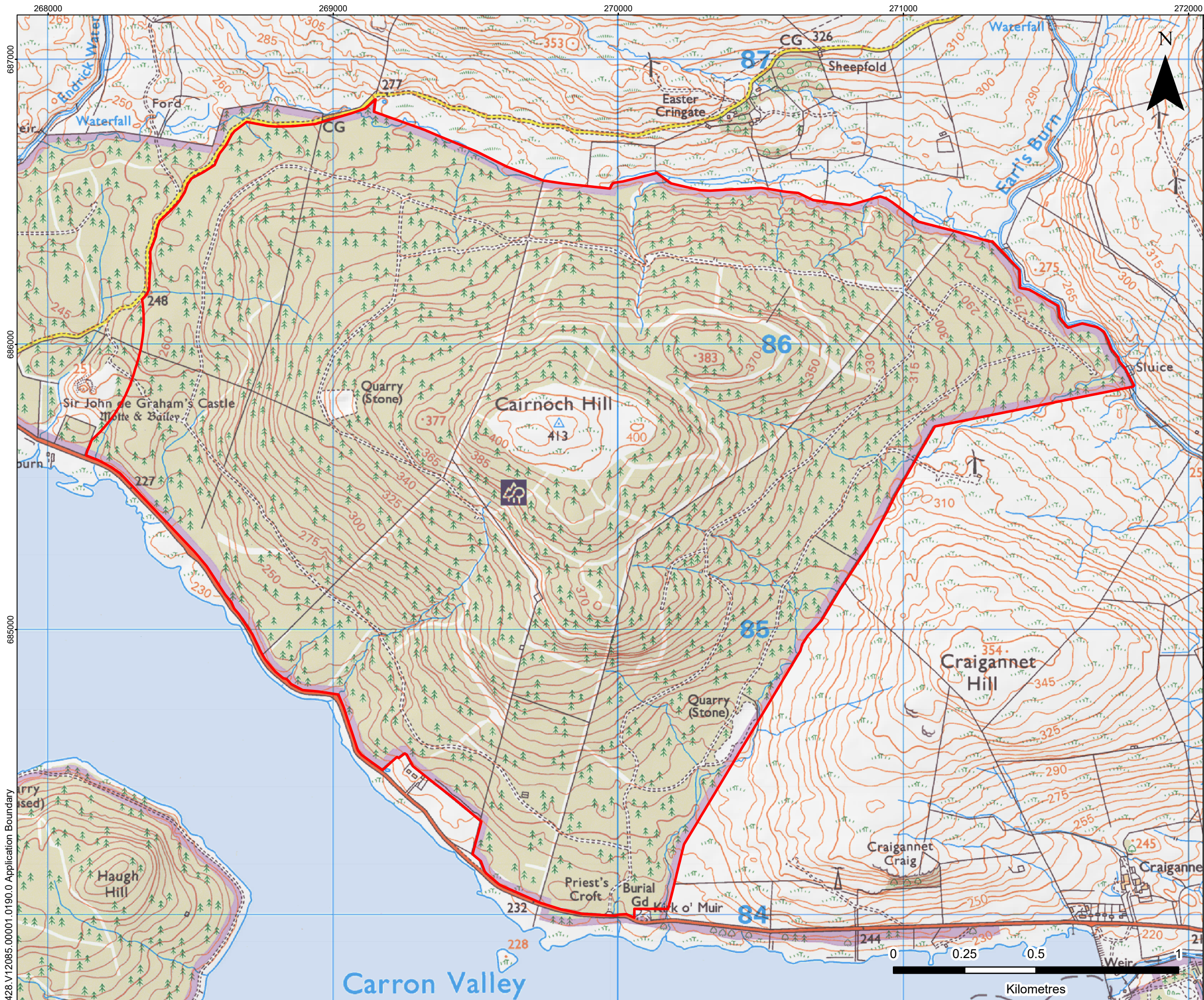
SLR

CAIRNOCH HILL WIND FARM
NON TECHNICAL SUMMARY
SITE LOCATION

FIGURE 1

Scale
1:150,000 @ A3

Date
JULY 2026



LEGEND

Site Boundary / Application Boundary

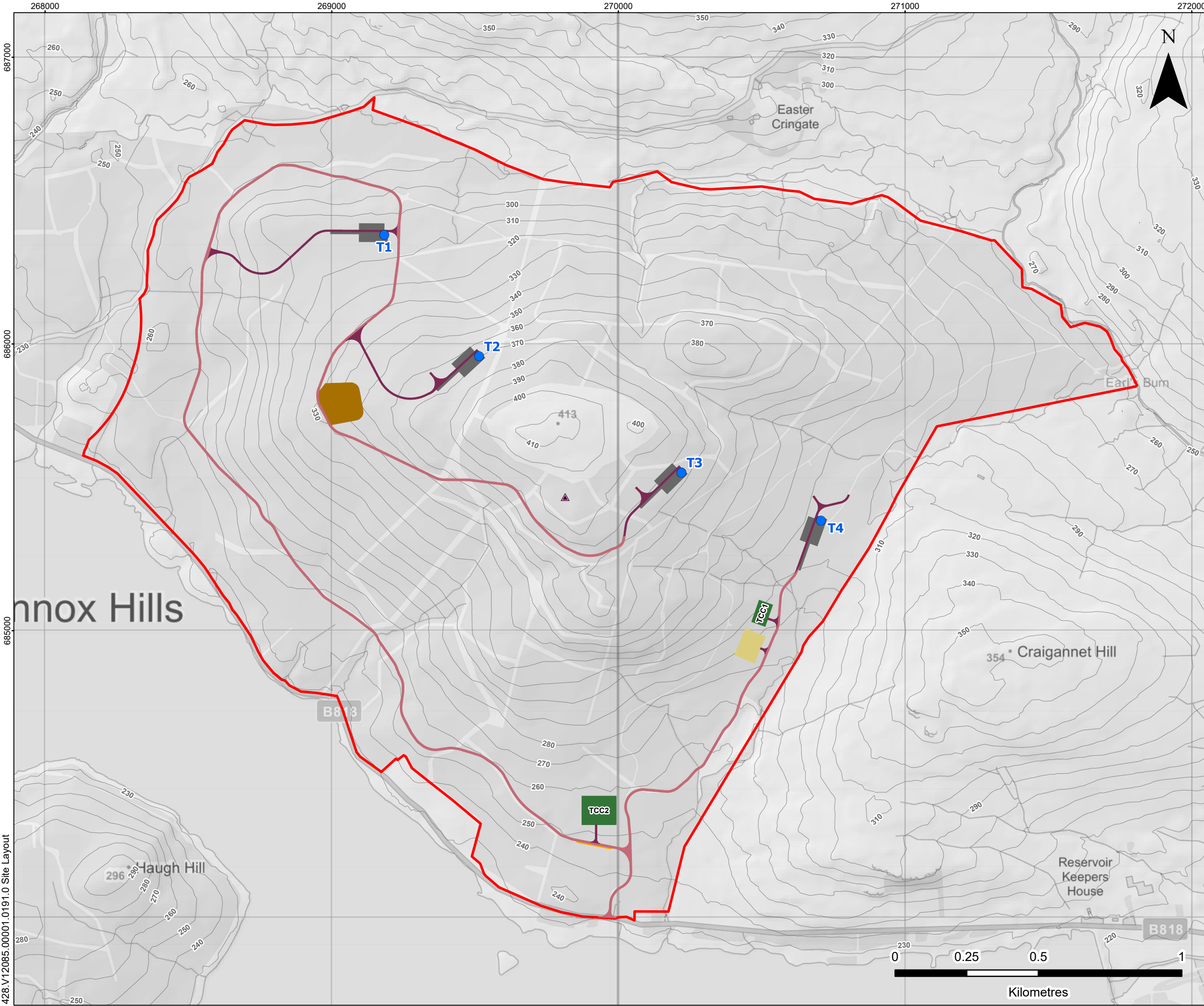
Eurowind Energy™

CAIRNOCH HILL WIND FARM
NON TECHNICAL SUMMARY
APPLICATION BOUNDARY

FIGURE 2

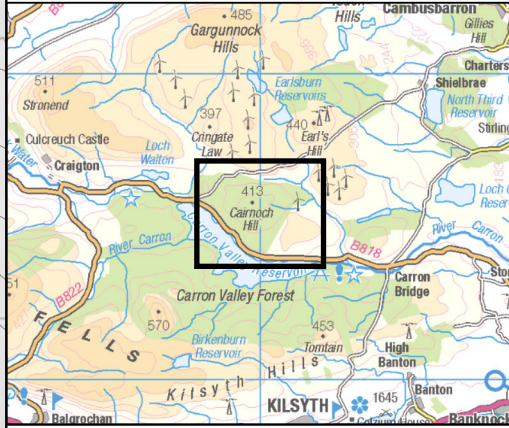
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1:12,500 @ A3

Date
JULY 2026



- LEGEND**
- Site Boundary
 - Proposed Turbine Location
 - Proposed Permanent Met Mast Location
 - Proposed New Track
 - Proposed Existing Track to be Upgraded
 - Proposed Crane Pad / Hardstanding
 - Proposed Substation Compound
 - Proposed Temporary Construction Compound
 - Proposed Borrow Pit
 - Proposed Blade Laydown Area

Note: Point features are not drawn to scale in this figure.



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CAIRNOCH HILL WIND FARM
NON TECHNICAL SUMMARY
PROPOSED SITE LAYOUT

FIGURE 3

Scale	1:12,500 @ A3	Date	JULY 2026
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428.V12085.00001.0191.0 Site Layout



Making Sustainability Happen