Appendix 4.1 EIA Scoping Report

Faray Wind Farm, Orkney Islands

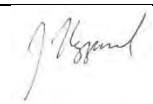
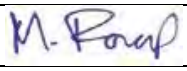
Scoping Report

March 2019

ITPENERGISED

Earth. Smart. Solutions

Quality Management

	Version 1.0	Version 1.1	Version 1.2	Version 1.3
Date	February 2019	29 March 2019		
Prepared by	Various, compiled by J Hazzard	Updated by Allan Taylor		
Signature				
Checked by	A Hudson	M Forup		
Signature				
Authorised by	J Hazzard	J Hazzard		
Signature				
Project number	10806-Faray	10806-Faray		

Orkney Islands Council

School Place
Kirkwall
Orkney
KW15 1NY

ITP Energised

7 Dundas Street
Edinburgh
EH3 6QG
Registration Number: SC450178
Tel: 0131 557 8325

Content

This page is intentionally blank.

1 Introduction

1.1 Background and Context

1.1.1 The Orkney Islands Council and/or its subsidiary (hereafter referred to as "the Applicant") intends to apply to Orkney Islands Council (OIC) for consent for the construction and operation of a wind energy project on the island of Faray, Orkney Islands (hereafter referred to as the "Proposed Development"). The site boundary comprises the entire island, extending to approximately 168 hectares and centred on British National Grid (BNG) 352985, 1037250 (refer to **Figure 1.1**).

1.1.2 The Applicant intends to submit an application for the Proposed Development to OIC under The Town and Country Planning Act (Scotland) 1997 as amended by The Planning etc. (Scotland) Act 2006. This application will be supported by an Environmental Impact Assessment (EIA) Report governed by The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. This document forms the Scoping Report presented to OIC in order to request a Scoping Opinion on the EIA of the Proposed Development.

1.1.3 The Applicant initiated a process in 2016, seeking to identify potentially suitable sites for wind energy generation at various scales. The search identified a small number of potentially suitable sites however, each identified site has a range of technical and/or environmental constraints. Therefore, to maintain a number of options for development, further searches led to the identification of Faray – an uninhabited island between Westray and Eday – as an additional site with potential for wind energy development. The Council acquired the island in late 2018 following an initial feasibility study.

1.1.4 Part of the rationale for identifying suitable renewable energy generation projects is to help to support a needs case being presented to Ofgem, for a new subsea cable linking Orkney to the Scottish mainland. To make the case to Ofgem for the required spending on a new cable, there is a requirement for Scottish Hydro Electric Transmission (SHE-T) to demonstrate that there will be sufficient generation capacity to connect to the new cable, once operational. Ofgem has intimated its 'minded to' view that generation capacity in the order of 135 MW is required in order to balance the cost of investment with the benefits of renewable energy generation. A final decision by Ofgem on the conditions which must be met to justify a new transmission connection is expected by summer 2019.

1.1.5 As the leader of OIC has previously identified, the benefits the investment in a new subsea cable would bring include, "*greater employment opportunities in the county and greener energy supplies for the rest of the UK and greater security of supply for our own electricity needs as a county*," and, "*building confidence in marine and onshore wind energy projects already based in the county*."

1.1.6 Currently there are no new renewable energy projects consented. Several are either in the planning system or at Scoping stage, but even if those were all consented and progressed, additional capacity would be needed to support the needs case. Therefore, the Council is seeking to identify prospective projects which are of sufficient capacity to materially support the needs case, and have the potential to be consented and progressed within the timescale required. Faray is considered to meet this definition, based on feasibility work undertaken to date.

1.1.7 The Proposed Development would consist of indicatively eight wind turbines with a blade tip height of around 150 m, providing a total generation capacity in the order of 32 MW. The turbine co-ordinates of a preliminary indicative layout are presented in Table 1.1 and shown in **Figure 1.2**. The design process of the Proposed Development is in its early stages and only preliminary environmental assessments have been undertaken to date. For this reason, the Applicant cannot be definitive regarding the turbine dimensions and the installed capacity of the Proposed Development. The

associated infrastructure will include: a new jetty/landing site for bringing components onto the island, internal access tracks, crane hardstandings, underground cabling, an on-site substation and maintenance building, and a temporary construction compound.

Table 1.1 – Proposed Indicative Turbine Co-ordinates (BNG)

Turbine	Easting	Northing
1	352843	1037767
2	353134	1037403
3	352793	1037086
4	353240	1036937
5	353474	1036524
6	352942	1036299
7	353360	1036079
8	352959	1035812

1.2 Environmental Impact Assessment

1.2.1 The Town & Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations) require that before consent is granted for certain types of developments, an Environmental Impact Assessment (EIA) is undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments (Schedule 2 developments) which may require an EIA if they exceed certain thresholds and are likely to give rise to significant environmental effects.

1.2.2 The Proposed Development falls within Schedule 2 (a) of the EIA (Scotland) Regulations 2017, as an installation involving 2 or more turbines. The Proposed Development has the potential to have significant environmental effects because of factors such as the characteristics of the Proposed Development, the size and location of the Proposed Development and the nature of the effects as set out in Schedule 3 of the EIA (Scotland) Regulations 2017. Therefore, the Proposed Development qualifies as an "EIA Development" and the Applicant independently proposes that it is subject to an EIA.

1.2.3 EIA is an iterative process which identifies the potential environmental effects that in turn inform the eventual design of the proposal. It seeks to avoid, reduce, offset and minimise any adverse environmental effects through mitigation. It takes into account the effects arising during the construction, operation and decommissioning phases. Consultation is an important part of the EIA process and assists in the identification of potential effects and mitigation measures.

1.3 The Purpose of the Scoping Report

1.3.1 Regulation 17 of the EIA (Scotland) Regulations 2017 provides for potential applicants to ask the planning authority to state in writing the information that ought to be provided within the EIA Report. The 'Scoping Opinion' is to be offered following discussion with the consultation bodies.

1.3.2 The Applicant recognises the value of the Scoping approach and the purpose of this report is to ensure that relevant issues are identified and to confirm that the assessment process described will meet legislative requirements.

1.3.3 This Scoping Report:

- describes the existing site and its context;

- identifies key organisations to be consulted in the EIA process;
- establishes the format of the EIA Report;
- provides baseline information; and
- describes key issues and the proposed assessment methodologies for various technical assessments to be covered in the EIA.

1.3.4 This Scoping Report will be issued to OIC who will consult with other statutory consultees and interested relevant parties. A suggested consultee list is provided in Appendix A.

1.4 The EIA Report

1.4.1 The structure of the EIA Report will follow the requirements of EIA (Scotland) Regulations 2017 and other relevant good practice guidance. Essentially, the EIA Report will comprise three main parts:

- a non-technical summary (NTS);
- the main EIA Report text and accompanying figures; and
- the EIA Report technical appendices.

