BANKSRenewables
development with care

BODINGLEE WIND FARM

SCOPING REPORT

December 2020

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1. INTRODUCTION

1.1 Banks Renewables, on behalf of Bodinglee Wind Farm Limited, propose to submit a planning application to the Scottish Government Energy Consents Unit (ECU) under the section 36 of the Electricity Act 1989 for the development of a wind farm of over 100MW but not exceeding 300MW on land at Bodinglee, located to the south east and south west of Douglas, South Lanarkshire. The application will be accompanied by an Environmental Impact Assessment under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Deemed planning permission will be sought by the Scottish Ministers under section 57(2) of the Town and Country Planning (Scotland) Act 1997 as amended.

1.2 Under Regulation 12 of these EIA Regulations, a formal opinion of the information to be supplied in the Environmental Impact Assessment Report (EIAR) is sought from Scottish Ministers.

1.3 The specific objectives of this report are therefore to:

- Seek agreement on the likely significant effects associated with the proposed Development;
- Confirm that all likely significant effects have been correctly included in the proposed scope of the EIA ('scoped in');
- Seek agreement where non-significant effects have been excluded ('scoped out'); and
- Invite comment on the proposed approach to baseline data collection, prediction of environmental effects and the assessment of significance.

1.4 All topic assessments within the EIAR will be undertaken using best practice methodology, following industry guidelines whenever appropriate and carried out by competent specialists with relevant professional experience.

1.5 Consultees will note that the Scoping Report contains a number of questions, which it would be useful to receive feedback on. Not all questions will be relevant to all consultees, therefore we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the proposed Development.

1.6 The initial design presented within this Scoping Report is a maximised layout across three areas of the Site known as Bodinglee West, North and South, and will be further refined during the Environmental Impact Assessment (EIA) process and through further consultation. Therefore, it should be noted that any amendments to the design are unlikely to increase the likelihood of a significant effect. However, should any changes occur that are likely to result in a significant or unknown effect on an important feature previously scoped out, then this feature will be scoped back into the EIA process. Any changes will first be discussed with the relevant consultees, to ensure that they too are in agreement with the applicant's understanding.

CONSULTATION

1.7 At this stage Banks Renewables' experience in the preparation and successful implementation of major development schemes and its knowledge of the locality has been used to define the extent of the study area and to identify the main environmental effects. Banks Renewables recognise that the involvement of third parties, including local interest groups and communities, is important in order to ensure the proposed Development is formulated taking account of any relevant local circumstances, issues or opportunities for improvement.

1.8 On all of its sites Banks Renewables operate a 'Development with Care' approach. The phrase ideally describes how Banks Renewables deals with people inside and outside the company and it is the guiding principle of the way we want to carry out our business at all times.

1.9 A fundamental part of this is to involve local communities and interested parties in the formulation and design process. A Community Liaison Manager is assigned to each project to work alongside the project team to create a Community Engagement Strategy for each project. Through open and honest dialogue we can learn about local needs and provide tangible benefits for communities surrounding our proposals. Extensive consultation will be undertaken with local people, organisations and statutory bodies, including SLC, Historic Environment Scotland (HES), NatureScot and Scottish Environmental Protection Agency (SEPA), prior to the design being finalised.

2. THE PROPOSED DEVELOPMENT

SITE CONTECT

2.1 The Site area within which we are examining the potential to locate wind turbines is indicated on Drawing SR/01.

2.2 The Site is located to the south east and south west of Douglas and to the east and west of the M74 and comprises areas of open undulating moorland consisting predominantly of till with areas of peat, some rock outcrops and several minor watercourses present. Areas of forestry lie adjacent to the Site.

2.3 Given the size of Site it has been split into three areas known as Bodinglee North, West and South as shown on Drawing SR/01.

2.4 The nearest main settlements are Rigside, approximately 2km to the north of Bodinglee North and Douglas and around 2km to the north of Bodinglee West. The M74 separates Bodinglee West from the other two areas of the Site, and the A70 passes 1 to 2km to the north of Bodinglee North and West.

2.5 There are a number of operational and consented wind farms within 30km with the closest being Middle Muir Wind Farm and Andershaw Wind Farm adjacent to Bodinglee West.

WIND FARM SIZE

2.6 The wind farm currently being considered would generate over 100MW but not exceeding 300MW of electricity. The initial turbine layout shown in Drawing SR/01 is a maximised layout based on tip heights between 200m and 250m and comprising of the following:

- Bodinglee West – 13 turbines;
- Bodinglee North – 27 turbines; and
- Bodinglee South – 22 turbines.

2.7 The number, hub and tip height and position of individual turbines would be dependent upon a number of factors including technical and environmental constraints. The results obtained during the EIA process will be used in an iterative manner to influence the design of the proposed Development to ensure that any significant detrimental environmental impacts are minimised where possible or negated completely. The EIAR will include a design iteration section which will outline the design process including alternative layouts that were considered.

2.8 Given the size of Site and in order to progress with the most appropriate layout when providing a response please consider the sites as follows:

- Each individual area independently;
- Bodinglee North and West together; and
- Bodinglee North, West and South together.

WIND FARM INFRASTRUCTURE

2.9 The proposed Development includes the following principle elements:

- Wind turbines: these will be 3 bladed horizontal axis machines. The likely tip heights of the turbines will be up to 250m with likely rotor diameters being in the range of up to 165m. For the purpose of the EIA, assessments will be based on the maximum height and rotor diameters within the range identified to ensure maximum flexibility in turbine selection. However, final size of the turbines will reflect the environmental and technical constraints across the Site and will aim to create a balance between energy production and environmental and technical issues.

- The EIA will assess the range of rotor diameters and associated hub heights. This will mean that a candidate turbine with different dimensions will be used for different assessments to ensure that the 'worst case' scenario has been assessed for each topic area. For some assessments (e.g. landscape and visual impact) the highest hub, and therefore shortest rotor diameter will represent the 'worst case' scenario, while for others (e.g. ecology) the largest rotor, and shortest hub height will represent the 'worst case' scenario.

- Two lattice anemometer masts. The use of a Lidar may also be considered given the height of the turbines proposed;

- Site control building and compound: the control building will comprise of a single storey building with an associated electrical compound for any outside transformers and switchgear (if required);

- Underground cables from the wind turbines to the control building compound. Electrical connections on Site between the wind turbines and the control building will be underground, with cables being laid in trenches directly adjacent to the access tracks;

- Borrow pit(s);

- Three site access junctions to reach all areas of the Site (Drawing SR/02: Potential Access Points);

- Hardstand areas: access roads, crane pads, fences and other associated infrastructure; and

- Energy storage (if required).

2.10 The wind farm infrastructure will be located within the Site area with the location of the infrastructure determined following the findings of this scoping exercise and on-going environmental and technical assessments.

BATTERY ENERGY STORAGE

2.11 The UK's shift towards a more de-centralised energy network which utilises low carbon sources such as wind and solar energy can increase reliance on intermittent generation from renewables. This combined with the need to maximise the grid connection capacity means that battery energy storage may be implemented at Bodinglee.

2.12 If required, the proposed energy storage element is likely to consist of a compound containing a number of steel containers sited on shallow concrete foundations. In addition, a number of transformers and invertor containers will be required within the compound. At this stage the size of the energy storage facility has not been determined although full information will be provided in the planning application.

SITE ACCESS

2.13 It is anticipated that turbines will be delivered to the nearest port capable of handling them, which is likely to be the Port of Glasgow. The turbine components will then be delivered to site via the M8 before joining the M74 until Junctions 11 and 13 to access the separate site access entries (Drawing SR/02: Potential Access Points).

2.14 Some minor junction works or temporary road closures may also be required to facilitate the larger components to Site.

ACCESS TRACKS

2.15 All weather access to each tower will be required during construction for cranes, pre-mixed concrete trucks and other vehicles. Existing access track is proposed be used and upgraded as required, such as the corners widened to accommodate larger delivery vehicles or sections of track regraded according to the hauliers requirements. When necessary, new tracks will be established with the location of these new tracks determined by the prevailing land conditions and land uses.

2.16 The Site layout will take on board the following principles:

- Existing wind farm access junctions/track will be utilised where possible;
- New tracks will follow the natural contour of the land as far as possible so that the amount of cut and fill is minimised;
- Tracks will be constructed of local materials where available;
- Rainwater run-off will be controlled by cut off drains spaced at appropriate intervals to control the concentration of run off;
- Gates will be installed at fence crossing points; and
- Tracks that are not required post-construction will be removed. This may involve scarifying, fertilising and seeding as required.

GRID CONNECTION

2.17 The wind turbines will be connected via a series of underground cables into a proposed control building. Detailed construction and trenching design will depend on the ground conditions encountered at the time, but typically cables will be laid in a trench which will be routed adjacent to access tracks where practicable in order to minimise disturbance. The routeing of the connection to local Grid Supply Points will be given consideration for both overhead line and underground connection. This will be formally assessed under Section 37 of the Electricity Act 1989, however as much information as possible on potential grid connection options will be included in the planning application for the wind farm. Considering the layout of the proposed Development, two connections will be required to access the Grid Supply Points.

CONSTRUCTION PHASE

2.18 The EIAR will contain information on the indicative construction period for the proposed Development. This will include the following elements:

- Turbine Erection;
- Establishment, any required access track upgrades, site preparation and construction compound;
- Access track construction to turbine locations;
- Foundation excavation and stabilisation plus required hard standing areas for construction;
- Foundation concrete pouring;
- Excavation of trenches for underground cables;
- Final surface for roads;
- Site revegetation and restoration; and
- Fencing.

2.19 The construction of the towers requires the preparation of a level hardstanding area adjacent to the tower foundations. The hardstanding is required for assembly of the turbine and rotor and positioning of the crane that will lift the nacelle and rotor blades into position.

2.20 At the end of its operational life, currently predicted at 40 years, operations on the Site will be reviewed. The wind farm will be decommissioned or alternatively the Site may be maintained and turbines replaced, subject to the agreement of the planning authority and landowners.

3. POLICY CONTEXT

3.1 This section of the report identifies the key policy documents of relevance to the proposed Development which will be considered throughout the preparation of the EIAR, including key planning guidance, renewable energy policy and other material planning considerations.

3.2 The documents identified within this section will be considered in further detail during the preparation of the planning application for the proposed Development.

ENERGY POLICY

Climate Change Act

3.3 Tackling climate change is a devolved matter and therefore it is the responsibility of the Scottish Government to set policy to ensure compliance with international policy. The Climate Change (Scotland) Act 2009 helped establish Scotland as a world leader in tackling climate change. It set a target to reduce greenhouse gas emissions by 80% by 2050, with an interim target of 42% by 2020.

3.4 On 31 October 2019 the new Climate Change Bill received Royal Assent. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 has now amended the Climate Change (Scotland) Act 2009 further from 23 March 2020 to set a legally binding target of reaching net-zero emissions by 2045. Setting a 'carbon neutral', net-zero target of 2045 is ambitious and ahead of the rest of the United Kingdom's target of 2050. The Government has set ambitious targets for reduction of carbon emissions.

Scottish Energy Strategy (2017)

3.5 In December 2017 the Scottish Government published the Scottish Energy Strategy: *'The Future of Energy in Scotland'*. The approach set out in the Energy Strategy is driven by the need to decarbonise the energy system in line with the emissions levels set out in the Climate Change (Scotland) Act.

3.6 The Energy Strategy sets new targets for the Scottish energy system by 2030, including that:

3.7 *'The equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable source.'*

3.8 The strategy sets out the Scottish Governments commitment to the continued growth of the renewable energy sector in Scotland to assist in reaching these targets.

3.9 *'Scotland's long-term climate change targets will require the near complete decarbonisation of our energy system by 2050, with renewable energy meeting a significant share of our needs.'*

3.10 The Energy Strategy anticipates that in the region of 17GW (not a set target) of installed renewable energy capacity will be required by 2030. This compares to an installed capacity of 9.7GW as of September 2017, illustrating that there is significant shortfall which needs to be addressed if the 2030 targets are to be achieved. The proposed Development will make a meaningful contribution towards the 2030 targets.

3.11 With regards to onshore wind, the Scottish Governments commitment to continue to support onshore wind farm development is set out on page 44 the Energy Strategy. It recognises that *'Onshore wind is now amongst the lowest costs forms of power generation of any kind and is a vital component of the huge industrial opportunity that renewables crate for Scotland.' It goes on to state that 'Our energy and climate change goals mean that onshore wind must continue to play a vital role in Scotland's future….'*

3.12 This however does not mean that wind farms will be supported anywhere, the sites will have to be in the right places. The Energy Strategy seeks to continue to support developing onshore wind in a way "… *which is compatible with Scotland's magnificent landscapes, including our areas of wild land."* The use of the phrase '*magnificent landscapes*' implies that the Scottish Government are not seeking to protect all landscapes, but those with national importance such as National Scenic Areas and National Parks.

3.13 The Scottish Governments supports energy storage and *is determined to play its part in the global effort to tackle harmful climate change*. The Energy Strategy acknowledges that it will have a major influence on our energy system (page 2) and that Scotland's energy future will be, and needs to be, much more flexible than in the past (page 13).

Onshore Wind Policy Statement (December 2017)

3.14 The Onshore Wind Policy Statement (OWPS) was published alongside the Energy Strategy. It highlights the Scottish Governments continued support for onshore wind development and their wish to see the contribution it makes to our energy needs continue to grow. The statement also recognises the important role that onshore wind plays in the Scottish economy.

3.15 Paragraph 3 of the statement sets out that '*Onshore wind generation will remain crucial in terms of our goals for a decarbonised energy system, helping to meet the greater demand from our heat and transport sectors, as well as making further progress towards the ambitious renewable targets which the Scottish Government has set.'*

3.16 The statement goes on to state that *'This means that Scotland will continue to need more onshore wind development and capacity, in locations across our landscape where it can be accommodated.'*

3.17 The OWPS also recognises the need to maximise efficiency of the turbines and the returns and therefore the latest technology which includes using larger turbines where appropriate. Paragraph 25 states *'The Scottish Government acknowledges the way in which wind turbine technology and design is evolving, and fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts'*

3.18 The SLC '*Tall Wind Turbines: Landscape Capacity, Siting and Design Guidance'* reflects this approach.

Planning Policy

3.19 The National Planning Framework 3 (NPF3) sets out the Scottish Government's commitment to establishing Scotland as a leading location for the development of renewable energy technology.

3.20 NPF3 sets out the Scottish Government's desire to *'…continue to capitalise on our wind resource…'* (Paragraph 3.9) and that *'Onshore wind will continue to make a significant contribution to diversification of energy supplies.'* (Paragraph 3.23).

3.21 National Planning Framework 4 (NPF4) is intended to be published for consultation in September 2021, which will fully replace SPP. The Scottish Government is currently consulting on proposal to clarify parts of SPP relating to housing including the removal of the Presumption in Favour of Sustainable Development.

3.22 Scottish Planning Policy (SPP) sets out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land. As mentioned above the upcoming NPF4 will replace the SPP in the future. Currently the SPP introduces a presumption in favour of development that contributes to sustainable development and specifically supports the promotion of onshore wind and the target for the equivalent of 100% of Scotland's electricity demand to be met from renewable sources by 2020. The SPP also gives a clear role to local authorities in relation to the identification of broad areas of search for locations capable of accommodating onshore wind farms.

3.23 In addition, the SPP advises that weight should be given to net economic benefits of a proposed Development and recognises that planning can play a key role in achieving this as well as net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities.

The Local Plan

3.24 In the case of S36 applications, the Local Plan does not have a primacy of the decision making. Nonetheless, it forms a basis of the statutory consultation response by SLC. The Local Plan forms a material consideration. Therefore, regard has been given to the relevant policies.

The relevant Development Plans are as follows:

A) Glasgow and Clyde Valley Strategic Development Plan (July 2017) (GCVSDP);

B) South Lanarkshire Local Plan (June 2015) (SLLP); and

3.25 The relevant Development Plan policies are set out below.

Glasgow and Clyde Valley Strategic Development Plan

3.26 At the regional level, the GCVSDP was approved by the Scottish Government in July 2017 and is a key statutory document which provides the overall geographical framework of development for the sub regional planning authorities, including South Lanarkshire.

3.27 Delivering a low carbon future is central to the Vision and Development Strategy. It supports the provision of detailed spatial frameworks in accordance with the SPP and of particular relevance to the proposed Development is that the GCVSDP (Paragraph 7.8 and Diagram 6) identifies the Site as falling within an area of the city region that is likely to be the most appropriate for onshore wind farm development.

South Lanarkshire Local Plan

3.28 At the local level the local plan contains specific policies against which the proposed Development will be assessed. Volume I sets out strategic polices and Volume II contains the development policies which are as follows:

- Policy 1: Spatial Strategy;
- Policy 2: Climate Change;
- Policy 11: Economic Development and Regeneration;
- Policy 15: Natural and Historic Environment;
- Policy 16: Travel and Transport;
- Policy 17: Water Environment and Flooding; and
- Policy 19: Renewable Energy.

<u>Supplementary Guidance</u>

- Supplementary Guidance Note 10: Renewable Energy; and
- South Lanarkshire Landscape Capacity Study for Wind Energy (2016) and Tall Wind Turbines: Landscape Capacity, Siting and Design Guidance.

Other Material Considerations

3.29 Relevant planning advice will be referred to in order to influence the approach adopted by Banks Renewables in the site selection, design and the assessment of impact and effects associated with the proposed Development. The following are considered relevant:

- PAN 1/2011 - Planning & Noise;
- PAN 1/2013: Environmental Impact Assessment (2013);
- PAN 2/2011 - Archaeology & Planning;
- PAN 3/2010 - Community Engagement;
- PAN 60 - Planning for Natural Heritage;
- PAN 68 - Design Statements;
- PAN 73: Rural Diversification (2005);
- PAN 75 - Planning for Transport;
- Renewable Planning Advice: Wind Farm Developments on Peat Land (May 2013);
- Renewable Planning Advice: Onshore wind turbines (updated May 2014);

- Renewable Planning Advice: Energy Storage (December 2013);
- Planning Circular 1/2017: Environmental Impact Assessment regulations.

Emerging Local Development Plan

3.30 The Council has now prepared a Proposed Local Development Plan 2 (LDP2) 52. Currently it is at an advanced stage, whereby the LDP2 was submitted to the Scottish Government Planning and Environmental Appeals Division (DPEA) for examination. It is expected that the plan will be adopted in 2020.

Question 1: Are there any policies which you consider need to be taken into account?

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4. APPROACH TO EIA

OVERVIEW

4.1 The project team will ensure that the EIA is carried out in accordance with the Regulations and current best practice. The EIA and associated assessments will reflect current guidelines and relevant legislation and will be carried out in accordance with statutory requirements, including the requirements for the contents of an EIAR. For the EIA to be an effective decision-making tool, the EIAR needs to focus on the likely significant environmental effects, within a range of environmental topics. These issues have been identified through a review of existing information, baseline assessments and preliminary review of the emerging design and nature of the proposed Development.

ASSESSMENT METHODOLOGY

4.2 The methodologies used for assessing each topic area where significant effects are likely will be described within the individual chapters of the EIAR and will follow best practice guidelines where applicable.

4.3 For those topic areas where significant effects are considered likely it is essential that the methodology used for assessing the significance of environmental effects is set out clearly and transparently within an EIAR and is justifiable. However, the Regulations do not provide a definition of what constitutes a significant environmental effect. This is because the significance of effects can only be determined on an individual basis, according to the environmental parameters under consideration, and the context in which the relevant assessment is made. Significance is generally determined through a combination of the sensitivity of a receptor and the magnitude of the impact with reference to definitive standards, accepted criteria and legislation where available. Where it has not been possible to quantify effects, qualitative assessments will be carried out based on expert opinion and professional judgement. Where uncertainty exists, this will be noted in the relevant chapter of the EIAR.

4.4 The EIA will address the direct effects of the proposed Development for each topic 'Scoped In' in addition to the indirect, secondary, cumulative, short, medium and long term, permanent, temporary, beneficial and adverse likely significant effects arising from the proposed Development. The main mitigation measures envisaged in order to avoid, reduce or remedy significant adverse effects will be described.

4.5 Each chapter within the EIAR will follow a systematic approach and a number of key steps, namely:

- A description of baseline conditions;
- Impact assessment methodology;
- Assessment of effects;
- Identification of appropriate mitigation measures; and
- Assessment of residual environmental effects.

PROPOSED SCOPE OF THE EIA

4.6 The EIA process is to enable the ECU to reach a reasoned conclusion on the likely significant effects of the proposed Development on the environment[1] with the results presented in an EIAR. To do this the likely significant effects resulting from the proposed Development on the following parameters[2] must be considered.

- the construction and existence of the development, including, where relevant, demolition works;
- the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
- the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
- the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
- the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
- the impact of the development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the development to climate change; and
- the technologies and the substances used.

4.7 To enable the ECU to provide a formal opinion on the proposed scope of the EIA, the text in the following sections sets out which effects the project team consider are likely to be significant and non-significant as a result of the proposed Development. These take into account the project team's knowledge of the area surrounding the Site and their experience of undertaking EIA as well as any measures to avoid or reduce likely significant effects i.e. mitigation measures which, under the Regulations can now be committed to in order to reduce what may have led to a likely significant effect.

4.8 Some effects which are not considered likely to be significant will be considered out with the EIA along with some other effects that are technical in nature but still need to be considered as part of the planning assessment. In all cases the ECU will still be provided with all necessary information to enable them to make an informed decision on the application with any supporting technical reports provided as a technical appendix.

4.9 The resulting EIAR will therefore be focused on the likely significant effects although a summary of those aspects considered out with the EIA will be presented in a chapter of the EIAR for completeness.

[1] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Part 1, Regulation 4
[2] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Schedule 4

CUMULATIVE EFFECTS

4.10 In accordance with the Regulations, the EIA will give consideration to 'cumulative effects'. By definition, these are effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposed Development. For the cumulative effects assessment, two types of effect will be considered:

- The combined effect of individual effects, for example noise impact upon a single receptor; and
- The combined effects of nearby consented, under construction and constructed schemes, which cumulatively, have a likely significant effect.

CONSIDERATION OF REASONABLE ALTERNATIVES

4.11 The EIA process provides an opportunity to consider reasonable alternatives (including development design, technology, location, size and scale) studied by the developer. The EIAR will consider all these elements including site selection and the iterative design process and incorporate a table that provides a comparison of the environmental effects between key layouts and the final design.

Question 2: Do you agree with the approach for the consideration of alternatives?

ENVIRONMENTAL DESIGN AND MANAGEMENT MEASURES

4.12 Throughout the EIAR, where applicable, the way that potential environmental effects have been or will be avoided, prevented, reduced or offset through design and / or management measures will be described. These are measures that are inherent in the design and construction of the proposed Development and, for example, include measures such as the production and implementation of measures contained within a Construction Environmental Management Plan (CEMP). Proposed environmental enhancements to be implemented as part of the proposed Development will also be described, where applicable.

4.13 These design measures will be considered prior to the assessment of effects to avoid considering assessment scenarios that are unrealistic in practice, i.e. do not take account of such measures even though they are likely to be standard practice. These will then be followed through the assessment to ensure that realistic environmental effects are identified.

THE EIAR

4.14 The EIA process will result in the production of an EIAR. It will focus on each of the broad topics identified within this Scoping Report, plus any others that develop throughout the remainder of the EIA process until submission.

4.15 Where features are considered, the assessment methodology, results, effects and mitigation proposed (if any) will be included. This will allow for the residual effect from the proposed Development to be identified to allow the ECU sufficient information to determine the application.

4.16 The EIAR will also be accompanied by a Non-Technical Summary (NTS) and a Planning Statement.

4.17 The EIAR is likely to follow the structure below:

- Preface;
- Chapter 1: Introduction and Approach to Assessment;
- Chapter 2: The Proposed Development;
- Chapter 3: Site Selection, Design Iteration and Consideration of Alternatives;
- Chapter 4: Landscape and Visual Impact Assessment (LVIA);
- Chapter 5: Ecology;
- Chapter 6: Ornithology;
- Chapter 7: Noise;
- Chapter 8: Archaeology and Cultural Heritage;
- Chapter 9: Ground Conditions and Hydrology;
- Chapter 10: Traffic and Transport;
- Chapter 11: Socio-Economics, Land Use and Tourism;
- Chapter 12: Other Effects (includes Climate Change and Carbon Balance, Aviation, Shadow Flicker, Radio-Communications, Air Quality, Waste, Natural disasters and Major Accidents and health and safety);
- Chapter 13: Synergistic Effects, Schedule of Mitigation, Residual Effects and Conclusions.

Question 3: Do consultees have any comments regarding the proposed chapters to be included in the EIAR?

5. PROPOSED SCOPE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

5.1 The following sections set out the proposed approach to the topics that may give rise to likely significant environmental effects and therefore form the proposed scope of the Bodinglee EIA.

LANDSCAPE AND VISUAL

Introduction

5.2 The Landscape and Visual Impact Assessment (LVIA) will consider direct and indirect effects on landscape resources, landscape character, designated landscapes and wild land. It will examine the nature and extent of effects on existing views and visual amenity. The effects of the proposed Development, as well as the ancillary infrastructure (access track, masts, transformers etc.) will be assessed during the construction and operational phases of the proposed Development. The LVIA will also consider cumulative effects i.e. the incremental effects of the proposed Development in combination with other renewable energy developments.

5.3 The LVIA will inform modifications and refinements to the layout design and will be undertaken following the approach set out in Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA3). The assessment will also draw upon current good practice guidance issued by SNH.

Environmental Baseline and Potential Sources of Impact

5.4 The Site is located to the south of Douglas and to the east and west of the M74 and comprises areas of open undulating moorland adjacent to areas of forestry. Areas to the west of the M74, and south of the A702 have notable wind farm development, but the Site and areas to the north east do not.

5.5 The area around the Site is sparsely settled with a number of isolated farms and dwellings. The nearest main settlements are Rigside, approximately 2km to the north of Bodinglee North and Douglas, around 2km to the north of Bodinglee West. The M74 separates Bodinglee West from the other two areas of the Site, and the A70 passes 1-2km to the north of Bodinglee North and West.

5.6 The area around Douglas has seen many applications for wind farms with adjacent operational wind farms at Andershaw and Middle Muir. Hagshaw Hill repowering, Priestgill and the tip height increase at Lethans have recently been consented and there are active planning applications at North Lowther and Douglas West.

<u>Landscape Character Context</u>

5.7 The most relevant landscape character assessment and sensitivity study in relation to the proposed Development is provided as part of the South Lanarkshire Wind Energy Supplementary Guidance. This was updated in 2016 to include an updated landscape capacity study which is based on the South Lanarkshire Landscape Character Assessment 2010, and the addendum to the capacity study: Tall Wind Turbines: Landscape Capacity, Siting and Design Guidance which provides further guidance to cover taller turbines was last refreshed in 2019. It is based on both SPP criteria and

landscape capacity criteria and specifically identifies areas judged to be suitable for certain scales of development.

5.8 This study identifies the Site as being located within more than one character area as follows:

5.9 To the west of the M74 the Site lies within character area 7 Rolling Moorland (ii) Crawfordjohn/ Cairn Table. To the east of the M74 the Site lies within character area 10 Foothills (i) Carmichael/Roberton. Both of these areas are identified as having some sensitivities with respect to siting turbines, with the area to the east of the M74 being regarded as the more sensitive due to the smaller scale terrain and proximity to Tinto.

5.10 The nearby SLAs, views from Tinto Hill and surrounding cumulative development are noted as key sensitivities.

Visual Amenity

5.11 Settlements close to the Site include:

- Rigside and Uddington approximately 2km north of Bodinglee North;
- Douglas and Glespin approximately 2km north Bodinglee West;
- Crawfordjohn approximately 4km south Bodinglee West;
- Roberton approximately 2km east of Bodinglee South where visibility will be mitigated by the intervening landform of Roberton Law and Backstane Hill; and
- Wiston approximately 5km to the east of Bodinglee South.

5.12 There are also individual farms and dwellings along most of the roads in the vicinity of the Site, except along the B7078 / M74 corridor. A further property (Mountstewart) is located nearby to the north of Bodinglee North as illustrated by Drawing SR/03: ZTV Study.

Landscape Designations

5.13 The Site is not covered by any known international, national or local landscape-related planning designations.

5.14 The northern edges of the Site lie within the Douglas Valley Special Landscape Area. The Upper Clyde Valley and Tinto SLA lies approximately 1km to the east; and the Leadhills and Lowther Hills SLA lies approximately 3km south. Local designations within adjacent authorities include the Galloway Hills RSA within Dumfries and Galloway, located approximately 11km to the south and a Sensitive Landscape area within East Ayrshire, approximately 8km to the west.

5.15 The Site is located approximately 8km to the south of the Falls of Clyde GDL, and 10km to the south of the to the south of the New Lanark WHS.

Consultation

5.16 The content of this Scoping Report represents an initial consultation in respect of landscape and visual matters. Further consultation will be undertaken, as set out

below, with relevant consultees in respect other elements of the assessment as required information becomes available.

Method of Assessment and Reporting

Study Area

5.17 An initial study area of 45km has been used for the attached ZTV study in line with SNH guidance on Visual Representation of Wind Farms: Version 2.2 (2017). Based on the visibility pattern and cumulative context a study area of 25km from the turbines is proposed as being suitable to assess the likely significant effects of the proposed Development on the landscape of the Site and its immediate surroundings, with more detailed study areas from the outer turbines to be defined for the individual elements of the work. This detailed study area will be informed through on-going assessment work but is likely to be as indicated below for each of the relevant sub topics.

Development phasing

5.18 The LVIA will consider the potential effects of the proposed Development during the following development stages:

- Construction and decommissioning of the proposed Development; and
- Operation of the proposed Development.

Landscape Character

5.19 The landscape assessment will use the South Lanarkshire documents as detailed above, supplemented with the latest SNH online National Landscape Character Assessment (published in 2019) as required to form the baseline for landscape character within the study area.

5.20 The Dumfries and Galloway boundary lies approximately 7km to the southwest and the Wind Energy Development: Development Management Considerations, Supplementary Guidance (SG), February 2020 with its associated Appendix C Landscape Capacity Study will be referred to in relation to that area.

5.21 It is not anticipated that effects on landscape character will require consideration within East Ayrshire given the 8km distance and very limited visibility indicated by the ZTV study.

Visual Assessment

5.22 The assessment will be a receptor-based assessment. The assessment will include potential effects on settlement areas and routes, including roads, railway lines, walking and cycle routes within the detailed study area where potential visibility is indicated by the Zone of Theoretical Visibility (ZTV). The assessment will focus on those receptors where there may be the potential for significant effects, which is likely to be those within approximately 10km of the proposed Development.

Designated Landscapes

5.23 The assessment of effects on designated landscape would be based on the potential impact on its special qualities as set out in the relevant studies. The Douglas Valley, Upper Clyde Valley and Tinto SLAs will be considered within South Lanarkshire, with

the assessment baseline informed by the 'Validating Local Landscape Designations' report (Nov. 2010).

5.24 Based on the distance and limited visibility for the local designations within East Ayrshire and Dumfries and Galloway, it is not anticipated that these will require detailed assessment.

5.25 Similarly, views from the relatively distant, vegetated and lower lying New Lanark WHS and Falls of Clyde GDL designations are likely to be very limited. A viewpoint is proposed below to model 'worst case' visibility from a more elevated area within the New Lanark WHS buffer zone, but significant landscape and visual effects are not anticipated on the two designations. Effects on the cultural heritage value of these areas will be assessed separately in the relevant chapter of the EIAR.

Viewpoints

5.26 The list of viewpoint locations proposed to be used in the assessment of the proposed Development are detailed below and illustrated on Drawing SR/03: ZTV Study. Viewpoints have not been 'ground truthed', so locations are approximate and will be sited to obtain the most representative view or greatest extent of views.

Table 5.1: Proposed Viewpoints

REF	LOCATION	DISTANCE / DIRECTION FROM SCOPING LAYOUT
1	Rigside	0-5km, N
2	Uddington	0-5km, N
3	M74 / B7078	0-5km, N
4	Douglas - Playpark	0-5km, N
5	Douglas - Cairn Houses	0-5km, N
6	Glespin	0-5km, NW
7	Local road, Andershaw Farm	0-5km, W
8	Crawfordjohn	0-5km, S
9	B7087 / B740	0-5km, S
10	Abington Services	0-5km, S
11	A702	0-5km, SE
12	Muirhead	0-5km, E
13	Wiston	0-5km, E
14	Tinto Hill	5-10km, E
15	B7055	0-5km, NE
16	New Lanark WHS buffer zone	5-10km, N
17	Glassford	20-25km, N
18	Coalburn	5-10km, N
19	Lowther Hill	15-20km, S

5.27 Given the early stage of the site work and design process the proposed viewpoints are likely to require refinement following design evolution and precise distances from the Site will change also (hence being provided in 'bands) above. This affects all proposed

viewpoints but is particularly relevant to the viewpoint at Douglas where the suggested and potential alternative viewpoints (Hillside road, park at Springfield Road) all have relatively limited visibility.