1.4.2 The first part of the main EIA Report text will comprise:

- an introduction;
- a description of the site selection and design iteration process;
- a description of the Proposed Development;
- a description of the site and its context; and
- a summary of relevant planning policy.

1.4.3 The remainder of the EIA Report will present the baseline conditions and potential, residual and cumulative effects on the environmental factors identified in Regulation 4(3) as follows:

- Population and human health – covered by assessment of noise, transport, shadow flicker, aviation, telecommunications, socio-economics, tourism, recreation and visual effects.
- Biodiversity – covered by assessment of ecology and ornithology.
- Land, soil, water, air and climate – covered by assessment of geology, hydrology, hydrogeology and carbon displacement.
- Material assets, cultural heritage and landscape – covered by assessment of cultural heritage and landscape.

1.4.4 Finally, a schedule of environmental commitments (mitigation measures) and a set of EIA summary tables will be produced.

1.5 Cumulative Effects

1.5.1 The EIA (Scotland) Regulations 2017 state that cumulative effects should be considered as a part of the EIA. It will therefore be important to consider the cumulative effects of the Proposed Development with other developments in the area, including those that are currently operational, consented and in planning. The cumulative assessment will also consider the cumulative effects of different elements of the Proposed Development on environmental media and sensitive receptors, and in particular the cumulative effects of different effects upon individual and groups of receptors.

1.5.2 The methodology to be adopted for assessing the cumulative effects of wind energy developments will be in accordance with the Scottish Natural Heritage (SNH) guidance, 'Assessing Cumulative Impacts of Onshore Wind Energy Developments'. The scope of the cumulative assessment will be agreed through consultation with OIC and SNH, in particular relating to specific developments in the area which will be included in the assessment.

1.5.3 **Figure 1.3** and Table 1.2 show other known operational and proposed medium- to large-scale wind energy developments at the various stages of planning within 40 km of the Proposed Development (from January 2019). It should be noted that this record of wind developments will be updated throughout the EIA process up to the date of submission of the application for consent. For example, several proposed developments are currently at Scoping stage and are not included in the table below but would be taken into account in the cumulative assessment if applications are submitted. We welcome any further information from stakeholders on additional proposed wind farm developments.

Table 1.2 - Cumulative Wind Energy Developments within a 40 km Radius of the Site

Name	Status	Distance (km)	Direction
Costa Head	Application	23	WSW
Burgar Hill	Operational	21	SW
Evie Hill	Application	21	SW
Hammars Hill	Operational	19	SW
Howe Community Wind Turbine	Operational	19	SSW
Crowness Buisness Park (Hatston)	Operational	25	SW
Rennibister	Operational	26	SW
Upper Stove	Operational	29	SSE
Barns of Ayre	Operational	31	SSE
Akla	Approved	33	SW
Work Farm	Approved	23	SW
New Holland	Approved	32	SSW
Holodyke	Operational	25	SW
Rothiesholm	Operational	16	SE
Ludenhill	Approved	24	SW
Kingarly	Operational	11	SW
Sandy Banks	Operational	4	SSE
Spurness	Operational	7	ESE
Gallowhill	Operational	12	NW
Gallowhill	Approved	12	NW
Northfield	Operational	37	SSW

2 The Proposed Development

2.1 Site Description

2.1.1 The site comprises the island of Faray, an uninhabited island to the north and west of Eday and south-southeast of Westray in the Orkney Islands. The smaller island Holm of Faray is immediately to the north. Faray is approximately 17 km northeast of Orkney Mainland, and approximately 25 km from Kirkwall.

2.1.2 There are no current residents on the island, with the last former residents understood to have left in the late 1940s. However, OS mapping suggests there are several relic structures, former farms and cottages, an old road/track, and a burial ground. A small jetty is located on the southeast coast.

2.1.3 The topography of the island comprises two hills. The southern of the two forms approximately the central point of the island, rising to 32 m Above Ordnance Datum (AOD). Approximately 700 m to the north a second hill rises to 31 m AOD. The ground level falls away fairly gently from the two hills, the steepest slope being near the coast to the west of the southern hill. The coastline is generally defined by rocky cliffs with geos and caves, except on the west coast near the north of the island and on the far southeast coast, where there are stretches of beach.

2.1.4 Aerial photography suggests that at one time there were defined field boundaries. The island is understood to still be used for grazing sheep.

2.1.5 There are several small watercourses and drains on the site, appearing to be man-made based on the straight-line patterns. No major, natural watercourses are present.

2.1.6 One spring and several wells are shown on OS mapping, in the northern half of the island.

2.1.7 Access to the site is currently only achievable by private boat landing at the existing jetty at the southeast of the island.

2.2 Infrastructure Description

2.2.1 The Proposed Development would consist of the following elements:

- Indicatively eight wind turbines with a tip height of around 150 m;
- turbine foundations;
- crane hard-standings;
- a new jetty/landing site for bringing turbine components and construction materials onto the island;
- internal access tracks;
- on-site access tracks between turbines;
- underground cabling between the turbines;
- on-site substation and maintenance building with welfare facility;
- temporary construction compound; and
- potential on-site borrow pit(s) dependent on the suitability of site-won materials to provide aggregate for the construction of the development.

2.2.2 The expected operational life of the turbines is 30 years from the date of commissioning. Before the end of this period, a decision would be made as to whether the Proposed Development should be decommissioned and removed, refurbished or re-powered. The assessment reported within the EIA Report will assume that the Proposed Development will be decommissioned.

2.2.3 Based on the preliminary, indicative layout being considered, the development would provide a total generating capacity of approximately 32 MW (based on eight turbines with a 4 MW rated capacity).

2.2.4 The parameters of the EIA will be such that an appropriate level of assessment is undertaken for a given hub height and rotor diameter. The turbine locations and dimensions will evolve in response to the ongoing detailed assessment work, taking consideration of the environmental effects, terrain,

current land use, technical and health and safety issues. The parameters of the Proposed Development will be explicitly identified in the EIA Report. The final locations of the turbines will be 'frozen' at an appropriate time in order to enable the EIA Report to describe fully the Proposed Development for which planning permission will be sought.

3 Planning Policy Context

3.1 Introduction

3.1.1 A high-level overview of the relevant national and local planning policy context will form the basis against which the EIA will be assessed in the context of The Town and Country Planning Act (Scotland) 1997 as amended by The Planning etc. (Scotland) Act 2006.

3.1.2 Appendix B summarises national and local planning policy considerations of relevance to the EIA process. It comprises two parts: Part 1 – National planning policy, with particular reference to National Planning Framework 3 and Scottish Planning Policy; and Part 2 – Local planning policy, with a focus on the Orkney Local Development Plan (Orkney Islands Council, 2017a) and Supplementary Guidance (current and emerging).

3.1.3 The Orkney Islands Council Energy Supplementary Guidance (Orkney Islands Council, 2017b), identifies the Proposed Development site as being within an area "with potential for wind farm development" where wind energy development is likely to be supported in principle.

3.2 Key Issues for the EIA Report

3.2.1 The EIA Report will include a comprehensive documentation of the up-to-date planning policy at the time of submission, whilst the application for planning consent will include a Planning Policy Statement which assesses the Proposed Development in the context of relevant policy considerations.

4 Noise and Vibration

4.1 Introduction

4.1.1 This chapter considers the potentially significant effects of noise during the site preparation and construction, operation and decommissioning of the Proposed Development which will require further consideration within the EIA Report.

4.1.2 This Scoping chapter sets out the key issues identified and proposes methodology and standards for assessment in the EIA Report.

4.1.3 Consultation will be undertaken throughout the Proposed Development's lifecycle with OIC Environmental Health Officer (EHO) to agree both the Noise Sensitive Receptors (NSRs) and the methodology for the noise survey and assessment.

4.2 Summary of Baseline Environment

4.2.1 The site comprises an uninhabited island used for agricultural grazing, with no NSRs within the site boundary. The nearest NSRs to the site are approximately 1.5 km to the east of the nearest proposed turbine, along the west coast of Eday. To the south, one NSR is within 2 km of the nearest turbine, located at Fers Ness in the west of Eday. The nearest NSRs to the north and west are over 3 km away and are not anticipated to experience any significant adverse noise effects from the Proposed Development..

4.2.2 It is anticipated that typical day and night time ambient noise levels at all the closest identified NSRs will be relatively low, although some noise from the sea will be evident.

4.3 Key Issues for the EIA Report

4.3.1 The following have been identified as key issues to be addressed within the EIA Report and will be agreed through consultation with OIC:

- establish the identity of the closest NSRs for assessment;
- predict the likely operational noise levels at these locations from the Proposed Development using an appropriate candidate turbine;
- establish the requirement for baseline noise monitoring to underpin an operational noise assessment compliant with ETSU-R-97 and other recognised guidance;
- establish acceptable day and night time operational noise limits at the closest identified NSR;
- predict whether these can be met across all critical wind speeds or if there is a requirement for mitigation;
- identify cumulative wind energy schemes pertinent to the assessment which may be in planning, consented or operational, and establish cumulative effects on the closest NSRs if applicable (noting that based on a preliminary review, see Table 1.2, no cumulative developments are considered likely to require assessment for noise effects); and
- state any residual impacts after implementation of recommended mitigation.

4.3.2 Given that the Proposed Development site comprises an uninhabited island and that the nearest identified NSRs are at least 1.5 km away, there is not considered to be potential for any significant noise or vibration effects on NSRs from construction works. Assessment of construction noise and vibration is therefore proposed to be scoped out of the assessment.

4.3.3 It is, however, noted that part of the site area (the coastal edges and an area in the west) is designated as a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) for grey seals. Consideration will be given to the potential for construction noise and vibration to adversely impact grey seals. This will be covered as part of the Ecology assessment (see Chapter 6), with appropriate liaison between ecology and acoustics specialists to identify and assess potential effects and establish suitable mitigation measures, if required.

4.4 Relevant Legislation and Guidance

4.4.1 The following documents will be referenced in the EIA Report chapter:

- The Control of Pollution Act (CoPA) 1974;
- Planning Advice Note (PAN) 1/2011: Planning and Noise;
- The Working Group on Noise from Wind Turbines The Assessment & Rating of Noise from Wind Farms (ETSU-R-97) (1996);
- Institute of Acoustics (IoA) Bulletin Article Volume 34 No. 2, March / April 2009;
- Institute of Acoustics (IoA) (2013) A good practice guide to the application of ETSU-R-97 for wind turbine noise assessment (IoA Good Practice Guide) and associated Supplementary Guidance Notes (SGS); and

- British Standard (BS) 5228 (2009) Part 1: Noise + A1 (2014) Code of practice for noise and vibration control on construction and open sites.

4.4.2 Where OIC has its own noise-related requirements, these will also be taken into account in the EIA Report chapter. We would request that any such requirements should be highlighted in the Scoping response, however based on our experience we understand OIC conforms to guidance provided in ETSU-R-97 and the IoA Good Practice Guide.

4.5 Proposed Assessment Methodology

Construction

4.5.1 No assessment of construction noise and vibration on residential receptors is proposed, given the distance between any such receptors and the Proposed Development.

4.5.2 Data and information on anticipated construction noise and vibration will be provided to the ecology specialists to aid in assessment of potential adverse effects on grey seals during the construction phase.

Operation

4.5.3 Consultation will be undertaken with OIC to agree standards and methodology for assessment.

4.5.4 The identity of the closest NSRs will be agreed and any financial involvement established.

4.5.5 Any relevant wind energy schemes that should be included in the cumulative assessment, whether in planning, consented or operational, will also be identified and agreed, although at this stage it is not anticipated that any such cumulative developments will require consideration.

4.5.6 Any requirement for baseline monitoring will be established based on the results of electronic noise modelling, which will be undertaken using suitable software. The electronic noise model will consider both the likely contribution from the Proposed Development (as well as the cumulative effects of other relevant schemes if applicable).

4.5.7 A candidate turbine will be selected for the Proposed Development, the verified noise emission details of which will be reproduced in the EIA Report chapter (A-weighted and octave band data) for critical wind speeds.

4.5.8 Where the received operational noise level is predicted to exceed 35dB $L_{A90,10min}$ at any of the closest identified NSRs then baseline monitoring will be undertaken, unless existing suitable baseline noise data can be identified. Appropriate locations and, where relevant, proxies for baseline monitoring will be agreed in advance of the works with the EHO.

4.5.9 All baseline noise monitoring, if applicable, will be undertaken in accordance with the IoA Good Practice Guide.

4.5.10 Day and night time operational noise limits across the range of critical wind speeds (typically 3 – 12m/s) will be established at the closest identified NSR in accordance with ETSU-R-97 and any specific requirements of OIC.

4.5.11 For the purposes of the cumulative assessment (if applicable), the geographical location of each of the wind turbines relative to a given NSR will be considered and acoustic corrections applied as appropriate for prevailing wind directions. This supports the notion that a given NSR is unlikely to be simultaneously downwind of all turbines. Corrections will be derived in accordance with the guidance set out in the IoA Good Practice Guide.

4.5.12 Comparison of predicted scheme and cumulative operational noise levels will be undertaken with the established day and night time limits (taking account of financial involvement of any relevant NSRs in the Proposed Development) and where any exceedance at any critical wind speed is noted, mitigation measures will be considered.