Question 4.1: Are the viewpoints considered adequate to represent all visual receptors likely to be significantly affected?

Question 4.2: In terms of detailed siting for locations in the above list, do you have any suggestions for specific favoured or important locations?

Visualisations

5.28 The assessment will be supported by a series of photomontages and wireframes from agreed viewpoint locations. Visualisations from each viewpoint will be prepared in accordance with SNH guidance Visual Representation of Windfarms: Version 2.2 (2017).

5.29 Photomontages will be prepared for viewpoints within a 20km radius. Ancillary elements will only be shown from close viewpoints where needed, as it is considered that from most viewpoints these ancillary elements would only form a minor element of the entire proposed Development.

Cumulative Assessment

5.30 In line with SNH guidance Assessing the Cumulative Impact of Onshore Wind Energy Developments (2012) the assessment will consider other wind farms within the detailed LVIA study area including those which are operational, consented and those for which an application has been submitted but which are yet to be determined. Schemes in scoping will only be included by exception where there is specific justification for doing so.

5.31 An initial cumulative search will be undertaken for the detailed study area and all other wind farm developments identified. These will include all operational schemes, those schemes under construction, consented schemes, those schemes in the planning system as valid applications (including schemes at appeal) and those at the scoping stage within this search area. Recently withdrawn sites will not be included, and those sites registered with a Proposal of Application Notice (PAN) are not finalised applications and will therefore not be included as a valid application but will be included as a pre-application/scoping scheme.

5.32 5The detailed scope of the cumulative assessment will be confirmed with consultees nearer the time of the submission, usually within 12 weeks of submission. The proposed scope of the cumulative assessment will focus on where there may be likely significant effects which may influence the outcome of the consenting process.

Question 4.3: Are there any specific proposals, receptors or matters you would wish the cumulative assessment to pay particular attention to?

Night-time Impact Assessment

5.33 An assessment of the effects at night arising from visible aviation lighting on turbines will be provided. This will consider effects on landscape character, views and designated landscapes within 15km of the turbines.

5.34 Supporting visualisations and figures will include the diagrammatic illustration of lighting on wirelines for all assessed viewpoints, ZTV studies for the visibility of hub and tower lights and the consideration of existing light pollution mapping.

5.35 A limited number of photomontages (approximately 3) will be prepared from the most affected viewpoints – to be agreed with consultees following design finalisation.

Question 4.4: Is the proposed 15km study area for night-time effects considered adequate to identify all potentially significant effects?

Question 4.5: Are there any specific proposals, receptors or matters you would wish the night-time assessment to pay particular attention to?

Residential Visual Amenity Assessment

5.36 A separate assessment of the effects on residential visual amenity will be undertaken as a standalone appendix/document. This will be undertaken in line with Landscape Institute Technical Guidance Note 2/19: Residential Visual Amenity Assessment (RVAA).

The study area for the RVAA will be 2km from the proposed turbines.

Question 4.6: Is the proposed 2km residential amenity study area considered adequate to identify all potentially relevant effects?

Approach to Mitigation

5.37 The primary form of mitigation for landscape and visual effects is through iterative design of the layout of the turbines and infrastructure, as seen from key viewpoints. Design development will be set out in detail in the design strategy that will form part of the EIAR.

Matters Scoped Out

Effects on Landscape Character

5.38 Character areas and types located more than 15km from the proposed turbines are considered unlikely to experience significant effects and will not be considered.

Nationally Designated Landscapes

5.39 The potential for effects on the New Lanark WHS and Falls of Clyde GDL will be considered but are likely not to require detailed assessment. No other nationally designated landscapes are likely to be significantly affected.

Locally Designated Landscapes

5.40 Locally designated landscapes located except for the Douglas Valley, Upper Clyde Valley and Tinto SLAs are considered unlikely to experience significant effects and will not be considered.

Wild Land Assessment

5.41 The closest Wild Land Area (WLA) to the Site is WLA 02: Talla - Hart Fell, which is over 20km from the Site. The ZTV indicates very limited potential visibility from the area, confined to a small number of hill summits. There are a number of other operational and consented wind farms located closer to the WLA, it is therefore not anticipated that the key attributes or wildness qualities of the WLA would be notably affected by the proposed Development and therefore no wild land assessment is proposed.

Cumulative – small turbines

5.42 Turbines below 50m and single turbine developments will be considered within a 5km radius of the proposed development and are scoped out of the assessment beyond this distance.

Question 4.7: Are the matters to be scoped out acceptable?

References and Standard Guidance

5.43 The LVIA will be prepared with reference to the following:

- Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3);
- Landscape Institute (2019) Technical Guidance Note 2/19 Residential Visual Amenity Assessment;
- Landscape Institute (2019) Technical Guidance Note 6/19 Visual Representation of Development Proposals.
- Scottish Natural Heritage (2020) Assessing impacts on Wild Land Areas - Technical Guidance;
- Scottish Natural Heritage (2012) Assessing the Cumulative Impact of Onshore Wind turbine developments;
- Scottish Natural Heritage (2015) Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations;
- Scottish Natural Heritage (2017) Visual Representation of Wind Farms (Version 2.2);
- Scottish Natural Heritage (2017) Siting and Designing Wind Farms in the Landscape (Version 3);

- Scottish Natural Heritage (2019) Landscape Character Assessment in Scotland digital map based LCA;
- Natural England (2014) An Approach to Landscape Character Assessment;
- Natural England (2019) An Approach to Landscape Sensitivity Assessment (or forthcoming SNH guidance if finalised); and
- Local baseline studies as referenced above.

ECOLOGY

5.44 This section of the report defines the proposed approach to be undertaken for the ecological assessment. A range of primary and secondary data sources will be used to prepare an Ecological Impact Assessment (EcIA) for the proposed Development, as per national best practice guidelines provided by the Chartered Institute of Ecology and Environmental Management (CIEEM).

5.45 The EIAR will consider the potential direct, indirect and cumulative effects that the construction, operation and decommissioning of the proposed Development may have on any Important Ecological Features (IEFs) scoped-in to the assessment. The EcIA will be supported by technical appendices covering; habitats, protected species, bats, fisheries and, an Outline Habitat Management Plan (if required).

Consultation

5.46 Consultation regarding the scope and findings of the EcIA is expected to include NatureScot, SEPA, the Royal Society for the Protection of Birds (RSPB), Forestry Commission Scotland (FCS) and SLC.

Study Area and Baseline

5.47 The area within which the desk-based research and field surveys are undertaken for the proposed Development varies depending on the ecological feature and its search/survey methods and requirements.

5.48 The Site does not overlap with any statutory designated sites. However, four statutory sites designated are located within close proximity of the Site Boundary, and therefore could have potential connectivity with the Site. These are as follows:

- Miller's Wood SSSI circa 400m NW of the Bodinglee West site boundary;
- Red Moss SPA and SSSI circa 500m SE of Bodinglee West site boundary;
- Muirkirk and North Lowther Uplands SSSI and SPA circa 1.7km SW of Bodinglee West site boundary; and
- Tinto Hills SSSI Circa 3.3km NE of the Bodinglee North site boundary.

5.49 There are no areas of ancient woodland within the Site.

Assessment

5.50 A desk-study will be undertaken to gather information from a variety of sources and from consultation with several key stakeholders and conservation organisations such as those outlined below:

- National Biodiversity Network (NBN) Atlas Scotland for historical species records;
- NatureScot Sitelink for designated sites information;
- NatureScot Natural Spaces website for the Carbon and Peatland Map;
- Ancient Woodland Inventory sites within 5 km of the Site;
- Scottish Badgers;
- Scottish Wildlife Trust;
- Deer Distribution Survey results by the British Deer Society; and
- Glasgow Museums Biological Records Centre.

5.51 In addition to this, ecological information available in the public domain relating to applications for local wind farm projects will be reviewed and referred to in order to gather additional baseline information and further local/regional context.

5.52 Field Surveys commencing with a NVC and Phase 1 Habitat Survey will be commenced in spring 2021.

5.53 An assessment of cumulative effects will be undertaken following published guidance (SNH, 2012). Cumulative effects on each feature relevant to the proposed Development will be assessed in relation to other wind farm projects subject to the EIA process within a relevant search area, and their effects on a relevant reference population;

Potential Significant Effects

5.54 The assessment will concentrate on the effects of construction, operation and decommissioning of the proposed Development upon those Important Ecological Features (IEFs) identified during the baseline period. In general, key sensitivities and potential effects are likely to be:

- Sensitive terrestrial habitats such as Habitats Directive Annex I habitats, SBL priority habitats and UK and Local Biodiversity Action Plan (BAP) habitats – effects include direct (i.e. derived from land-take) and indirect (i.e. changes caused by impacts to supporting systems such as groundwater or overland flow), including habitats such as blanket bog;
- Aquatic habitats – effects are limited to the ecological impacts of changes in water conditions through potential pollution effects (hydrological effects and GWDTEs are considered in Section 9: Hydrology and Hydrogeology);

- Protected species – impacts considered include direct (i.e. loss of life as a result of the proposed Development; loss of key habitat; displacement from key habitat; barrier effects preventing movement to/from key habitats; and general disturbance) and indirect (i.e. loss/changes of/to food resources; population fragmentation; degradation of key habitat e.g. as a result of pollution); and

- Cumulative effects – ecological effects arising from the addition of the proposed Development in combination with other relevant wind farm projects.

5.55 At this stage no potential effects or potential IEFs have been scoped out until the ecological baseline surveys are complete and determination of the presence and distribution of ecological features in relation to the planned infrastructure and activities associated with the proposed Development.

Mitigation Hierarchy

5.56 A standard mitigation hierarchy (avoid, mitigate, compensate, enhance) will be applied to identified significant effects. At this time, it is anticipated that potential effects on otter, badger and bats can be designed out through the use of avoidance measures and appropriate stand-off distances, although this cannot be confirmed until the design has been finalised. Habitat impacts will be reduced through avoidance of Annex I habitat types and GWDTEs where possible, and the appropriateness of enhancement measures, via a Habitat Management Plan, will also be considered. Cumulative

Question 5: Are there any other relevant consultees who should be contacted, or other sources of information that should be referenced with respect to the ecology assessment?

ORNITHOLOGY

5.57 This section of the report defines the proposed methodology and approach to undertaken for the ornithological assessment that will be included within the EIAR.

5.58 This section will summarise the methods used to establish the baseline conditions within the Site and its surroundings and the process used to determine the sensitivity of species' populations present.

5.59 The ways in which species might be affected (directly or indirectly) by the construction, operation and decommissioning of the proposed Development are proposed to be assessed prior to and after any mitigation measures are considered. In addition, any cumulative effects will be considered, taking together effects of other wind farm projects in the area, whether operational, consented or at application stage, along with the significance of any predicted effects associated with the proposed Development.

5.60 For the purposes of this ornithology section, the terms 'Survey Area' and 'Study Area' are defined as follows:

- 'Survey Area' is defined as the area covered by each survey type at the time of survey; and

- ‘Study Area’ is defined as the area of consideration of effects on each species at the time of the ornithological assessment and as the area used for any desk-based study.

Consultation

5.61 Consultation regarding the ornithology survey scope and results is expected to include NatureScot and the Royal Society for the Protection of Birds (RSPB).

Study Area and Baseline

5.62 The Study Area used for the desk-based study varies depending on the ornithological feature as follows:

- Within 20 km of the Site for statutory sites designated for wintering geese;
- Within 10 km of the Site for statutory sites designated for other ornithological features; and
- Within 2 km of the Site for existing records of protected and sensitive bird species[3] from relevant organisations such as the local Raptor Study Group (RSG) and RSPB.

5.63 Three statutory sites designated for ornithological features were identified within the relevant Study Area:

- Muirkirk and North Lowther Uplands Special Protection Area (SPA), which is designated for breeding golden plover (Pluvialis apricaria), breeding merlin (Falco columbarius), breeding peregrine (F. peregrinus) and breeding short-eared owl (Asio flammeus), and both breeding and non-breeding hen harrier (Circus cyaneus), is located approximately 2.2 km to the south-west of the Site (at the closest point);
- North Lowther Uplands Site of Special Scientific Interest (SSSI), which is a component of Muirkirk and North Lowther Uplands SPA and is designated for breeding and non-breeding hen harrier, breeding short-eared owl, and its breeding bird assemblage, is located approximately 2.2 km to the south-west of the Site (at the closest point); and
- Muirkirk Uplands SSSI which is also a component of Muirkirk and North Lowther Uplands SPA and is designated for breeding hen harrier and its breeding bird assemblage, 5.6 km to the west of the Site (at the closest point).

Assessment

5.64 The EIAR will include an Ornithological Impact Assessment (OIA). This will consider the potential direct, indirect and cumulative effects that the construction, operation and decommissioning of the proposed Development could have on any identified Important Ornithological Features (IOFs) scoped into the assessment. The OIA will be supported

[3] Defined as species included on one or more of the following: Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Annex I of the Birds Directive, the UK Birds of Conservation Concern (BoCC) Red and Amber lists and the Scottish Biodiversity List (SBL).

by a Technical Appendix (TA) that will include details of survey methodologies, all survey data and outputs from any Collision Risk Modelling (CRM).

5.65 Effects on IOFs will be assessed in relation to the species' reference population, conservation status, range and distribution. The assessment of potential effects will follow guidelines published by CIEEM (2018)[4] and NatureScot 2018a[5], 2018b[6].

Field Surveys

5.66 Ornithology Field Surveys at Bodinglee North and Bodinglee West commenced in September 2020 and will be completed in August 2022. The ornithology survey programme for each of these areas during each survey year will comprise the following:

- Year-round Flight Activity Surveys;
- Black Grouse Surveys;
- Upland Breeding Bird Surveys; and
- Breeding Raptor Surveys.

5.67 Field Surveys have not yet commenced at Bodinglee South, but it is proposed that the survey programme would be the same as that for Bodinglee North and Bodinglee West.

5.68 A summary of each survey method is presented below.

Flight Activity Surveys (September 2020 to August 2022, inclusive)

5.69 Year-round Flight Activity Surveys will be undertaken to record the flight activity of target species such as wildfowl, waders and protected raptors and owls, including designated features of the Muirkirk and North Lowther Uplands SPA. In accordance with current SNH guidance, this will involve a series of watches from Vantage Points (VPs) overlooking the Site and a surrounding 500 m buffer (see Drawing SR/04: Bodinglee North VP Locations and Viewsheds and Drawing SR/05: Bodinglee West VP Locations and Viewsheds).

5.70 The VP locations have been selected through a combination of viewshed analysis and initial visits to both Bodinglee North and Bodinglee West to verify the visibility. In line with NatureScot (2017) guidance[7], locations were optimised to allow maximum coverage of the Survey Area from the minimum number of points.

5.71 It is proposed that a total of 36 hours of survey per VP will be completed annually during each of the following periods:

- Non-Breeding season (September to mid-March); and

[4] CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
[5] NatureScot. (2018a). Environmental Impact Assessment Handbook – Version 5: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland.
[6] NatureScot. (2018b). Assessing the cumulative impacts of onshore wind farms on birds. SNH Guidance Note.
[7] NatureScot. (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms, Version 2.

- Breeding season (mid-March to August).

This meets the minimum survey effort requirement in current NatureScot (2017) guidance[7]. In order to detect any winter hen harrier roosts, Flight Activity Surveys during the non-breeding season would include regular watches around the hours of dawn and dusk.

Black Grouse Survey (late March to mid-May 2020 and 2021)

5.72 A Black Grouse (Lyrurus tetrix) Survey will be undertaken each year to identify lek sites within 1.5 km of the Site (access permitting). In line with NatureScot (2017) guidance)[7], the survey methods will be based on those detailed in Gilbert et al. (1998)[8]. A minimum of two survey visits will be undertaken between late March and mid-May.

Upland Breeding Bird Survey (April to July 2020 and 2021)

5.73 An Upland Breeding Bird Survey will be completed each year to map the territories of breeding wader species, in areas of open ground within 500 m of the Site (access permitting). The survey will follow a modified version of the Brown and Shepherd (1993) census method for upland breeding waders, as recommended in NatureScot (2017) guidance[7]. Four survey visits will be completed each year between April and July. Although the survey will focus on breeding waders, observations of other notable species of conservation concern (e.g. black grouse) will also be recorded.