Sensitivity of Receptors

4.5.13 For the purposes of the assessment, the sensitivity of all domestic NSRs is considered to be high.

Magnitude and Significance of Impact

4.5.14 For the purposes of the assessment of operational noise, predicted noise levels within the day and night time limits derived in accordance with ETSU-R-97 will be considered non-significant.

4.5.15 Where predicted levels of operational noise exceed the derived limits at any critical wind speed, then the impact will be considered to be significant and mitigation measures considered as appropriate.

Mitigation

4.5.16 The requirement for any mitigation relating to construction noise and vibration and potential effects on grey seals, will be established together with the ecology specialists. It is anticipated that such mitigation may include controls on timing/seasonality and hours of working.

4.5.17 Given the separation distance between the Proposed Development and identified NSRs, mitigation of operational noise is considered unlikely to be required. However, should there be a requirement for mitigation following an iterative design process, this may include an alternative selection of turbine, operating certain turbines on low noise modes under certain meteorological conditions, including specific wind speeds and directions or recommendations to move or eliminate turbines from the scheme.

Residual Impact

4.5.18 The residual impact after implementation of mitigation will be stated in the chapter.

5 Landscape and Visual

5.1 Introduction

5.1.1 The Landscape and Visual Impact Assessment (LVIA) is intended to establish the potential significant effects on the character and fabric of the landscape, on designated and classified sensitive landscapes, and on the visual amenity of receptors within a study area as defined in Section 5.3.2, below. It will also consider potential cumulative effects arising as a result of the introduction of the proposed development when viewed in combination with other wind farm developments in the planning system[1].

5.1.2 The assessment will involve desk study, field work, data processing and analysis as well as interpretation using professional judgment.

5.2 Policy and Guidance

5.2.1 The baseline appraisal will also consider the planning policy and strategic guidance context for the Proposed Development, including:

[1] Wind farm developments which are constructed or consented will be considered as part of the baseline.

- Siting and Designing Wind Farms in the Landscape Version 3a (SNH, 2017);
- Assessing the Cumulative Impact of Onshore Wind Energy Developments (SNH, 2012)
- Orkney Islands Local Development Plan (Orkney Islands Council, 2017a);
- Orkney Islands Council Supplementary Guidance: Energy (Orkney Islands Council, 2017b); and
- Orkney Islands Council Landscape Capacity Study for Windfarms (LCSfW) (July 2015).

5.2.2 The site is located within an "Area with Potential for Wind Farm Development" for wind energy as indicated by the Spatial Strategy Framework. This framework is presented in the OIC Energy 2017 Supplementary Guidance.

5.2.3 The size of turbines which would be considered for the development fall within the LCSfW "Very Large +" typology (125 m to 150 m). The LCSfW assesses very little capacity for turbines of this scale anywhere on Orkney, with only localised areas in southwest Stronsay and western Sandy being identified as having any capacity. The Proposed Development site itself is identified as having no capacity for turbines at any scale. The nearby coasts of Eday and Westray are identified in the LCSfW as having some capacity.

5.3 Baseline

5.3.1 The baseline study will identify and analyse the following:

- the physical constituents that contribute to the landscape and seascape character of the site and the broader study area;
- landscape designations and classifications within the study area that indicate special protection or elevated value;
- the character and condition of the landscape and seascape environments within the study area based on published descriptions and field verification; and
- the visual context, including key visual elements, view scale, connecting views, focal points and key visual receptors/receptor locations.

Study Area

5.3.2 A study area equivalent to a 40 km radius of the outer turbines of the Proposed Development is proposed. This is consistent with SNH's 'Visual Representation of Wind Farms' (2017), based on turbines of up to 150 m blade tip height.

5.3.1 Initially, a description of the existing landscape, seascape and visual context of the Proposed Development will be prepared to provide a context for the location and design of the Proposed Development, and against which its potential effects will be judged. This will be based on desktop reviews of mapping, aerial photography, baseline database information, and will be verified during field reconnaissance.

5.3.2 The study area comprises the majority of the Orkney Islands archipelago (see **Figure 5.1**), excluding Hoy, Flotta and South Ronaldsay. The topography of the Orkney Islands is undulating and mainly low-lying, with the exception of some steeply rising sandstone hills on Hoy (outside the study area), Mainland and Rousay and rugged cliffs on some western coasts. The majority of the landform within the study area does not rise much above 250 m AOD. Small lochs/ lochans are a typical feature of the islands. In contrast, watercourses on the islands are limited to small burns which drain the elevated land. The coastlines are mostly formed by cliffs and are indented, with numerous inlets and gullies located along their length. The coastlines are generally more rugged on the western coasts where

they meet the Atlantic Ocean. The islands are separated from one another by a number of straits, such as Stronsay Firth, Scapa Flow, Westray Firth and Gairsay Sound.

5.3.3 The majority of the Orkney Islands landcover comprises pastoral and arable fields, interspersed with the occasional area of moorland. Within the study area, the exception to this is Rousay, where the majority of the landcover comprises moorland. Field boundaries are mainly formed by post and wire fences. The islands are notable for the absence of trees, which is mainly due to the exposed, open nature of the islands.

5.3.4 Settlement is relatively dispersed, although occasionally there is a focus around ports where the largest settlements such as Kirkwall and Stromness tend to occur. There is an extensive network of roads present, with a hierarchy of 'A' roads providing access across the Southern Isles and 'B' roads providing access across the Northern Isles, whilst a large number of minor roads connect individual scattered properties. The islands are connected by a network of ferries which operate in the straits between the islands.

Landscape

5.3.5 Landscape receptors comprise elements of the landscape's fabric, and the distinctive landscape character types and seascape units in the study area, as well as all designated and classified landscapes[2] which are predicted to be subject to views of the Proposed Development.

5.3.6 The Faray site is an uninhabited island situated between Eday to the east and south, and Westray to the north. The site comprises an area of pasture land, with field boundaries evident. A historical access track remains on site, running approximately north-south and dividing the island roughly in two. The site topography comprises gentle inclines to two low hill features in the centre and north of the site.

5.3.7 Although the island is uninhabited, the landscape is not wild, given the field patterns, grazing use, and relic farmhouse structures.

5.3.8 Landscape character types (LCTs) and seascape character types (SCTs) with potential views of the Proposed Development will include character types from the following published character assessments:

- Orkney Landscape Character Assessment (SNH, 1998);
- Orkney Islands Council Landscape Capacity Study for Windfarms (July 2015);
- Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape (SNH 2012); and
- An Assessment of the Sensitivity and Capacity of the Scottish Seascape in Relation to Offshore Windfarms. (SNH Commissioned Report No. 103 2005).

5.3.9 The OIC Landscape Capacity Study for Windfarms (LCSfW) classifies the landscape of the site as the Whaleback Island Landscape Character Type (LCT) (see **Figure 5.2**).