Breeding Raptor Surveys (March to August 2020 and 2021)

5.74 Breeding Raptor Surveys will be undertaken each year between March and August to identify breeding territories of protected raptor species (including owls).

5.75 The survey methods will be based on current guidance for surveying raptors (Hardey et al., 2013)[9]. This will involve a combination of watches from suitable VP locations overlooking areas of potential nesting habitat, and walkovers of suitable habitat to search for evidence of breeding. In accordance with NatureScot (2017)[7] guidance survey areas will be as follows:

- Suitable habitat within 1 km of the Site (access permitting) for goshawk (Accipiter gentilis) and barn owl (Tyto alba); and

- Suitable habitat within 2 km of the Site (access permitting) for all other protected raptor and owl species likely to be present in the area (e.g. hen harrier, merlin and short-eared owl).

Summary of Initial Survey Results

5.76 Six hours of Flight Activity Surveys were completed from each Bodinglee North and Bodinglee West VP in September 2020.

5.77 Nine identified target species were recorded in flight, with pink-footed goose (Anser brachyrhynchus) the species observed most frequently (74 flights, each numbering 1-250 birds), followed by hen harrier and short-eared owl. There were also occasional records of golden plover and goshawk, and single flights of black grouse, snipe

[8] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird monitoring methods. RSPB, Sandy.

[9] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors: a field guide to survey and monitoring, 3rd edition. The Stationery Office, Edinburgh.

(Gallinago gallinago), osprey (Pandion haliaetus) and peregrine. In addition, a single flight of unidentified geese (40 birds) was recorded over Bodinglee North (the birds were too distant to allow species identification).

5.78 There were also several incidental records of target species, i.e. birds recorded outwith Flight Activity Surveys (before/after/between watches), birds far outside the relevant VP viewshed, birds that were heard only and birds that were not in flight. These included several pink-footed goose flights and a small flock of lapwing (Vanellus vanellus; six birds) at Bodinglee North, and a single male black grouse and possible long-eared owl (Asio otus) at Bodinglee West.

5.79 The assessment method will follow the process set out in the relevant provisions of 'the EIA Regulations and guidance on implementation of the Birds and Habitats Directive (NatureScot, 2018b[6]).

5.80 An assessment of cumulative effects will be undertaken following published guidance (NatureScot, 2018a). Cumulative effects on each IOF relevant to the proposed Development will be assessed in relation to other projects and activities subject to the EIA process within a relevant search area and their effects on a relevant reference population; for example, an SPA population where there is potential connectivity, or at a Natural Heritage Zone (NHZ) level for breeding species out with SPAs.

Potential Significant Effects

5.81 Potential significant effects of the proposed Development on ornithological features include:

- disturbance and/or displacement of birds, including species associated with the Muirkirk and North Lowther Uplands SPA and component SSSIs;
- collision of birds with wind turbines, including SPA/SSSI species (standard CRM will be used for hen harrier, merlin, short-eared owl and golden plover if there are sufficient at-risk flights to warrant this);
- barrier effects causing disruption of flight lines due to the addition of turbines to an area already supporting turbines;
- indirect effects on bird usage of the Site, e.g. disruption to habitat function; changes in availability of open ground; changes in prey abundance or distribution; and
- With respect to potential impacts on the SPA, information will be included in the assessment which can be used to support a Habitats Regulations Assessment (HRA).

5.82 The two SSSIs identified within the Study Area are both components of the Muirkirk and North Lowther Uplands SPA, and many of the designated features overlap with those of the SPA. Although it is acknowledged that the breeding bird assemblage features of both SSSIs may include additional species that are not designated featured of the SPA, these are predominantly wader and passerine species. As the Site is located outside the known or likely core range for many of these species, the potential for connectivity is considered to be very low. It is therefore proposed that the assessment of potential impacts on statutory sites is limited to the SPA, with both SSSIs scoped out of the assessment.

5.83 At this stage no other potential IOFs or potential effects have been scoped out of the assessment. This will be determined at a later stage, based on the results of the desk-based study and ornithological baseline surveys.

Mitigation Hierarchy

5.84 Potentially significant effects on birds will be avoided/minimised where possible within the design layout process. Good practice during construction, operation and decommissioning of the proposed Development will also be implemented.

5.85 Where likely significant effects on IOFs are identified, measures to prevent, reduce and where possible offset these adverse effects will be proposed.

Question 6.1: Do you agree that the surveys described above are appropriate in their scope, timings and coverage to provide the required baseline for an Ornithological Impact Assessment?

Question 6.2: Do you agree that the VP locations are suitable and provide sufficient coverage of Bodinglee North and Bodinglee West?

Question 6.3: Do you agree that collision risk analysis can be limited to consideration of SPA listed species where sufficient flights have been recorded to warrant this?

Question 6.4: Do you agree that a cumulative assessment for ornithology should be based on data pertaining to developments surrounding the SPA fulfilling the criteria described above?

Question 6.5: Do you agree that no separate assessment of the impacts on SSSI bird species is needed, over and above that provided for the SPA?

NOISE

5.86 This section of the report defines the proposed methodology and approach to undertaken for the noise assessment that will be included within the EIAR.

5.87 Sources of noise during operation of a wind turbine are both mechanical (from machinery housed within the turbine nacelle) and aerodynamic (from the movement of the blades through the air). Modern turbines are designed to minimise mechanical noise emissions from the nacelle through isolation of mechanical components and acoustic insulation of the nacelle. Aerodynamic noise is controlled through the design of the blade tips and edges. In most modern wind turbines, aerodynamic noise is also restricted by control systems which actively regulate the pitch of the blades.

5.88 Whilst noise from the wind turbines increases with wind speed, at the same time ambient background noise (for example wind in trees) usually increases at a greater rate. Planning conditions are used to enforce compliance with specified noise level limits.

5.89 The effects of noise from the proposed Development will be assessed in consultation with the EHO of the Council.

Construction Noise

5.90 Noise emitted during the construction phase will be temporary and short term in nature and can be minimised through careful construction practices. The effective control of these impacts can be achieved by way of a suitable legislative instruments.

5.91 A construction noise assessment will be undertaken to determine the potential noise impacts during the construction phase of the wind farm development. The construction noise assessment will be undertaken in accordance with the methodology outlined in British Standard (BS) 5228: Part 1: 2009+A1:2014 and ISO9613:1996 ('Acoustics - Attenuation of sound during propagation outdoors' – Part 2: General method of calculation'). Impacts will be assessed using criteria contained within BS5228-1: 2009 and, where appropriate, mitigation measures will be proposed.

5.92 An assessment of the potential noise emissions during the decommissioning phases of the proposed Development will be undertaken as part of the construction noise assessment. The impacts of the decommissioning phase will be assessed and, where appropriate, mitigation measures will be proposed.

Operational Noise

5.93 In terms of assessing the impact of the predicted operational noise levels, the EIAR will follow the guidance detailed in 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97) which is the final report of the UK Government's Working Group on Noise from Wind Farms published in 1996. The Scottish Government states in PAN1/2011 and the associated web based guidance 'Onshore Wind Turbines', that the recommendations in ETSU-R-97 should be followed by applicants and consultees to assess and rate noise from wind energy developments.

5.94 The web based guidance also notes that the Institute of Acoustics (IOA) document 'Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (IOA GPG) should be used by all IOA members and those undertaking assessments to ETSU-R-97.

5.95 Noise monitoring will be undertaken at representative locations around the proposed Development and the measurements will be used to determine the existing background noise environment. ETSU-R-97 notes that measurements of background noise should be made such that they are not influenced by operational wind turbines and the IOA GPG provides various methods which can be used to achieve this aim. Detailed consultation will take place with the local environmental health officer to agree the locations of the representative noise sensitive premises and the approach to accounting for the influence of operational turbines. Where required, the baseline assessment may be supplemented by previous background noise measurements undertaken as part of the assessment of existing wind farms in the area.

5.96 ETSU–R-97 recommends that day-time wind farm noise levels should be limited to 5dB(A) above the prevailing background or a fixed level within the range of 35-40 dB LA90, 10min, whichever is higher. The precise choice of criterion level within the range 35 - 40 dB(A) depends on a number of factors, including the number of dwellings in the neighbourhood of the wind farm (relatively few dwellings suggest a figure towards the upper end), the effect of noise limits on the number of kWh generated (larger sites tend to suggest a higher figure) and the duration and level of exposure to any noise. For night-time periods the recommended limits are 5 dB(A) above prevailing background or a fixed minimum level of 43 dB LA90, 10min, whichever is higher.

Where the occupants of a property are financially involved with the wind farm the day-time and night time noise limits are increased to 45 dB.

Question 7.1: Do you agree with the methodology for the construction noise assessment?

Question 7.2: Do you agree with the proposed methodology for the operational noise assessment?

ARCHAEOLOGY AND CULTURAL HERITAGE

5.97 This section of the report defines the proposed methodology and approach to undertaken for the archaeology and cultural heritage. The assessment will consider direct, indirect, and cumulative effects upon archaeology and cultural heritage. This will include the consideration of the following:

- Nationally designated assets including World Heritage Sites, Scheduled Monuments, Listed Buildings, Inventoried Gardens and Designed Landscapes (GDLs), Inventoried Battlefields, and regionally designated Conservation Areas;
- Undesignated assets (including above and below ground assets) as recorded by the local Historic Environment Record (HER), cartographic record, photographic record, or identified through the walkover survey; and
- The potential for unknown (buried) archaeological remains to survive within the Site.

5.98 The assessment will be conducted with reference to relevant statutory policy and guidance for cultural heritage and cognisance will also be taken of Historic Environment Policy for Scotland (HEPS).

5.99 The assessment will be undertaken in accordance with current best practice and guidelines which includes the Chartered Institute for Archaeologists (CIfA) Standards and Guidance and Historic Environment Scotland's (HES) Managing Change in the Historic Environment Series, specifically 'Managing Change in the Historic Environment: Setting'

Study Area and Baseline

5.100 The study areas for assessment will take the following form:

- Core Study Area: this will be the area defined by the Site Boundary where direct effects upon archaeology are most likely to occur;
- 5 km Study Area: this area will be a 5 km radius of the Site Boundary. Designated heritage assets within the 5 km Study Area will have the potential to receive significant indirect effects as a result of changes in their setting caused by the proposed Development; and
- 5-10 km Study Area: Heritage assets between 5 km and 10 km may be included in the assessment where the assets lie in the ZTV or in elevated positions and where their setting incorporates long distance views towards the proposed Development. The final selection of heritage assets for

inclusion in the assessment of indirect effects will be agreed through further consultation.

5.101 An initial Historic Environment Appraisal has been undertaken to review the potential historic environment constraints.

Designated Heritage Assets

5.102 Within the Site there is one scheduled monument within each of the three Bodinglee blocks. In the southern part of Bodinglee West is a stone cairn on Auchensaugh Hill (SM4234). Another scheduled cairn is located within the western part of Bodinglee South. This is on a promontory to the south-west of (and lower than) the summit of Wildshaw Hill (SM4511). Just within the western edge of Bodinglee North is a scheduled monument comprising the remains of a group of late 16th or early 17th century farm buildings collectively known as Thorril Castle (SM5425).

5.103 Within 10km of the Site there is only one Garden and Designed Landscapes (GDL) at The Falls of Clyde, which incorporates New Lanark and the estates of Corehouse, Bonnington, Braxfield and Castlebank Park, and which is approximately 7.25 km north of the Site. New Lanark is also a World Heritage Site (WHS) with a defined buffer zone, and a Conservation Area has been designated here which takes in the WHS and part (but not all) of the defined buffer zone.

5.104 There are a number of listed buildings within the 10 km study area, principally within New Lanark and the settlement of Douglas.

5.105 Drawing SR/06: Designated Heritage Assets within 10km shows very clearly that the great majority of the scheduled monuments are to the north-east, east and south-east of the Bodinglee site, within the valley of the River Clyde and the foothills on either side of the valley. One exception to the predominant River Clyde focus is a small elliptical stone circle approximately 40 m by 50 m which is located just to the west of the M74 motorway.

Non- Designated Heritage Assets

5.106 Examination has been made of the information available online regarding the location and nature of non-designated heritage assets within the Site – principally those recorded on the Historic Environment Record (HER) maintained by the West of Scotland Archaeology Service (WoSAS).

5.107 Within the western part of the Bodinglee West block is the postulated route of a Roman road (Drawing SR/07: Designated and Non Designated Heritage Assets within the Site), however much of the proposed route, including this part, has not been confirmed by any direct evidence and remains hypothetical. Most of the HER entries within the Bodinglee West block are sheep shelters/pens or small livestock enclosures.

5.108 The same postulated route of the Roman road passes through the southern part of the Bodinglee North block and the northern part of the Bodinglee South block, although again no ground-based confirmation of the route has been established. Again the HER entries for both of these blocks are mostly sheep shelters/pens or small livestock enclosures, small areas of rig and furrow agriculture and abandoned farmsteads.

Assessment Methodology

5.109 A Desk-based Assessment (DBA) of cultural heritage records will be compiled to establish the baseline against which the impact assessment will be carried out. Data will be gathered from the following sources:

- HES Datasets including Canmore;
- The Council's HER;
- Aerial photographs and other cartographic information detailing previous land uses;
- The Statistical Accounts of Scotland; and
- Local studies libraries and other archives, as appropriate.

5.110 A 1 km Study Area around the Site will be used to collect data to inform on the archaeological potential of the Site.

5.111 The DBA will be augmented by a walkover survey in order to:

- Assess and validate documentary data collected;
- Identify the extent and condition of any visible archaeological remains; and
- Determine whether previously unrecorded historic features are visible.

5.112 Following completion of the baseline the potential impacts of the construction, operation and decommissioning of the proposed Development on the significance of cultural heritage assets will be assessed.

5.113 Within the EIAR the value of each identified heritage asset will be established and the magnitude of impact from the proposed Development assessed. Impacts may arise during construction, operation and/or decommissioning, and can be considered as direct or indirect.

Direct Effects

5.114 Known archaeology, as identified during the DBA, will be avoided during site design, where possible. The assessment of physical effects will consider direct effects where sites or potential sites / buried archaeology are in danger of being disturbed or destroyed during the construction phase of the proposed Development.

Indirect Effects

5.115 The assessment of indirect effects considers changes in setting which have the potential to affect the understanding, appreciation and experience of heritage assets. For the purposes of evaluating indirect effects upon heritage assets, designation status, proximity to the proposed Development, and location within the ZTV will determine whether further assessment is required.

5.116 For the purposes of this document, designated heritage assets include Listed Buildings, Scheduled Monuments, Gardens and Designed Landscapes, Inventoried

Battlefields and World Heritage Sites as well as Conservation Areas within 10 km from the proposed Development. It is considered that the designated assets most likely to receive indirect effects are those that are located within 5 km of the proposed Development.

5.117 The assessment will also take account of the extent of the potential visual impact as determined through the LVIA. The assessment may also include visual representations such as photomontages and/or wirelines, as appropriate.

5.118 Consultation will be undertaken with HES, WoSAS and the Council as part of the assessment process. The archaeology and cultural heritage assessment will include proposals for mitigation of any identified impacts where necessary.

5.119 The assessment of indirect effects upon the setting of undesignated archaeology and cultural heritage assets is broadly based upon its designation status or lack thereof. Undesignated sites are often of lower sensitivity so that changes to their setting will not result in a significant indirect effect as defined by the EIA Regulations. As such, they can be scoped out of the EIA at this stage unless specific undesignated assets of higher sensitivity are requested during consultation.

5.120 For the purposes of the assessment of cumulative effects, only wind farm developments (operational, under construction, consented, or in planning) within approximately 10-15 km of the Site will be considered. The potential for a significant cumulative effect is considered most likely to occur within overlapping 5 km study areas. As such, the 10-15 km Study Area allows for the assessment of effects within the 5 km radius of the proposed Development and other wind farms, specifically where the ZTVs for the proposed Development and cumulative wind farms overlap, i.e. where each is theoretically simultaneously visible.

Potential Significant Effects

5.121 The archaeology and cultural heritage assessment will examine the potential for buried archaeology within the proposed Development and the resultant direct effects from the construction of the proposed Development, should any be present. The assessment will also consider changes to the setting of designated heritage assets within the surrounding area.

5.122 Based on baseline conditions, it is proposed the following receptors are scoped into the assessment:

- Direct effects on undesignated archaeological features;
- Direct effects on designated heritage assets;
- Indirect effects on all designated heritage assets within the 5 km Study Area;
- Indirect effects on designated heritage assets between 5 km and 10 km where the assets, or key views towards to asset, lie within the ZTV; and
- The cumulative effect of the proposed Development in conjunction with other wind farm developments within 10 km.

5.123 Based on the baseline conditions recorded and distance from the Site, it is proposed that the following are scoped out:

- Indirect effects on undesignated heritage assets out with the Core Study Area;
- Indirect effects on designated heritage assets beyond the 10 km Study Area;
- Indirect effects on designated heritage assets between 5 km and 10 km, where the assets, or key views towards the asset, do not lie within the ZTV; and
- Cumulative effects from wind farm developments out with the 10 km Study Area.

Key Questions:

8.1 Do you agree with the proposed scope of the archaeology and cultural heritage assessment in terms of the Scoped in and Scoped out elements?

8.2 Do the Council and Consultees have any information regarding current or recent archaeological work or projects being undertaken within or in the vicinity of the Site, particularly those whose results may not be yet recorded in the Historic Environment Record? And

8.3 Do the Council and Consultees have details of any cultural heritage assets in the vicinity of the Site which it considers may raise significant issues within the EIA process for the proposed Development.

GROUND CONDITIONS AND HYDROLOGY

5.124 This section of the report defines the proposed methodology and approach to undertaken for the hydrology assessment that will be included within the EIAR.

5.125 The proposed Development has the potential to cause significant impacts upon the water environment. As such, assessments are required to consider the potential effects associated with the development and identify any requirement for mitigation. The EIAR will consider the potential issues arising from the construction, operation and decommissioning of the proposed Development in relation to potential hydrogeological and hydrological impacts. It will assess the potential impacts on surface waters and groundwater, including Private Water Supplies (PWS), other water abstractions and discharges. The assessment will provide baseline information, discuss potential mitigation and management, assess impacts assuming the proposed mitigation is implemented and then determine if impacts have a significant effect. The assessment will also consider if there may be any cumulative impact arising from the proposed Development and other major developments within the same catchment(s).

Study Area and Baseline

5.126 The study areas for assessment will take the following form:

- Core Study Area: this will be the area defined by the Site Boundary where direct effects upon archaeology are most likely to occur;
- A Wider Study Area of 10 km from the Site Boundary is proposed to assess the potential effects of the proposed Development on the wider hydrological environment.

- A smaller Private Water Supply (PWS) Study Area 2 km from the Site Boundary is proposed for identification and assessment of PWS.

- At distances greater than 10 km within upland catchments, it is considered that schemes such as wind farm developments are unlikely to contribute to a hydrological effect, in terms of chemical or sedimentation impacts, due to dilution over distance of potentially polluting chemicals.

5.127 A site walkover, consultation, desk studies and data requests will be undertaken to inform the baseline and assessment.

Surface Hydrology

5.128 The Site is located within a number of catchments including: Douglas Water and its tributaries (including Craign Burn, Moss Burn, Arnesalloch Burn and Shiel Burn), Parkhall Burn and its tributaries (including Robin's Gill, Cuff Burn, Bodding Burn and Birshaw Burn), Gelspin Burn and its tributaries (including the Braidnie Burn and Shiel Burn), Black Burn and Roberton Burn/Milking Burn and its tributaries (Hashy Burn, Laydygill Burn, Kirk Burn, Star Burn and Standing Burn).

Hydrogeology

5.129 The groundwater units underlying the Core Study Area are identified by Scotland's Environment mapping service as the Lesmahagow and Douglas Coalfield North groundwater body's which have an overall SEPA classification of 'Good' and 'Poor' respectively. These groundwater bodies are also classified Drinking Water Protected areas.

5.130 British Geological Survey mapping confirms the site to be underlain predominantly by unnamed Silurian to Devonian extrusive rock, being a low productivity aquifer. The northern site extent is underlain by the Inverclyde, Strathclyde and Clackmannan groups of moderately productive aquifers. Finally, the western site extent is underlain by the Clackmannan and Scottish Middle Coal measures formations, also recorded as moderately productive aquifers.

5.131 An assessment the potential effects on the groundwater resource will be undertaken in the EIAR.

Ground Conditions

5.132 BGS mapping indicates the site to be underlain by glacial till or shallow rock. Isolated areas of peat are also recorded across the Site with localised alluvial deposits also expected, consistent with established water courses. Further works will be undertaken to gain a better understanding of the ground conditions within the study area. For those areas that are identified as being covered in peat and where the depths of peat deem this appropriate, a Peat Slide Risk Assessment will be undertaken in order to assess the potential risk of peat instability within the area.

5.133 A preliminary review of Ordnance Survey plans dated between 1898 and present day indicates that the recorded uses of the Site have been uncultivated/rough grazing (agricultural). Given the current use of the Site, it is considered unlikely that the ground will be contaminated.

5.134 There is evidence of historical underground mining in the western extreme of the site, with further desk based and potential intrusive investigations required to assess the risk to the proposed Development.

Flood Risk

5.135 SEPA indicative flood maps indicate that within the Site there is a high possibility of localised flooding along the Roberton Burn, Parkhall Burn, Gelspin Burn, Ladygill Burn, and Mill Burn.

5.136 An initial 50 m buffer will be placed around watercourses onsite, therefore it is not anticipated that turbines or electrically sensitive equipment or turbines will be located within these areas of potential flood risk. As such, a concise section within the EIAR will consider how the Development will impact surface water run-off and effects on off-site receptors, in accordance with paragraphs 255 to 268 of the SPP, rather than a standalone assessment.

Private Water Supplies (PWS)

5.137 There is potential that some properties located near the Site may be reliant upon Private Water Supplies (PWS) and other water requirements. Any abstractions are likely to be either from surface water or from groundwater.

5.138 Under the Private Water Supplies (Scotland) Regulations 2006, Councils have a duty to compile a list of PWS in their area and monitor the quality of the supplies. SLC will be contacted regarding the presence of PWS either within a 2km search area from the Core Study Area.

GWDTE

5.139 It is anticipated that there is potential for small areas of peat deposits on the Core Study Area and that GWDTEs will have potential to be present. The location, type and extent of the GWDTEs will be determined with the aid of a National Vegetation Communities (NVC) survey, which inform the assessment of the hydrological function of the GWDTEs, in accordance with SEPA Land Use Planning System Guidance Note 31.

5.140 The assessment will consider the condition of the GWDTE and if it is considered to be truly groundwater dependent or ombrotrophic (rainwater fed).

Assessment

5.141 Within the EIAR the assessment of the significance of effects that could result from the proposed Development will take into account the sensitivity of the Site, the magnitude of potential impacts and the likelihood of such effects occurring. The assessment will identify measures to mitigate and if possible, avoid any potential effects, as well as the assessment of the residual effects which may exist after application of any mitigation.

Hydrology

5.142 The EIAR Chapter will describe the potential effects of the proposed Development including:

- Details of consultation undertaken;
- Assessment methodologies for construction and decommissioning phases;

- Hydrological walkover survey details and results;
- Assessment of the operational and decommissioning phases of the project to establish the effect on the hydrological resource;
- Identify mitigation measures, where necessary;
- Identify any residual effects following mitigation; and
- Cumulative assessment with other developments within 10 km of the proposed Development; and
- Statement of significance in accordance with the EIA Regulations.

5.143 A concise section within the EIAR will be provided to assess Flood Risk to meet the requirements of the SPP Framework. A standalone Flood Risk Assessment (FRA) will not be provided with the EIAR Chapter.

Ground Conditions

5.144 The assessment will identify any significant effects mainly due to construction and decommissioning of the turbine foundations, access tracks, crane pads and other infrastructure.

5.145 The methodology adopted for the peat assessment is aligned to industry best practice, including

- 'Good Practice during Wind farm Construction (SR, SNH, SEPA, FCS, HES; Version, 3, 2015);
- Floating Roads on Peat (SNH, FCS, 2010); and
- Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Second Edition) (Scottish Government, 2017).

5.146 The peat assessment will consider the risk of peat slides occurring on the Site while identifying suitable controls and appropriate methodologies that can be employed during the construction and commissioning to mitigate any risks identified. The final design of the proposed Development will also take account of this work to avoid impacting upon these areas wherever possible.

5.147 The geology and peat assessments undertaken will inform the method of construction for turbine foundations and roads. It will also be used to determine whether there is any suitable material on-site for use in the construction of the wind farm and therefore whether borrow pits will be proposed as part of the proposed Development. If suitable material is found to be present on the Site the EIAR will include details of potential borrow pit locations and scale.

Potential Significant Effects

5.148 At this stage the key sensitive receptors are considered to be all surface waters, the drinking water protected area associated with groundwater aquifers and the hydrological function of potential GWDTEs and PWS.

5.149 Potential significant effects could occur from:

- Increased run-off on exposed ground causing erosion and pollution;
- Disturbance or erosion of bed and banks of watercourses and land drains;
- Increased run-off from hardstanding areas causing erosion and pollution;
- Dewatering of groundwater and peat during foundation construction;
- Pollution from accidental spillages;
- Increased on and off-site flood risk;
- Disruption / cut off of natural surface and groundwater pathways; and
- Leaching of cement and other construction substances into groundwater and peat.

5.150 In terms of ground conditions potential significant effects could occur from:

- Loss of superficial deposits (includes peat) or bedrock through extraction and removal from borrow pits or construction excavation;
- Compaction of superficial deposits or disturbance of bedrock and soils through construction;
- Increased erosion resulting from removal of surface cover;
- Destabilisation of soils resulting from loading or undercutting;
- Contamination due to disturbance of contaminants already present on site (unlikely) or as a result of site investigation or construction works; and
- Contamination due to material imported to the Site for construction.

5.151 Practical mitigation measures will be proposed to avoid, reduce or offset predicted negative impacts and these will feed into the development layout and design detail.

5.152 Assessment of potential effects on the following receptors will be scoped-in:

- Chemical pollution and sedimentation of watercourses of Parkhall Burn and associated tributaries, Gelspin Burn and associated tributaries, Arnsalloch Burn and associated tributies and Roberton Burn and associated tributaries as a result of construction;
- Impediments to near-surface water and drainage to all watercourses as a result of construction, potential de-watering and presence of linear infrastructure such as access tracks;
- Negative effects on quality, quantity and continuity of public and private water supplies as a result of construction and operation;

- Impediments to flow and pollution of any identified GWDTEs as a result of construction; and

- Increased run-off and flood risk as a result of increased hardstanding and compaction of superficial deposits and soils.

5.153 It is proposed that the migration of pollutants from contaminated land is scoped out of the assessment as the Site has not previously been developed and it is unlikely contaminated land will be encountered.

5.154 There is limited potential for pollution and sedimentation effects on the water environment at distances greater than 10 km and it is proposed that receptors beyond this distance are scoped out.

Question 9.1: Do you agree with the scope of the Ground Conditions and Hydrology Chapter?

Question 9.2: Do you agree that a contaminated land assessment can be scoped out due to the absence of historical potentially contaminative development on Site?

TRAFFIC AND TRANSPORT

5.155 This section of the report sets out how the EIA will evaluate the effect of the proposed Development on traffic and transportation resources within the study area. Vehicle movements to the proposed Development will consist of abnormal load vehicles (ALVs), heavy goods vehicles (HGVs), light goods vehicles (LGVs) and cars. The EIA will identify potential effects from increased road traffic arising from the proposed Development. The significance of these effects will be assessed against recognised guidelines. Where required, appropriate mitigation measures will be proposed to reduce these effects.

Study Area and Baseline

5.156 The proposed Development is located in a predominantly rural area, situated approximately 1 km east and west of the M74 trunk road (T). The following roads are anticipated to be included in the study area:

- M74 Jct11 roundabout and associated access roads;

- B7078 between the M74 trunk road and the proposed site access to Bodinglee West;

- A702 (T) between M74 trunk road and the B7078 towards the proposed site access to Bodinglee West;

- Ayr Road roundabout and associated access roads including private access road off the roundabout for site access to Bodinglee North/South;

- Ayr Road towards the B7078;

- M74 Jct13 roundabout and associated access roads;

- A702 (T) between M74 trunk road and the proposed site access to Bodinglee South: This section of the A702 is predominately single carriageway with one lane in each direction. Although there is a short section of dual carriageway in advance of the junction with the M74; and

- Unnamed access road from A702 to the proposed Bodinglee South access.

5.157 The finalised study area will be confirmed once the initial access assessment has been completed and may include additional roads from the local authorities adopted road network.

5.158 Baseline traffic flow conditions on routes within the study area will be established and detailed in the EIA. This geographic scope of the baseline assessment will be confirmed in consultation with the relevant local authorities as appropriate. As construction vehicles may approach the proposed Development from a distributed set of origins then all routes within the study area will be assessed.

5.159 Where publicly available traffic flow information is available, for example from the Department for Transport (DfT), then this will be used as a basis for baseline assessment. Where such information is not available then traffic surveys will be undertaken. Baseline traffic data will be factored to take into account traffic growth between the date of recording and the anticipated date of construction.

Assessment

5.160 The assessment will follow guidance contained in the following documents:

- The Institute of Environmental Management and Assessment ("IEMA", 1993), 'Guidelines for the Environmental Assessment of Road Traffic'; and

- The 'Transport Assessment Guidance' (Transport Scotland, 2012).

5.161 The Transport Assessment will accompany the EIAR and be included as a technical appendix and provide an assessment of the current and likely future travel behaviour and any mitigation measures that are required to deal with any identified technical transport issue. As part of this assessment, the following parties will be consulted:

- SLC; and

- Transport Scotland.

Potential Significant Effects

5.162 The following aspects will be assessed (scoped in) when considering the effects of the proposed Development on traffic and transport:

- Traffic generation;

- Severance;

- Driver delay;

- Pedestrian delay and amenity;

- Accidents and safety; and
- Hazardous loads.

5.163 Traffic experienced during operation of the proposed Development is likely to be minimal, and in the region of one or two light goods vehicles per day. This traffic is likely to be negligible in terms of existing traffic flow on routes within the vicinity of the Site. Therefore, assessment of operational traffic is scoped out of the assessment.

5.164 During decommissioning of the proposed Development all below ground infrastructure is likely to be left in-situ. For this reason, the amount of traffic associated with decommissioning is likely to be less than experienced during construction. It is not possible to accurately estimate baseline traffic flow levels 30 years into the future. Prior to decommissioning an assessment of the proposed decommissioning methodology in relation to traffic and transport effects will be undertaken. For the above reasons it is not considered necessary to assess decommissioning effects in the EIA and they have therefore been scoped out of the assessment.

5.165 With regard to noise and vibration, ecology and cultural heritage and archaeology the likely significant transport effects on these topic areas will be dealt with in the relevant topic specific chapters. Air quality (including dust and dirt) is to be scoped out (see Air Quality section below).

SOCIO-ECONOMICS, LAND USE AND TOURISM

5.166 The socio-economic, land use and tourism chapter of the EIAR will bring together related assessments of the likely socio-economic impact of the proposed Development upon the population, economy and use of the land within and around the proposed Development. Consideration of sustainable economic development has become a key part of government policy and a key driver in the planning system in recent years. The underlying socio-economic wellbeing of an area is also itself a driver in terms of population change. The EIA will therefore include a socio-economic assessment to ensure the balance between economic, social and environmental effects can be properly assessed.

- Land-use and tourism – The assessment will consider the potential effect that the proposed Development could have on tourism and recreation attractions and the associated local tourism industry, quality of land use, the experience of cultural heritage assets, routes, trails and local accommodation providers. Effects on any on-site or nearby land use, recreation and tourism receptors will be considered in detail where direct effects are predicted. Direct effects include effects such as temporarily diverting a public right of way during the construction phase. Indirect effects on any tourism or recreation receptors or change to land use derive from visual effects that will be considered as part of the LVIA, and the findings of the LVIA will inform an assessment of the effect on the wider experience of the receptors under this topic heading within the EIAR.

- Socio-economics – A number of elements will be used in the assessment as follows:

  - The demographic profile of the local area within the context of the regional and national demographic trends;

- Employment and economic activity in the local area, within the context of the regional and national economic trends;

- The industrial structure of the local area within the context of the regional and national economies;

- The role of the tourism sector in the local and regional economy; and

- Wage levels within the local economy compared to regional and national levels.