National Landscape Designations

5.3.10 The Hoy and West Mainland National Scenic Area (NSA) is the only national landscape designation within the study area and is located nearly 30 km southwest of the Proposed Development site boundary (see **Figure 5.1**). Given this distance and intervening topography and land use, and that the preliminary ZTV (see **Figure 5.3**) indicates very little visibility of the Proposed Development from the

[2] For example, Wild Land Areas

NSA, there is not considered to be potential for significant effects on the NSA, and it is proposed that further assessment is scoped out of the EIA.

Local Landscape Designations

5.3.11 There are no local landscape designations identified across the Orkney Islands.

Nationally Important, Landscape Classifications

Wild Land Areas

5.3.12 No areas of Wild Land are located within the study area.

Gardens and Designed Landscapes

5.3.13 The Inventory of Gardens and Designed Landscapes (GDL) schedules sites frequently but not exclusively as a setting to historic buildings. There are two GDLs situated within the study area, as illustrated in **Figure 5.1** and listed below:

- Balfour Castle GDL (GDL ref 00038), approximately 18.5 km south-southwest of the Proposed Development site boundary; and
- Skaill House GDL (GDL ref 00341), approximately 33 km southwest of the Proposed Development site boundary.

5.3.14 The ZTV indicates some visibility from the western area of the Balfour Castle GDL, and no visibility from Skaill House GDL. Even with some theoretical visibility from Balfour Castle, at a distance of over 18 km from the Proposed Development it is considered unlikely that actual views of the Proposed Development would result in significant effects on this GDL. It is therefore proposed that both of these receptors will be scoped out of the assessment.

Visual Amenity

5.3.15 Visual receptors will comprise those individuals or groups of people which will experience views of the Proposed Development. The main groups of visual receptors with potential to be affected by the Proposed Development are as follows:

- scattered communities and small settlements found within 10 km of the Proposed Development site (principally on Eday, southeast Westray, southwest Sanday) where there are views of the development;
- tourists or visitors to locations which have important physical, cultural or historic attributes, although noting that the ZTV indicates no visibility from any of the core elements of the Heart of Neolithic Orkney World Heritage Site on Mainland Orkney;
- visitors to beauty spots, beaches, picnic areas and formal/mapped vantage points (e.g. Vinquoy Hill on Eday);
- walkers / hill walkers, which includes those walking on core paths on the surrounding islands, and unmarked footpaths within 5 km of the Proposed Development;
- passengers on the ferries that connect the islands to one another; and
- road users.

5.3.16 It is acknowledged the Proposed Development will be viewed from a number of residential properties within the study area. The LVIA will not include an assessment of effects on private views from individual properties. Assessment will be carried out from the edges of urban areas and from within

rural settlements to understand the effect of the overall change in view for residential receptors in respect of 'community amenity'.

5.3.17 A Residential Visual Amenity Assessment (RVAA) will be included as a separate report to judge the effect of the Proposed Development on living conditions in the context of changes to views and wider aspects of visual amenity from individual dwellings, garden and approaches "in the round", and conclude whether or not the changes in visual amenity result in *"...unacceptable overbearing or oppressive effects on nearby dwellings that would adversely affect the living conditions of occupiers*[3]". There is no published guidance or methodology regarding best practice for assessing of impacts on residential visual amenity of dwellings in the vicinity of developments. Consequently, guidance for this will be sought from previous planning appeals, in particular the decision statements of the North Tawton[4] and Enifer Downs[5] Public Inquiries. The RVAA will consider individual properties within 2 km of the Proposed Development, which have theoretical views of the turbines. These are anticipated to comprise approximately seven properties on the west coast of Eday to the east of the Proposed Development site, and one at Fers Ness in the west of Eday to the south of the Proposed Development site.

5.3.18 Table 5.1, below, outlines the preliminary viewpoint list based on the findings of the preliminary Zone of Theoretical Visibility (ZTV) (see **Figure 5.3**). The final, more exhaustive, viewpoint list setting out the number and location of representative viewpoints that are to be utilised to verify assessment findings will be agreed with OIC and SNH. The viewpoints comprise locations within settlements and to represent scattered residential properties, on public footpaths and core paths, on roads, at representative recreational receptors such as beaches and attractions, and at formal vantage points. Each of the identified viewpoints is at a publicly accessible location, and the viewpoints have been selected to represent a range of viewing directions, distances and experiences. This list will be liable to change following design refinements and consequent alterations to the ZTV, and precise locations may be amended based on observations in the field, in order to ensure that viewpoint locations provide visibility of the Proposed Development, representative of the intended receptor. All visualisations forming part of the LVIA will be in accordance with current OIC and SNH guidance. Viewpoints located up to 15 km from the site will be represented with photomontages, although it is proposed that viewpoints from ferries would be represented by a wireline only.

Table 5.1 - Preliminary Viewpoints

VP No.	Location	Approximate Co-ordinates		Receptor Type
1	Millbounds (West Eday)	355335	1036659	Small settlement, transportation route, representative of nearest residential properties
2	Vinquoy Hill	356149	1038508	Formalised viewpoint, recreational receptors, core path users
3	Sands of Mussetter	354842	1033425	Beach, recreational receptor, core path users
4	Westray Ferry Terminal	350966	1040610	Ferry users, transportation routes, representative of residential properties, beach
5	Ness of Tuquoy	345805	1043623	Walkers, recreational receptors,beach, core path users
6	Noltland Castle	342908	1048722	Tourism/recreational receptors, settlement (Pierowall)
7	Broughtown, Sanday	365512	1041407	Small settlements, beach, campground, recreational receptors
8	North Stronsay	363104	1029085	Small settlements, beach, recreational receptors

[3] Paragraph 215, Appeal decision APP/F2415/A/09/2096369 dated 9 October 2009 for Land to the North East of Swinford.

[4] Paragraph 21, Appeal decision APP/Q/153/A/08/2017162 dated 12 February 2007

[5] Paragraph 66, Appeal decision APP/X22201/A/08/2071880 dated 16 March 2009

VP No.	Location	Approximate Co-ordinates		Receptor Type
9	East Rousay	344704	1032472	Small settlements/residential receptors, walkers, recreational receptors, core path users
10	Hatston/edge of Kirkwall	343311	1012038	Edge of largest settlement with theoretical visibility, residential receptors, transportation routes
11	Westray Ferry	351789	1033246	Ferry users, tourism/recreational receptor

Cumulative

5.3.19 The LVIA baseline appraisal will include any existing wind farms within the study area and will also consider any consented (but presently unconstructed) schemes, given that they may be built at any time and must be considered as 'present' in the landscape.