OTHER EFFECTS

5.167 This chapter of the EIAR will assess the likely impact of the proposed Development upon receptors surrounding of the Site which are not covered in other technical disciplines.

5.168 The aim of EIA Scoping is to focus the EIA on those environmental aspects that are considered likely to result in significant environmental effects. In so doing, the significance of effects associated with the proposed Development becomes more clearly defined. For some topics where significant environmental effects are considered unlikely an assessment of significance will not be undertaken. However, to allow robust decision-making, technical assessments, as detailed below, will be included as Technical Appendices with the planning application and summary report summarising the assessment findings of the topics outside of the EIA will be provided. This will ensure that the EIAR remains focused on likely significant effects but both the ECU and SLC have the comfort that all issues are fully addressed.

Climate Change and Carbon Balance

5.169 The aim of the climate change chapter is to determine how the proposed Development is likely to interact with a changing climate and whether any significant effects could arise.

5.170 IEMA published 'Environmental Impact Assessment Guide to: Climate Change Resilience & Adaption in June 2020 as a revision to the 2015 guidance. Accordingly, the proposed methodology was developed in line with the 2020 IEMA guidance and IEMA's complementary report *'Assessing Greenhouse Gas Emissions and Evaluating their Significance'* in order to establish a comprehensive assessment methodology. This methodology focusses on the following elements:

- Assessment of the proposed Development's effects on climate change (calculation of carbon footprint based on best practice guidelines, e.g. Scottish Government Carbon Calculator Tool) to include calculation of greenhouse gas emissions relating to construction, operation, decommissioning and the production of electricity;

- Assessment of the proposed Development's vulnerabilities and resilience in the context of climate change by identifying appropriate climate change projections and climate change effects; and

- Assessment of the proposed Development's effects upon identified environmental receptors in the context of the emerging baseline.

5.171 The proposed Development will be inherently designed to reduce adverse climate change effects by offsetting the production of carbon dioxide through use of renewable sources for generating electricity. The current baseline with respect to greenhouse gas emissions from existing methods of electricity generation (including the operational turbines onsite) will be identified using existing data from the Government, operational sites, and experience of other similar developments. This information will provide the baseline information against which to assess the contribution of the proposed Development to reducing greenhouse gas emissions and potential for significant effects.

5.172 It is proposed that the Carbon Calculator Tool will be used to determine how the proposed Development affects climate change. Effects of climate change on environmental receptors identified in other EIA topics will be considered in a future climate scenario, as predicted by the most recently available climate projection iteration (UKCP18 at the time of writing). These include:

- Increase temperature;
- Changes in the frequency, intensity and distribution of rainfall events (e.g. an increase in the contribution to winter rainfall from heavy precipitation events and decreases in summer rainfall);
- Increased windstorms; and
- Sea level rise.

5.173 The assessment of the proposed Development's effects on climate change has been scoped into the EIA, given the associated carbon reduction properties of windfarms.

5.174 It is proposed that the proposed Development's vulnerabilities and resilience to climate change can be scoped out of the EIA. None of the identified climate change trends could affect the proposed Development with the exception of increased windstorms. Breaking mechanisms installed on turbines allow them to be operated only under specific wind speeds and should severe windstorms be experienced then the turbines would be shut down. In addition, given the elevated location of the proposed Development, flooding will not pose a significant risk to the operation of the windfarm nor will the construction of a windfarm contribute to flooding elsewhere. Therefore, it is concluded that no significant effects will arise, as a result of the proposed Development, and vulnerabilities and resilience to climate change can be scoped out.

Aviation and Eskdalemuir

5.175 The effects of wind turbines on aviation interests have been widely publicised but the primary concern is one of safety. There are two dominant scenarios that may lead to objections from aviation stakeholders:

- Physical Obstruction: Turbines can present a physical obstruction at or close to an airfield or in the military Low Flying environment; and
- Radar/Air Traffic Services: Turbine clutter appearing on radar display can affect the safe provision of air traffic services as it can mask unidentified aircraft from the air traffic controller and/or prevent them from accurately identifying aircraft under his control.

5.176 Based on initial assessment work Bodinglee has the potential to impact upon:

- NATS EN-Route Ltd (NERL); and
- The Ministry of Defence (MOD).

5.177 Further detailed assessment is ongoing and a detailed Aviation Impact Assessment (AIA) of the proposed Development will be undertaken and submitted as a technical appendix in order to assess the actual operational impact of the Site and to explore suitable mitigation, as required. In particular the assessment will assess:

- The location, size and potential radar footprint of the Site;
- Radar Line of Sight analysis and technical impact of the proposed Development on Primary Surveillance Radar (PSR) systems within range of the Site (such as at Glasgow Prestwick and Glasgow Airport);
- Operations at regional airport(s) and how they might conflict with the turbines;
- Details of the airspace structure in the vicinity and how En-Route flight operations may conflict with the proposed turbines;
- MOD operations (including low-flying) in the area and how they might conflict with the Bodinglee Wind Farm; and
- Assessment of applicable mitigation.

5.178 Where an actual or potential conflicts exist, it is important that an agreed strategy is in place for suitable technical and/or operation mitigation, and that each party can agree a suitable timescale for the implementation of the appropriate solutions. Therefore, consultation with aviation stakeholders will commence to discuss the proposed Development and define any required mitigation strategy. It is understood that wind farm tolerant radar infrastructure either exists or is being installed at both civilian airports being assessed for potential impact.

5.179 Consultation will take place with the CAA and the MoD on their requirements for lighting of the turbines. However, as the turbines are over 150m in height, 2000 candela lights on the nacelle and smaller lights around the towers will be required under CAA regulations. With regard to the MoD the primary concern is likely to be low flying activities and the visibility of the turbines at night. It is considered unlikely significant environmental effects as a result of aviation will result. As such, aviation is scoped out of the EIA although an aviation impact assessment will be provided.

5.180 An assessment of the visual effects of aviation lighting located on the turbines will be addressed in the Landscape and Visual Chapter of the EIAR.

5.181 It is understood that the site will fall within the current Eskdalemuir monitoring station zone of influence, with further consultation expected with the MoD on how to proceed with the proposed Development in line with the Eskdalemuir requirements.

Shadow Flicker

5.182 An assessment of the potential for the proposed Development to cause shadow flicker effects at the nearest sensitive receptors will be undertaken and if necessary will quantify the level of such effects through modelling based on the specific relationship between the wind turbines and properties (within 10 rotor diameters) along with the characteristics of those properties. A shadow flicker assessment will be included within a Technical Appendix.

5.183 If shadow flicker did result and if any unacceptable impacts could not be overcome through the design / layout of the proposed Development appropriate mitigation measures will be provided. There are several mitigation measures that can be put in place to reduce impacts. These include screening or blocking the flicker through the planting of trees or switching the turbine(s) off during periods when conditions are such that shadow flicker effects occur. As such it is considered unlikely that, with the implementation of mitigation measures (if found to be required), significant environmental effects as a result of shadow flicker will result. As such, shadow flicker is scoped out of the EIA.

Radio-communications

5.184 Wind turbines can cause electromagnetic interference (EMI) in two ways:

- Physical interference: where the blades of the turbine cut across an electromagnetic signal causing a 'ghosting' effect. This may affect television signals or radar; and

- Electrical interference: caused by the operation of the generator within the nacelle of the turbine. This may affect communication equipment in close proximity to the turbine.

5.185 In general, the main recorded effect of wind turbine developments in the UK and Europe has been instances of interference with local television reception. Where such interference has occurred, the developer has agreed to enter into a legally binding agreement to undertake remedial action (usually the installation of new television reception equipment) where effects have occurred. The potential effect on signals on radio, television and telecommunication transmissions will be assessed by means of a desk study which will encompass:

- Identification of telecommunication, television and radio signals passing through the study area;

- Analysis of turbine layout and properties; and

- Further consultation with individual telecommunication operators as necessary.

5.186 With regards to the potential for interference with local television reception, following the switchover to digital television transmission throughout the UK, the potential for wind turbine developments to impact on television reception has been greatly reduced. The proposed Development will be designed to ensure that are no effects on radio-communications with consultation undertaken prior to construction to ensure there are no effects. As such, radio-communications are scoped out of the EIA.

Air Quality

5.187 The proposed Development is not considered likely to give rise to significant effects on air quality. The main activities that may have an effect are limited to construction works (dust from soil stripping and earthworks, from excavation, potentially including occasional blasting, and from vehicles running over unsurfaced ground) and exhaust emissions from fixed and mobile construction plant and construction vehicles. Construction works are localised, short term, intermittent and controllable through the application of good construction practice. Fixed and mobile plant will be limited in size and number and operate for short periods.

5.188 Therefore, it is proposed that air quality and is scoped out of further assessment.

Waste

5.189 At this stage, the exact quantities and types of waste are unknown. It is expected that they could include:

- Excavated material;
- Forestry Residues;
- Welfare facility waste;
- Packaging;
- Waste chemicals, fuels and oils;
- Waste metals;
- Waste water from dewatering;
- Waste water from cleaning activities; and
- General construction waste (paper, wood, etc.).

5.190 A Site Waste Management Plan (SWMP) will be prepared prior to construction and will detail how waste streams are to be managed, following the Waste Hierarchy of prevention, reuse, recycle, recover and as a last resort, disposal to landfill. The SWMP will be agreed and implemented prior to construction commencing on Site. Therefore, it is not considered necessary for waste to be assessed further within the EIA and is scoped out of further assessment.

Natural Disasters and Major Incidents

5.191 Only those man-made and natural risks which are considered to be likely are to be considered. For them to be significant the anticipated likely risk would need to result in substantial harm that the normal functioning of the proposed Development is unable to cope with or rectify.

5.192 The proposed Development is not located within an area known for natural disasters such as hurricanes, tornadoes, volcanic eruptions, earthquakes or tsunamis. As the most probable of natural disasters to affect the proposed Development, flood risk will be assessed within the hydrological assessment in the EIAR. The proposed layout will

take account of these constraints and the EIAR will include a full detailed assessment of the hydrological regime, including drainage, and appropriate mitigation will be applied where necessary and incorporated into the proposed Development. As such the impact of flooding is unlikely to give rise to significant effects.

5.193 Health and Safety during the construction and decommissioning phases of the proposed Development will be subject to relevant legislation and best practice. This will involve site inductions, risk assessments, and method statements as implemented by the Construction Management Plan (CMP). Therefore, there is no further requirement for Health and Safety to be assessed within the EIA and is scoped out of further assessment.

5.194 Other man-made risks including explosion, terrorist activities, pollution, contamination, and fire are not considered likely with other regulations and control measures applicable. As such no significant effects are anticipated from natural disasters or major incidents and this will not be addressed further.

Human Health

In relation to the provisions within the Regulations, the assessments undertaken within the EIA will consider human receptors such as local residents and construction workers. Therefore, the effects of the proposed Development in relation to health and population will, where relevant, be considered in the chapters/ technical assessments, such as noise. Given that the effects of the proposed Development on population and human health will be addressed within the respective chapters / technical assessments, and mitigation measures stated to address any significant adverse effects, a separate health impact assessment is not considered to be necessary and is not proposed.

Question 10:

Do you agree that the following elements listed below are unlikely to lead to significant environmental effects and can therefore be considered out with the EIA and 'scoped out'. As such no assessment of significance will be undertaken although a summary of the topic area and any relevant technical assessment will be provided?

Scoped Out of EIA	**Technical Assessment to be Submitted as a minimum, where required.**
Shadow Flicker	Shadow Flicker Assessment
Aviation	Aviation Impact Assessment
Vulnerabilities and resilience to climate change	None required.
Air Quality	None required.
Radio-Communications	None required.
Waste	None required.
Natural Disasters and Major Incidents	None required.

Human Health	None required as covered in relevant topic chapters.	

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6. STRUCTURE OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT AND PLANNING APPLICATION

6.1 The EIA Report (EIAR) will include as a minimum the information listed in Schedule 4 of the Regulations.

6.2 The EIAR comprises the following elements:

- Non-Technical Summary - provides an overview of the proposed Development and summarises the findings of the EIA and any key mitigation measures or enhancement proposed;
- EIAR (Main Text) – provides a detailed description of the proposed Development, reports the findings of the EIA and any potential significant environmental effects as well as any proposed mitigation measures for topics scoped in. A chapter summarising the assessment findings of the topics outside of the EIAR will also be included.
- The figures - illustrations and figures that specifically accompany the EIAR and which are not included within the Technical Appendices; and
- Technical Appendices – detailed reports and figures to accompany the individual assessments documented in the EIAR.

6.3 Based on the above suggested Scope the proposed structure of the EIAR is set out in Table 6.1.

Table 6.1: Proposed Structure of the EIAR

Chapter	Summary of Content
Preface	Overview, details of the project team and demonstration of their competency and details of where the planning application can be viewed and structure of the EIAR.
Introduction and Approach to Assessment	Description of the location of the proposed Development and the Sites characteristics, Site history, overview of the proposed Development and approach to EIA.
Site Selection and Design Evolution	Approach to site selection and explanation on how the design evolved including a comparison of significant environmental effects between key layouts and the final design.
The Proposed Development	Detailed description of the proposed Development including details of construction, operational and decommissioning phases.
EIA Topic Specific Chapters	Chapters on the topics that are considered to result in likely significant effects as a result of the proposed Development.
Other Effects	This chapter will assess the likely impact of the proposed Development upon receptors surrounding of the Site which are not covered in other technical disciplines.
Synergistic Effects, Schedule of Mitigation, Residual Effects and Conclusions	This section will present the synergistic effects associated with the proposed Development. It will identify all mitigation, including the mitigation by design that will be undertaken to reduce any adverse effects and summarise the residual effects regarding all of the proposed work in relation to the construction, operation and decommissioning of the proposed Development.

6.4 In addition, the following will also be prepared to accompany the planning application;

- ‘Scoped Out’ topics and documents listed in Question 19. A report will be included which provides a summary of the topic areas not considered likely to result in significant environmental effects. For completeness any relevant technical assessments undertaken for these topics will be included with the planning application but out with the EIA; and

- A Planning Statement which assesses the level of compliance of the proposed Development in relation to the Development Plan and other material considerations, including all relevant national policy and guidance;

6.5 Copies of all documents will be made available in electronic format and in the interest of sustainability a limited number of paper copies of the volumes of the EIAR will be produced.

7. SUMMARY AND CONCLUSIONS

7.1 This Scoping Report presents a comprehensive scope of work based on previous experience of the assembled team of specialists and existing knowledge of the Site. The EIA will be undertaken in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

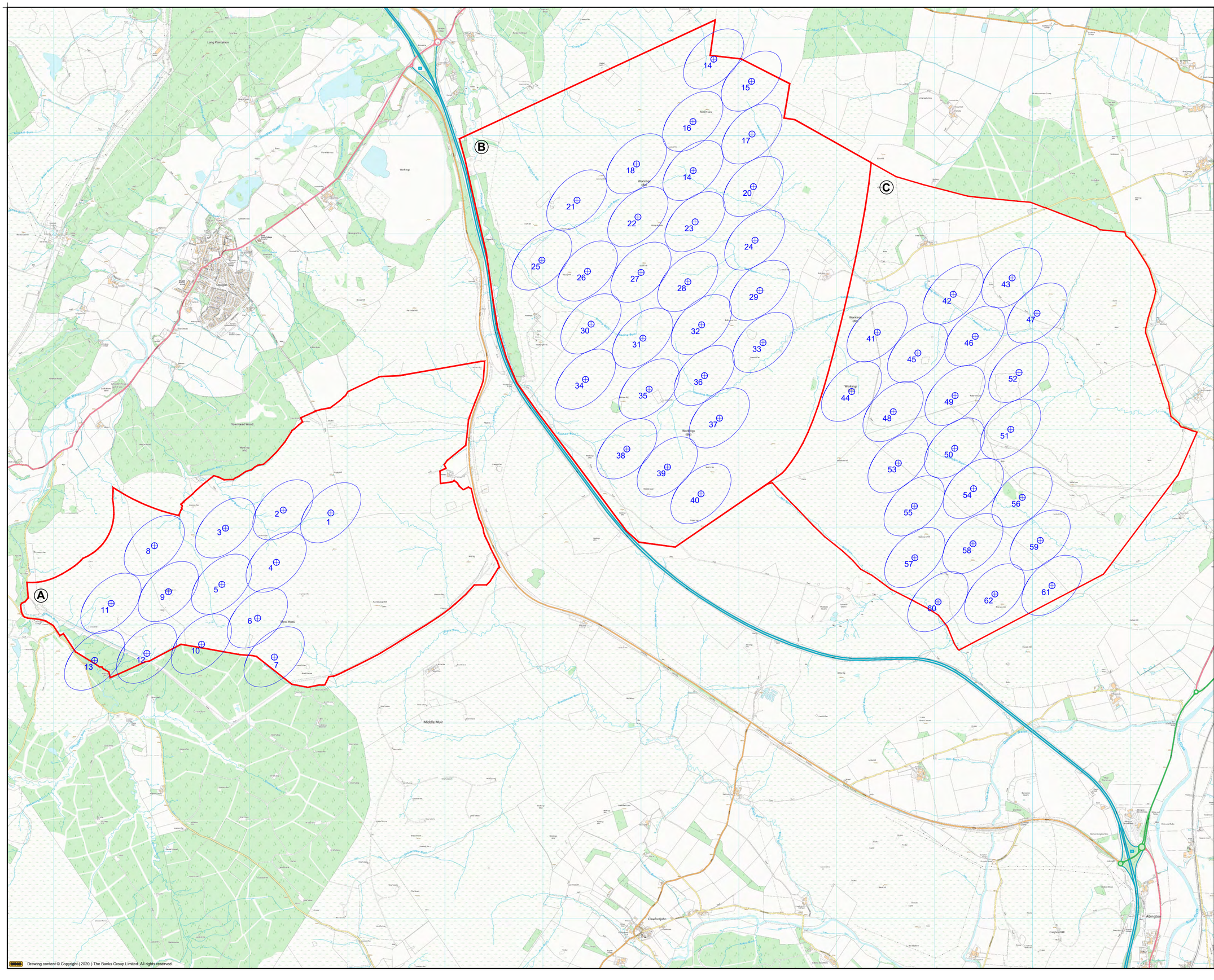
7.2 Banks Renewables welcome any comments that the ECU, SLC and the consultees have in response to the proposed scope of the forthcoming Bodinglee application as set out in the report. We would therefore like to formally request a Scoping Opinion of the ECU as to whether the scope and methodology proposed are acceptable.