5.3.20 The cumulative assessment will then take into account any wind farms subject to currently undetermined wind farm applications based on a search area of a 60 km radius of the Proposed Development. Only those developments that will contribute to significant effects upon receptors within the 40 km study area will be included in the assessment. The cumulative context will be confirmed with both OIC and SNH approximately two months before the submission of the EIA Report and will form the basis for the cumulative assessment of the Proposed Development, following a review of current cumulative databases held by the consultant, SNH and OIC. An initial table of operational, consented, and proposed wind farms within the study area is presented in Table 1.2 in Section 1.5.

5.4 Potential Effects

Zones of Theoretical Visibility

5.4.1 In order to assist in evaluating the potential landscape and visual effects arising from the Proposed Development, blade tip and hub height ZTVs will be generated to identify the potential extent of the Proposed Development's visibility over the agreed study area. It should be noted, however, that these are based on bare ground Digital Terrain Modelling (DTM) and therefore the ZTV represents a worst-case scenario as it does not reflect the screening effect of intervening vegetation or built structures.

5.4.2 The ZTVs used in the LVIA will be based on 5 m DTM. In order to assist initial consultations, a preliminary ZTV has been produced (Figure 5.4). This ZTV was generated using 50 m DTM and is based on an initial development scenario, namely an eight-turbine layout of turbines with 150 m tip height, as given in Table 1.1. Subsequent ZTVs will reflect the visibility of the optimised scheme following design freeze.

Landscape and Visual

5.4.3 The Proposed Development will introduce a number of elements to the landscape which will have an effect on the landscape fabric and character of the application site. These elements include wind turbines, anemometer mast(s), jetty/landing site, access tracks, a substation and compound. The scale of these elements also means that they are likely to be visible from a wide area within the surroundings, with consequent potential for effects on the visual amenity and character of the adjoining landscape. The LVIA will therefore address impacts on the Proposed Development area itself and wider study area. The LVIA will consider effects on:

- landscape fabric, caused by physical changes to the form of the landscape and/or its landcover/land use elements;

- landscape and seascape character, caused by changes in the pattern of key characteristic elements and perceptual qualities of the landscape, and of landscape designations and classifications; and
- visual amenity, caused by changes to the composition and quality of views and the visual amenity in general.

5.4.4 Based on an initial examination of baseline data, as briefly described above, the key issues for consideration in the LVIA comprise:

- potential effects on the landscape fabric of the site, including permanent loss of agricultural farmland;
- the effect of the Proposed Development on the landscape and seascape character of the Study Area; and
- effects on visual receptors with views of the Proposed Development including scattered residential dwellings and small settlements, tourists and recreational users, ferry passengers, and users of core paths and of the roads that pass throughout the study area.

5.4.5 The ZTV indicates widespreadh theoretical visibility across the Northern Isles, with the exception of western Westray. To the west and south the theoretical visibility is more broken up, particularly beyond approximately 10 km from the site. Due to topographical screening, much of the West Mainland would have no views of the development. There is theoretical visibility from Kirkwall, however at approximately 25 km distance, the development would not likely be a noticeable feature on the landscape.

5.4.6 Due to the low coverage of vegetation across the Orkney Islands, it is unlikely that tree cover will provide much screening, however local undulations in topography not picked up the by the digital terrain model may reduce the ZTV coverage, as well as screening afforded by built development. This will be explored as part of the detailed LVIA.

5.5 Impact Assessment Methodology

5.5.1 The LVIA will be produced to a standard suitable for submission within an EIA Report, in accordance with the EIA (Scotland) Regulations 2017 and the third edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA) (Landscape Institute and Institute of Environmental Management and Assessment, 2013). In addition to the GLVIA, the assessment will take account of the following:

- Siting and Designing Wind farms in the Landscape Version 3 (Scottish Natural Heritage, 2017a);
- Visual Representation of Wind Farms – Version 2.2 (Scottish Natural Heritage, 2017b);
- Advice Note 01/2011: Photography and Photomontage in Landscape and Visual Assessment (the Landscape Institute, 2011);
- Assessing the Cumulative Impact of Onshore Wind Energy Developments (Scottish Natural Heritage, March 2012);
- An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms (Scottish Natural Heritage, 2005);
- Guidelines on the Environmental Impacts of Wind Farms & Small Scale Hydroelectric Schemes (Scottish Natural Heritage, 2002);

- Strategic Locational Guidance for Onshore Windfarms in respect of the Natural Heritage, Policy Statement no 02/02 (Scottish Natural Heritage, 2009 as amended); and
- Orkney Islands Council Energy Supplementary Guidance (Orkney Islands Council, 2017b).

5.5.2 The LVIA will consider the landscape, seascape and visual effects on receptors identified in the agreed Study Area during the construction and operational stages of the development. This will include assessment of any planned ancillary elements such as site access, on-site tracks, cabling, and substation.

5.5.3 Whilst there is potential for landscape and visual effects during subsequent decommissioning of the Proposed Development, such effects would be similar to those occurring during the construction, would be of relatively short duration, and would be largely reversible. Consequently, it is not proposed to assess decommissioning operations. It is also uncertain how the site will be reinstated at this stage and so any consideration of the effects following the removal of the wind farm would be more appropriately dealt with closer to the end of the life of the Proposed Development.

Assessment of Significance of Effects

5.5.4 The level of residual landscape and visual effects is conditioned by a combination of receptor sensitivity (i.e. receptor value and susceptibility) and the magnitude of predicted impacts, which is largely a quantifiable measure of change to baseline elements or conditions.

5.5.5 Landscape and visual effects will be assessed as major, moderate, minor, negligible, or none and, dependant on the findings of the assessment, and may include a hybrid of these (i.e. major-moderate). Major and moderate effects are considered to represent significant effects in landscape and visual terms (see Table 5.2 below).

Landscape Sensitivity

5.5.6 The sensitivity of landscape receptors to change arising from the type of development proposed is defined as high, medium and low based on professional interpretation, combining judgements of their value attached to the landscape and susceptibility to the type of change or development proposed. Landscape receptors include the different landscape character types or areas which may be affected by the Proposed Development, as well as landscape designations and GDLs within the study area.

5.5.7 The value attached to landscape receptors (landscape character) is reflected by landscape designations and the level of importance which they signify. However, landscape designations are not the sole indicator of landscape value. The following factors also are considered to identify valued landscape:

- landscape quality;
- scenic quality;
- rarity;
- representativeness;
- conservation interest;
- recreation value;
- perceptual aspects; and
- cultural associations.

5.5.8 Susceptibility to change concerns the ability of the landscape receptor to accommodate the Proposed Development without undue consequences for the maintenance of the baseline situation and/or the

landscape planning policies and strategies. The susceptibility of landscape character to change is defined as high, medium or low based on an interpretation of a combination of parameters including:

- the scale and pattern of the landscape and its elements/features;
- the simplicity or complexity of the landscape;
- the nature of skylines;
- landscape quality or condition;
- existing land use;
- visual enclosure/openness of views; and
- the scope for mitigation, which would be in character with the existing landscape.

Viewpoint Sensitivity

5.5.9 The sensitivity of visual receptors is defined as high, medium and low based on professional interpretation, combining judgements of their susceptibility to the type of change or development proposed and the value attached to the particular views. Visual receptors consist of the particular person or group of people likely to be affected at a specific viewpoint, and are assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views.

5.5.10 The susceptibility of different visual receptors to change in views and visual amenity is mainly a function of:

- the occupation or activity of people experiencing the view at particular locations; and
- the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at that particular location.

5.5.11 In relation to the occupation or activity of people experiencing the view at the viewpoint, visual susceptibility is defined as follows:

- High: Residents of dwellings; users of outdoor recreational facilities including strategic recreational footpaths, cycle routes or rights of way, whose attention is focused on the landscape; visitors to cultural/historic assets, important landscape features with physical, cultural or historic attributes; beauty spots or picnic areas. Travellers on key tourist routes, including ferries.
- Medium: General road and ferry users, commuters and travellers not primarily focused on the landscape.
- Low: People engaged in outdoor sports or recreation (other than appreciation of the landscape), commercial buildings, and other locations where people's attention may be focused on their work or activity, rather than their surroundings.

Magnitude of Change

5.5.12 The magnitude of change arising from the Proposed Development at any particular viewpoint is described as high, medium, low, barely perceptible or none based on the interpretation of a combination of largely quantifiable parameters, as follows:

- the distance of the receptor from the Proposed Development;

- the extent of existing landscape and/or seascape elements that will be lost or by adding of new ones;
- the proportion of the total extent of the landscape and/or seascape elements that this represents;
- the degree to which aesthetic or perceptual aspects of the landscape/seascape would be altered by removal of existing components or with the addition of new elements;
- the context in which the proposed development would be seen (i.e. similar land uses in the vicinity of the development);
- the geographic area over which the loss of landscape/seascape elements will be perceived;
- the alteration of the skyline/altering the vertical scale in relation to the existing landscape/seascape features;
- the duration of the change; and
- the reversibility of the change.

5.5.13 The criteria utilised in ascribing magnitude of change in respect of visual amenity is as follows:

- the scale of change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;
- the degree of contrast or integration of any new features or changes in the landscape/seascape with the existing or remaining landscape/seascape elements and characteristics in terms of form, scale and mass, line, height, colour and textures;
- the nature of the view of the Proposed Development;
- the relative amount of time over which it will be experienced and whether views will be full, partial or glimpsed;
- the angle of view in relation to the main activity of the receptor;
- the distance of the viewpoint from the Proposed Development; and
- the extent of the area over which the changes would be visible.

5.5.14 The varying scales of magnitude of change could be defined as follows:

- **High:** Total loss or considerable alteration to key elements, features or characteristics of the landscape/seascape character and/or composition of views. The development is highly prominent or even dominant and could become the defining characteristic of views and landscape/seascape character.
- **Medium:** Represents a notable alteration or loss of key elements, features or characteristics of the landscape/seascape character and/or composition of views. The development is prominent, but not dominant. In such circumstances the development may become 'a' defining characteristic of the view of landscape/seascape, but not 'the' defining characteristic.
- **Low:** Constitutes a partial loss to one or more key characteristics of the landscape/seascape or views. Localised effects within an otherwise unaltered landscape/seascape or visual context.

- **Negligible:** Represents a barely discernible loss or alteration to one or more key elements, features or characteristics of the baseline conditions. The underlying landscape/seascape character or view composition would be essentially unchanged.
- **None**: No aspect of the proposed wind farm would be discernible. The proposed wind farm would result in no appreciable change to the landscape/seascape or view.

5.5.15 Cumulative magnitude of change arising from the Proposed Development when considered in conjunction with other similar developments in the vicinity is determined taking account of the above criteria as well as the following:

- the number of existing, consented and proposed wind farms visible;
- the distance to each of the visible developments from the receptor location;
- the direction of each development in relation to the viewpoint;
- the extent of the view occupied by each development;
- the cumulative effect of development upon the fabric or key landscape/seascape components; and
- in the case of LCTs, residential areas and transportation/recreational routes: the proportion of the area or route subject to cumulative views.

5.5.16 Cumulative magnitude of impact categories are defined as follows:

- High: The proposed development would represent a considerable increase in the influence of energy developments on the character of the landscape/seascape and/or the composition of views.
- Medium: The proposed development would represent a notable increase in the influence of energy development on the character of the landscape/seascape and/or the composition of views. Moderate cumulative change equates to a localised change within an otherwise unaltered context.
- Low: The proposed development would represent a minor addition to the influence of energy development on the character of the landscape/seascape and/or the composition of views. The change would be discernible, but the original baseline conditions would be largely unaltered.
- Barely Perceptible: The proposed development would represent a barely discernible addition to influence of energy development on the character of the landscape/seascape and/or the composition of views. The baseline condition of the landscape or view would, for all intents and purposes, be unaffected.
- None: No other cumulative development would be apparent.

Identification of Significant Effects

5.5.17 The magnitude of change and the sensitivity of the receptor are considered together in order to assess the level of significance. A higher level of significance is generally attributed to changes of a higher magnitude affecting receptors of higher sensitivity. Table 5.2 presents the criteria which will be used to guide the assessment of the levels of significance of impacts and residual effects. They are described as being major, moderate, minor, negligible or none, where major and moderate are considered to be significant.

Table 5.2 - Levels of Significance of Landscape, Seascape and Visual Effects

Significance	Justification
Major *Significant*	Changes would substantially affect the character or views of the landscape/seascape or the defining elements within it. For example, a major effect is likely when a receptor of high sensitivity is affected by a high magnitude of change. An effect of major significance can be positive. Where this is the case, it will be noted in the text.
Moderate *Significant*	Change which affects, to a lesser degree, the character or views of the landscape/seascape or the elements within it. For example, a moderate effect is likely when a receptor of medium sensitivity is affected by a medium magnitude of change. An effect of moderate significance can be positive. Where this is the case, it will be noted in the text.
Minor *Not significant*	Slight change affecting the character or views of the landscape/seascape or specific elements within it. For example, a minor effect is likely when a receptor of low sensitivity is affected by a low magnitude of change. An effect of minor significance can be positive. Where this is the case, it will be noted in the text.
Negligible *Not significant*	An almost imperceptible change affecting the character or views of the landscape/seascape or specific elements within it. For example, a negligible effect is likely when a receptor of low sensitivity is affected by a barely perceptible magnitude of change. An effect of negligible significance can be positive. Where this is the case, it will be noted in the text.
None *Not significant*	No perceptible change, affecting the character or views of the landscape/seascape or specific elements within it. This also includes locations where there would be no effects.