7.3 Throughout the report a series of questions have been posed to assist in agreeing the scope of the forthcoming application. Banks Renewables would appreciate a response to these questions which are summarised in Table 7.1 below.

Table 7.1: Key Questions for Consultees

Question 1:	Are there any policies which you consider need to be taken into account?
Question 2:	Do you agree with the approach for the consideration of alternatives?
Question 3:	Do consultees have any comments regarding the proposed chapters to be included in the EIAR?
Question 4:	4.1: Are the viewpoints considered adequate to represent all visual receptors likely to be significantly affected? 4.2: In terms of detailed siting for locations in the above list, do you have any suggestions for specific favoured or important locations? 4.3: Are there any specific proposals, receptors or matters you would wish the cumulative assessment to pay particular attention to? 4.4: Is the proposed 15km study area for night-time effects considered adequate to identify all potentially significant effects? 4.5: Are there any specific proposals, receptors or matters you would wish the night-time assessment to pay particular attention to? 4.6: Is the proposed 2km residential amenity study area considered adequate to identify all potentially relevant effects? 4.7: Are the matters to be scoped out acceptable?
Question 5:	Are there any other relevant consultees who should be contacted, or other sources of information that should be referenced with respect to the ecology assessment?
Question 6:	6.1: Do you agree that the surveys described above are appropriate in their scope, timings and coverage to provide the required baseline for an Ornithological Impact Assessment? 6.2: Do you agree that the VP locations are suitable and provide sufficient coverage of Bodinglee North and Bodinglee West? 6.3: Do you agree that collision risk analysis can be limited to consideration of SPA listed species where sufficient flights have been recorded to warrant this? 6.4: Do you agree that a cumulative assessment for ornithology should be based on data pertaining to developments surrounding the SPA fulfilling the criteria described above? 6.5: Do you agree that no separate assessment of the impacts on SSSI bird species is needed, over and above that provided for the SPA?

Question 7:	7.1: Do you agree with the methodology for the construction noise assessment? 7.2: Do you agree with the proposed methodology for the operational noise assessment?
Question 8:	8.1: Do you agree with the proposed scope of the archaeology and cultural heritage assessment in terms of the Scoped in and Scoped out elements? 8.2: Do the Council and Consultees have any information regarding current or recent archaeological work or projects being undertaken within or in the vicinity of the Site, particularly those whose results may not be yet recorded in the Historic Environment Record? And 8.3: Do the Council and Consultees have details of any cultural heritage assets in the vicinity of the Site which it considers may raise significant issues within the EIA process for the proposed Development.
Question 9:	9.1: Do you agree with the scope of the Ground Conditions and Hydrology Chapter? 9.2: Do you agree that a contaminated land assessment can be scoped out due to the absence of historical potentially contaminative development on Site?
Question 10:	Do you agree that the elements listed in Table 10 above are unlikely to lead to significant environmental effects and can therefore be considered out with the EIA and 'scoped out', As such no assessment of significance will be undertaken although a summary of the topic area and any relevant technical assessment will be provided? (Elements listed on page 49)



Key

Site Boundary
Area A - Bodinglee West
Area B - Bodinglee North
Area C - Bodinglee South

Bodinglee Layout

SPECIFICATIONS:
125m Hub + 150m Rotor = 200m To Tip
(5 x 3 separation - 225 degree Prevailing Wind Direction)
Number of Turbines : 62

ID	Easting	Northing	Alt
1	284834	628146	363
2	284347	628174	327
3	283757	627990	292
4	284277	627641	318
5	283720	627416	301
6	284084	627069	320
7	284255	626672	310
8	283032	627811	292
9	283175	627341	304
10	283513	626802	304
11	282591	627219	299
12	282956	626712	267
13	282423	626639	216
14	288746	632784	366
15	289129	632558	390
16	288532	632147	394
17	289135	632017	364
18	287957	631716	368
19	288535	631646	328
20	289151	631481	316
21	287347	631343	350
22	287969	631172	359
23	288556	631120	346
24	289166	630933	313
25	286990	630729	313
26	287455	630618	330
27	288003	630605	368
28	288483	630510	356
29	289216	630417	307
30	287493	630076	317
31	288019	629931	328
32	288621	630068	339
33	289247	629884	310
34	287434	629511	316
35	288086	629411	317
36	288649	629548	318
37	288802	629114	311
38	287857	628798	323
39	288272	628616	335
40	288615	628340	349
41	290416	629993	283
42	291190	630379	261
43	291793	630547	286
44	290156	629386	320
45	290831	629780	294
46	291416	629950	262
47	292047	630185	274
48	290578	629179	330
49	291211	629346	346
50	291208	628807	312
51	291778	629000	321
52	291862	629581	319
53	290630	628656	323
54	291398	628393	302
55	290794	628214	338
56	291896	628306	305
57	290800	627688	323
58	291392	627830	322
59	292078	627864	275
60	291035	627238	271
61	292199	627403	289
62	291614	627316	318

Revision:	Description:	Drn:	Chkd:	Date:

Scale: 0m 200m 600m 1km / 400m 800m

Source information:

Drawn:CM	Orig': RA	Checked: RA	App': 30.10.20

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Scoping Report November 2020
Drawing SR01

Project: BODINGLEE

Title: Site Layout Plan

Scale:	Ref:	Sheet:
1:25000@A2	HJB / 4103 / 41	1/1

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Key

Site Boundary
Area A - Bodinglee West
Area B - Bodinglee North
Area C - Bodinglee South

Indicative Proposed New Access

Existing Access Track

Bodinglee Layout

SPECIFICATIONS:
125m Hub + 150m Rotor = 200m To Tip
(5 x 3 separation - 225 degree Prevailing Wind Direction)
Number of Turbines : 62

ID	Easting	Northing	Alt
1	284834	628146	363
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4	284277	627641	318
5	283720	627416	301
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18	287957	631716	368
19	288535	631646	328
20	289151	631481	316
21	287347	631343	350
22	287969	631172	359
23	288556	631120	346
24	289166	630933	313
25	286990	630729	313
26	287455	630618	330
27	288003	630605	368
28	288483	630510	356
29	289216	630417	307
30	287493	630076	317
31	288019	629931	328
32	288621	630068	339
33	289047	629884	310
34	287434	629511	316
35	288086	629411	317
36	288649	629548	318
37	288802	629114	311
38	287857	628798	323
39	288272	628616	335
40	288615	628340	349
41	290416	629993	283
42	291190	630379	261
43	291793	630547	286
44	290156	629386	320
45	290831	629780	294
46	291416	629950	262
47	292047	630185	274
48	290578	629179	330
49	291211	629346	346
50	291208	628807	312
51	291778	629000	321
52	291862	629581	319
53	290630	628656	323
54	291398	628393	302
55	290794	628214	338
56	291896	628306	305
57	290800	627688	323
58	291392	627830	322
59	292078	627864	275
60	291035	627238	271
61	292199	627403	289
62	291614	627316	318

Revision:	Description:	Drn:	Chkd:	Date:

Scale: 0m 200m 400m 600m 800m 1km

Source information:

Drawn:CM	Orig':FH	Checked: RA	App':04/11/2020

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Scoping Report November 2020
Drawing SR02

Project: BODINGLEE

Title: Potential Access Points

Scale:	Ref:	Sheet:
1:25000@A2	HJB / 4103 / 42	1/1

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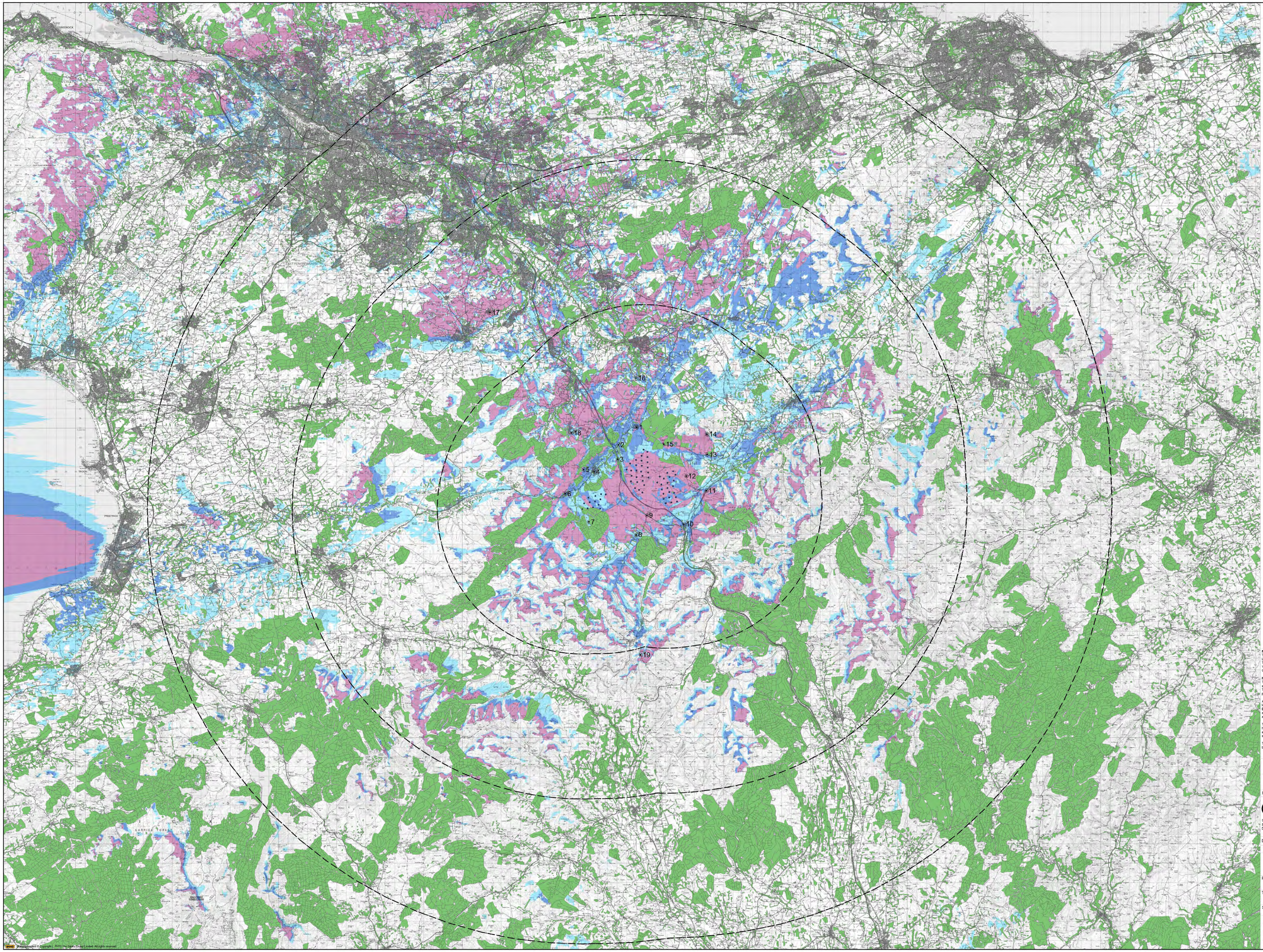

Key

- Proposed Bodington Wind Turbines
- Distance Radii from Outermost Turbine (15, 30 45km)
- Viewpoints
- Woodland (modeled at 15m)
- Buildings (modeled at 7.5m)

Zone of Theoretical Visibility to Blade Tip (250m)

- 1 - 20 turbines may be visible
- 21 - 42 turbines may be visible
- 43 - 62 turbines may be visible

FIGURE DATA:
This figure has been based on the folloi,,ving data:
Layout file: obvs-BT-T50-45km.shp
Terrain data: T50-DSt..·1-screeni ng.asc
Viewo(s eye h0ight: 2m above ground level
C:11culation grid size: 50m

NOTES:
This drawing is base<I upon computer generated Zone of Theoretical Visibility (ZTVJ studios produced using the Viowshod routine in the Visibility Analysis plugin for QGIS. The areas s11own are the maximum theoretical visibility. laki ng into account topography, pri nci pal woodlands and buildings.

A digital surface model (DSM) has been derived from OS Terrain 50 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 15m, representing a conservative estimate of heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 50m^2 resoluoon.

Revision:	Description:	Drn:	Chkd:	Date:

Scale: 0m 2km 4km 6km 8km 10km

Source information:
STEPHENSON HALLIDAY
Drawing: SR03 - Study Area

Drawn:CM/MP	Orig':RA/MF	Checked:RA	App':19.11.20

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Drawing SR03

Project: BODINGLEE

Title: ZTV Study

Scale: 1:175000@A1 Ref: HJB / 4103 / 50 Sheet: 1/1

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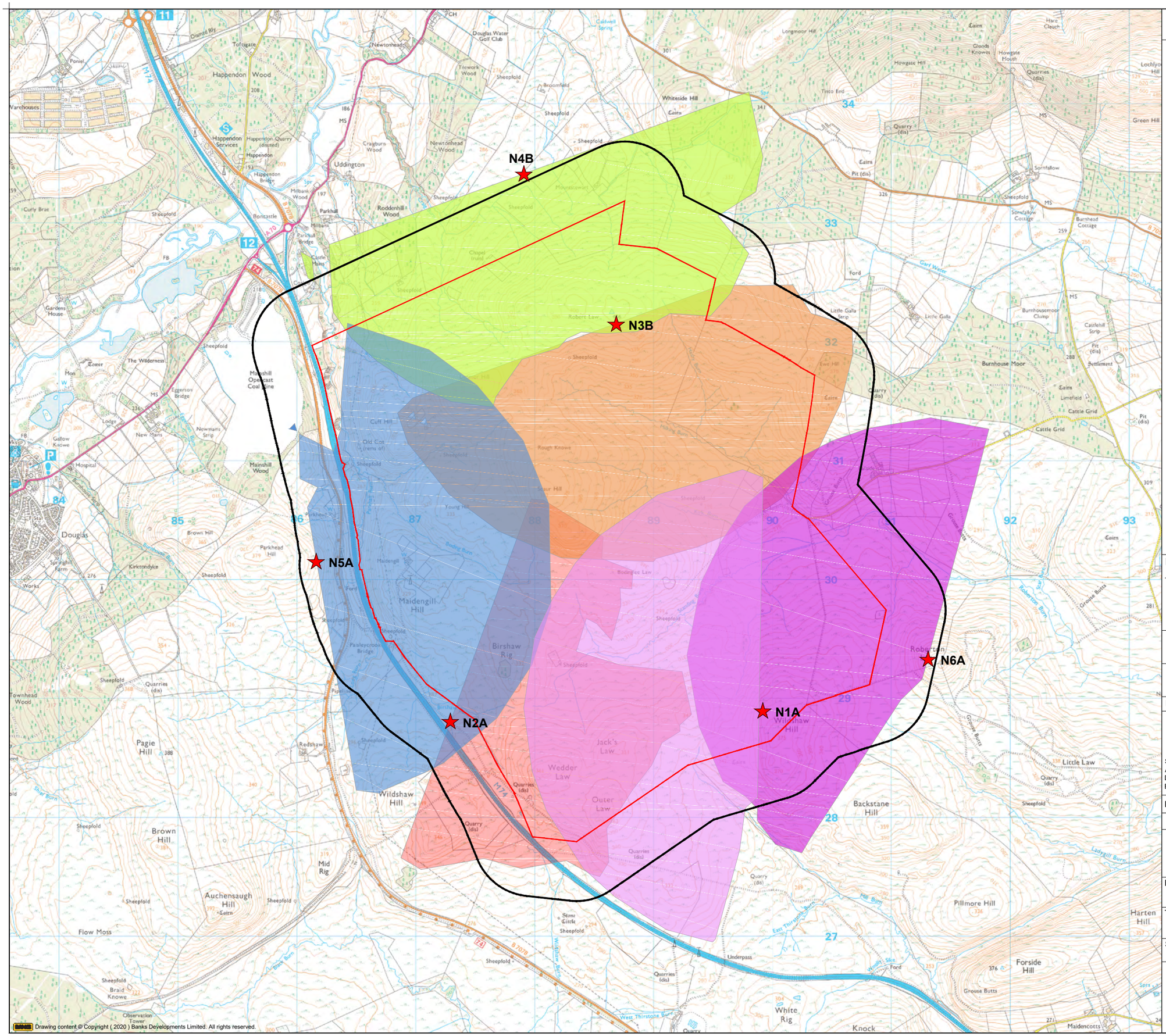

Key

- Site Boundary
- 500m Buffer of Site Boundary
- N2A — Potential Vantage Point
- N1A Viewshed
- N2A Viewshed
- N3A Viewshed
- N4A Viewshed
- N5A Viewshed
- N6A Viewshed

Notes:
.

Revision:	Description:	Drn:	Chkd:	Date:

Scale: 0m 200m 600m 1km (400m 800m)

Source information:
ARCUS Consulting
Drawing Ref: 3790-REP-007
Bodinglee North VP Locations And Viewsheds Figure 5.1

Drawn:CM	Orig':RA	Checked: RA	App': 17.11.20

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Scoping Report November 2020
Drawing SR04

Project: BODINGLEE

Title: Viewpoint Locations And Viewsheds Bodinglee North

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1:30000@A3	HJB / 4103 / 45	1/1

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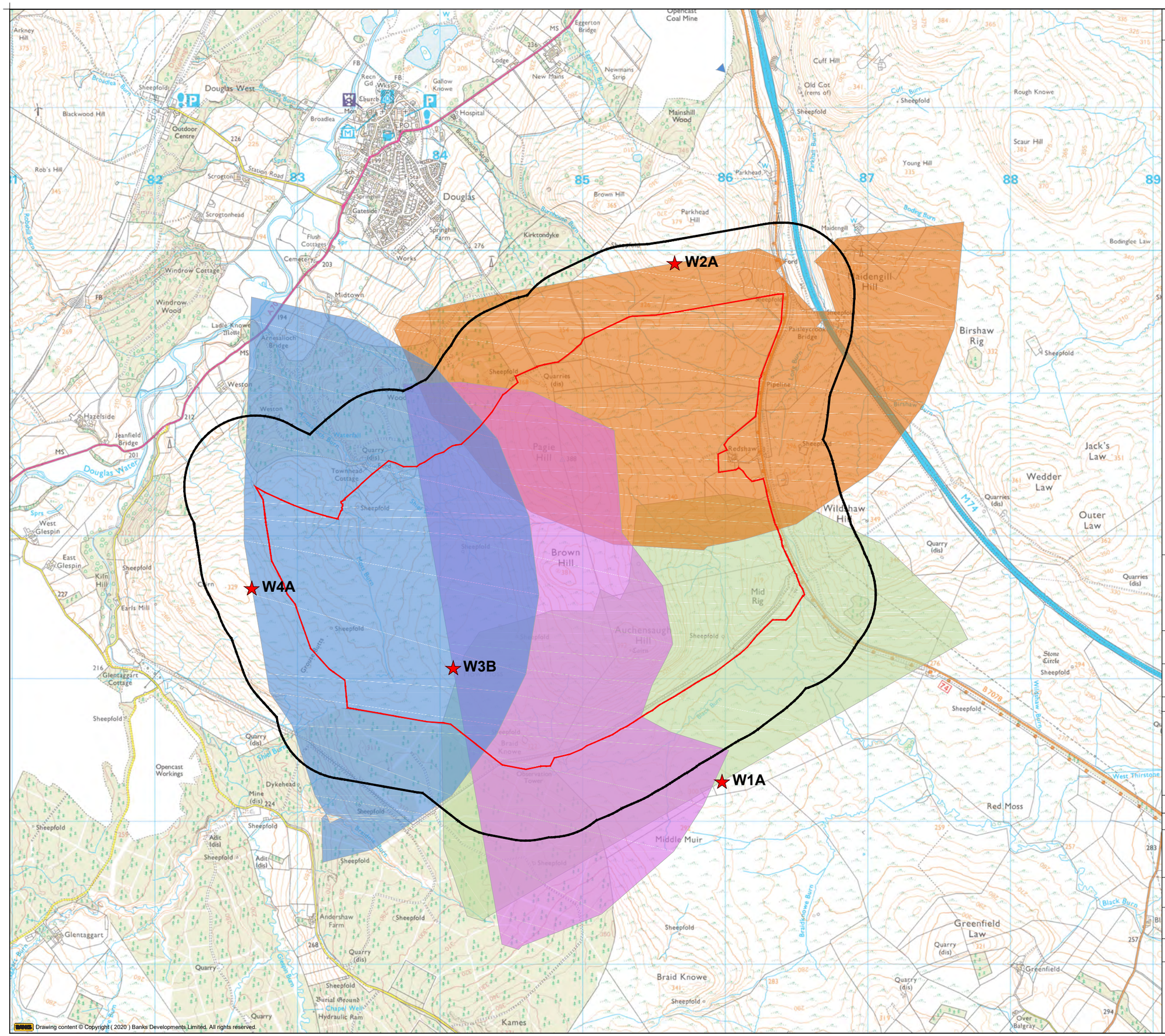

Key

- Site Boundary
- 500m Buffer of Site Boundary
- W2A — Potential Vantage Point
- W1A Viewshed
- W2A Viewshed
- W3A Viewshed
- W4A Viewshed

Notes:
.

Revision:	Description:	Drn:	Chkd:	Date:

Scale: 0m 200m 600m 1km; 400m 800m

Source information:
ARCUS Consulting
Drawing Ref: 3790-REP-007
Bodinglee North VP Locations And Viewsheds Figure 5.2

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Scoping Report November 2020
Drawing SR05

Project: BODINGLEE

Title: Viewpoint Locations And Viewsheds Bodinglee West

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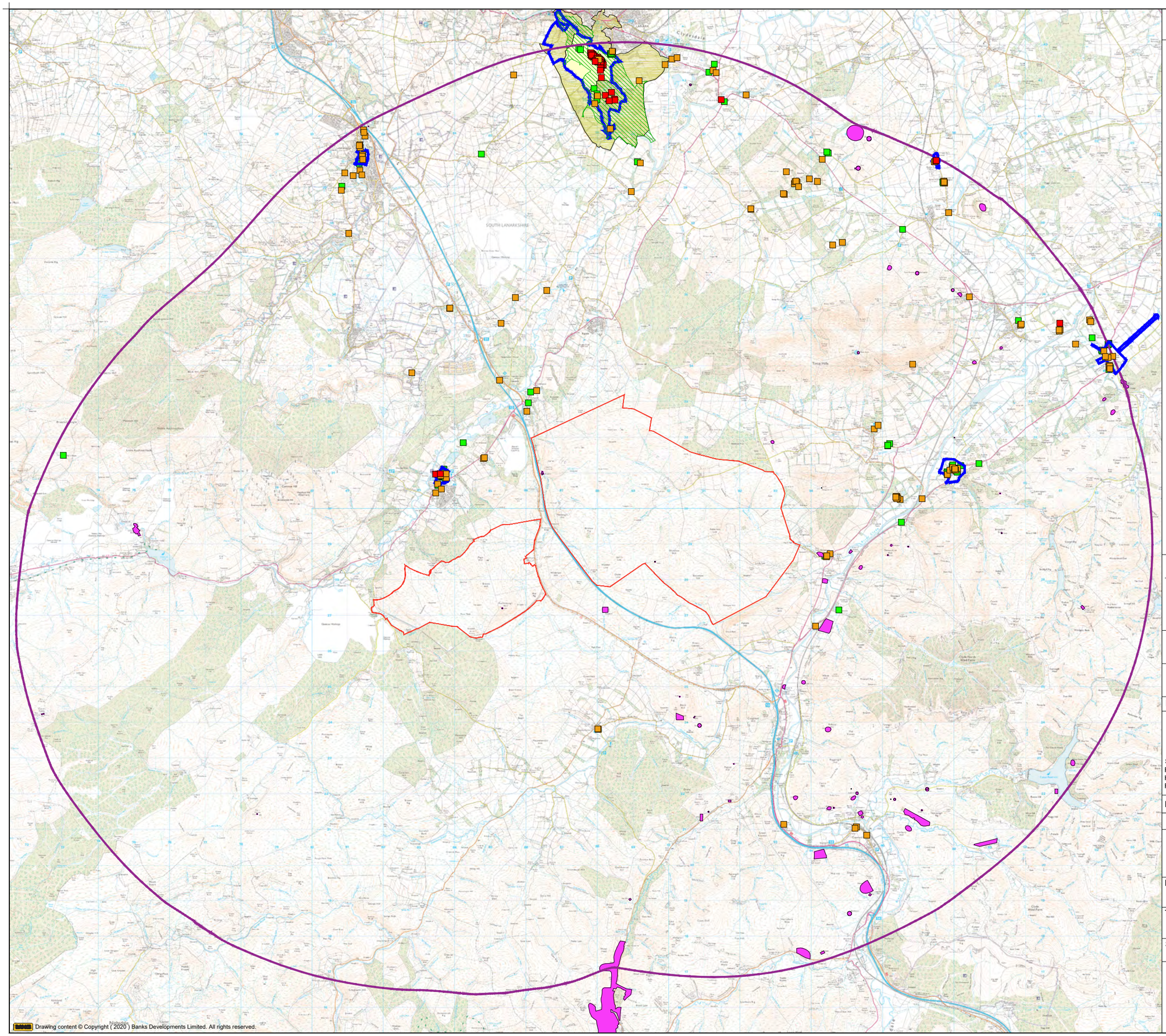

Key

- Site Boundary
- Search Radius 10km

Designated Heritage Assets:

- Category A Listed Building
- Category B Listed Building
- Category C Listed Building
- Conservation Area
- Garden or Designated Landscape
- Scheduled Monuments

World Heritage Site

- WHS Boundary
- WHS Buffer Zone

Notes:
.

Revision:	Description:	Drn:	Chkd:	Date:

Scale:

0m 500m 1.5km 2.5km
1km 2km

Source information:
RPS
Historic Environment Appraisal Final 8th June 2020 - JAZ26467
Figure 4: Designated Heritage Assets Within 10km

Drawn:CM	Orig':RA	Checked: RA	App': 17.11.20

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Scoping Report November 2020
Drawing SR06

Project: BODINGLEE

Title: Designated Heritage Assets Within 10km Of Site Boundary

Scale:	Ref:	Sheet:
1:100000@A3	HJB / 4103 / 46	1/1

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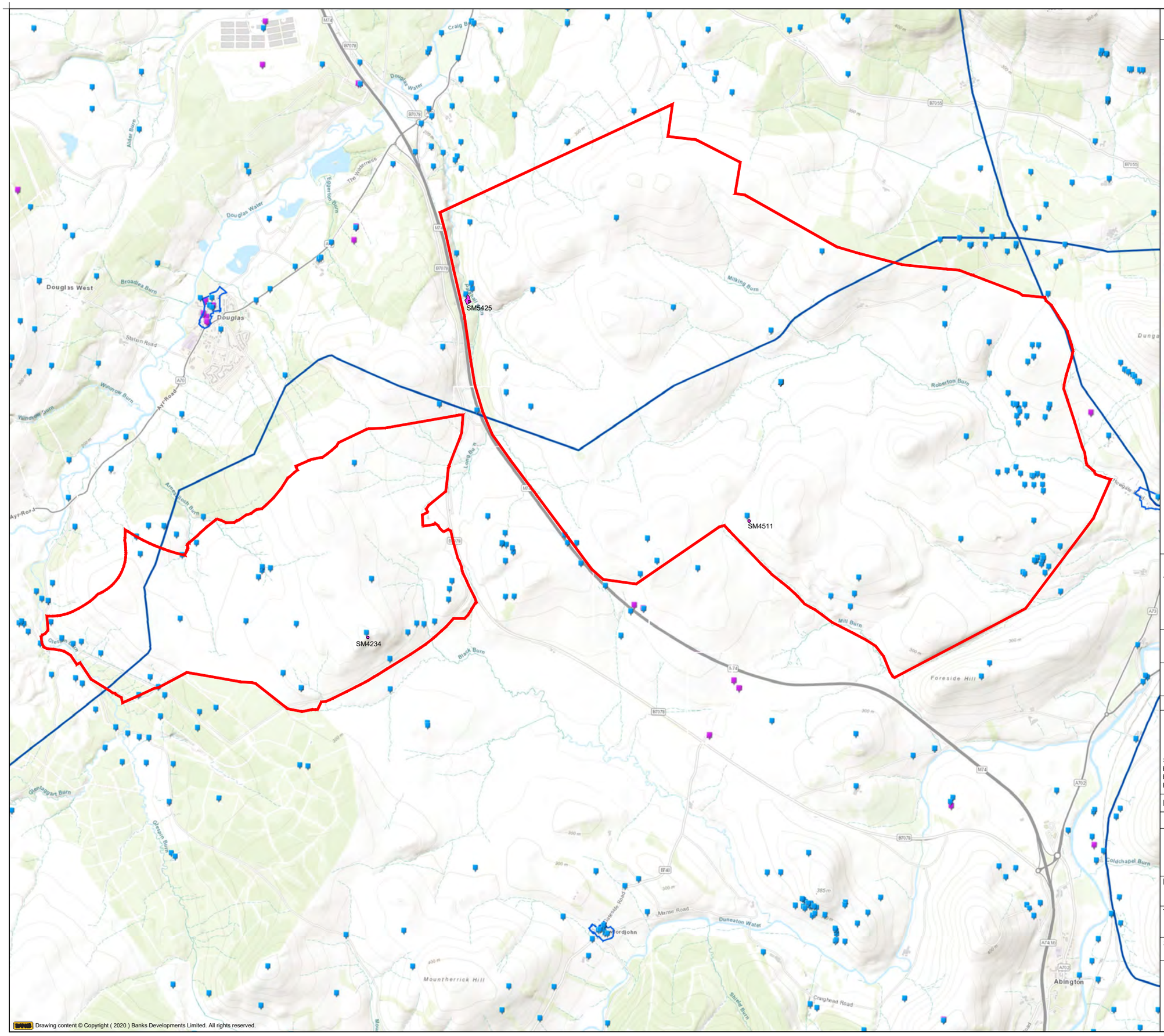

Key

Site Boundary

Designated Heritage Assets:

Scheduled Monuments

WOSAS SMR:

Sites and Monuments

Linear Monuments

Sites and Monuments Areas

Events

Event Areas

Notes:

.

Revision:	Description:	Drn:	Chkd:	Date:

Scale:

0m 500m 1.5km
1km 2km

Source information:
RPS
Historic Environment Appraisal Final 8th June 2020 - JAZ26467
Figure 3: Designated Heritage Assets Within 10km

Drawn:CM	Orig':RA	Checked: RA	App': 18.11.20

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Scoping Report November 2020
Drawing SR07

Project: BODINGLEE

Title: Designated Heritage Assets Within The Site Boundary

Scale:	Ref:	Sheet:
1:40000@A3	HJB / 4103 / 47	1/1

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