5.5.18 The significance criteria in Table 5.2 will be used as a guide only and professional judgement about effects on a particular resource will be made on a case by case basis. There is a gradual transition between levels of significance. If professional judgement considers a landscape/seascape to fall across two levels, a balanced significance of effect may be attributed (i.e. moderate-major).

5.5.19 The nature of the effect will be determined as being adverse, neutral or beneficial and the duration of the effects will also be stated, as follows:

- short term - up to 1 year in duration;
- medium term - between 1 and 5 years' duration;
- long term - between 5 and 30 years; and
- permanent.

5.5.20 For the purposes of the LVIA the following definitions will be adopted for 'adverse' and 'beneficial' effects:

Landscape and Seascape effects:

- Adverse: the Proposed Development will result in the direct loss of physical resources, or will weaken the key characteristics of a landscape/seascape or will negatively affect the integrity of (or reason for) a landscape designation; and
- Beneficial: the Proposed Development may replace physical resources through specific mitigation measures or strengthen the landscape/seascape characteristics, or improve the quality or condition of the landscape/seascape.

Visual effects:

- Adverse: the Proposed Development will result in a loss of visual amenity; and

- Beneficial: visual amenity will be improved by the Proposed Development.

6 Ecology and Nature Conservation

6.1 Introduction

6.1.1 In the context of the EIA Report, this chapter will assess the potential significant effects associated with ecology and nature conservation during the construction, operation and decommissioning phases of the Proposed Development. The assessment of the ornithological resource will be presented in a separate chapter.

6.1.2 The chapter will present the following:

- A description of international, national and local sites designated for their species and habitats including but not exclusively Marine Protected Areas (MPAs), Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs) and Local Nature Conservation Sites (LNCSs).
- A description of the existing ecology baseline for the Proposed Development site ('the site') and wider ecological study area up to 250 m from the boundary of the site ('zone of influence') including habitat types, grey seals (*Halichoerus grypus*) belonging to the Faray and Holm of Faray SAC population, and evidence of any protected and priority species (including grey seal), European Protected Species, and/or Orkney/ Scottish Biodiversity List priority species).
- An assessment of the potential significant ecological effects of the Proposed Development. Because the Faray site is designated an SAC for grey seals, the Competent Authority (CA) will need to undertake a Habitats Regulations Assessment (HRA), possibly including an Appropriate Assessment (AA); sufficient information and assessment will therefore be included within the ecology chapter to allow the CA to go through this process.
- Proposed mitigation to improve identified potential effects (where appropriate).
- An assessment of the potential residual significant effects following the implementation of mitigation.

6.1.3 This Scoping exercise has been undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018).

6.2 Overview of Baseline

6.2.1 The site is an island, which is no longer inhabited but which remains dominated by fields of improved agricultural grassland.

6.2.2 A number of European and national nature conservation designations are present within a 10km radius from the site. These are detailed in Table 6.1 and can be viewed in **Figure 6.1** (note that designations relating to ornithological interests only are not listed below).

Table 6.1 - Ecological Designations

Name	Designation	Distance and Direction from Proposed Development	Reason for Designation	
Faray and Holm of Faray	SAC	0.0km, Surrounds Site, partly within Site	Species:	Grey seal (*Halichoerus grypus*)
	SSSI	0.0km, Surrounds Site, partly within Site	Species:	Grey seal
Wyre and Rousay Sounds	MPA	6.3km SW	Habitats:	Kelp and seaweed communities on sublittoral sediment and maerl beds
Muckle and Little Green Holm	SSSI	7.8km S	Species:	Grey seal
Rousay	SSSI	8.2km SW	Habitats:	Blanket bog, maritime cliff, mesotrophic loch and subalpine wet heath
			Species:	Vascular plant assemblage

6.2.3 As shown on Figure 6.1, there are locally designated sites (LNCS) within 2km of the site boundary, on the island of Eday.

6.3 Proposed Desk Based Methods

6.3.1 In addition to the statutory and non-statutory consultation process, a desk-based study for the Proposed Development and wider ecological study area will be undertaken to review the local, regional and national planning framework and other sources of information sources/guidance (in line with CIEEM (2018)) including:

- relevant authority and local structure plans;
- Scottish Biodiversity List Plan (Scottish Government, 2013);
- Orkney Local Biodiversity Action Plan 2018 to 2022 (Orkney Local Biodiversity Action Plan Steering Group, 2018);
- Scottish Planning Policy (Scottish Government, 2014); and
- other relevant nature conservation policies and best practice guidance.

6.3.2 The desk study will additionally seek to identify records of protected or notable species within 2 km of the site from statutory and non-statutory organisations, for example the local biological records centre and other non-statutory groups.

6.4 Proposed Survey Methods

Vegetation

Extended Phase 1 Habitat Survey

6.4.1 An extended Phase 1 habitat survey will be undertaken in accordance with the standard Joint Nature Conservation Committee (JNCC) methodology (JNCC, 2010). This will establish the ecology baseline of the site and zone of influence and inform the ecological impact assessment. The survey will catalogue habitats within the site and a series of target notes will be produced to describe these habitats, as well as any evidence of protected or otherwise notable species, or the potential for features within the site to support such species.

National Vegetation Classification (NVC) Survey

6.4.2 If wetlands and/or habitats of nature conservation significance are identified at the site, then those habitats will be subject to a National Vegetation Classification (NVC) survey, carried out simultaneously with the Phase 1 habitat survey, using the standard methods (Rodwell, 2006; Rodwell, 1991 *et seq*.). Any potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs) (SEPA, 2017) will be identified as part of this work.

Protected Species Surveys

6.4.3 Species-specific surveys will be undertaken during the optimal season and in accordance with the following methods.

Grey Seal

6.4.4 Faray and Holm of Faray SAC is designated for breeding grey seals. The breeding season for Scottish grey seal colonies occurs during the autumn and can extend over eight to ten weeks. A commitment has been made not to undertake any wind farm construction works during the breeding season, and significant construction phase impacts on the SAC population are therefore not likely. However, a potential exists for indirect construction phase impacts, e.g. from changes to habitats, as well as operation phase impacts, e.g. if maintenance works are required within the breeding season.

6.4.5 Surveys are not proposed for the grey seal breeding season, as it is assumed that such data exists for the SAC and will be available for use in the assessment.

6.4.6 As a small islet, Faray contains three main habitats that need to be considered when designing surveys for seals: Nearshore waters, shoreline and the landward hinterland. At present, the following assumptions have been made regarding their use by grey seals:

- Nearshore waters – are used by seals for foraging, resting, in flight when disturbed on shoreline and for access to and from the island.
- Shoreline – is used by seals as haul-out and for pup-rearing in autumn.
- Hinterland – this habitat is used by seal pups and adults, especially when moulting.

6.4.7 It is proposed to carry out monthly surveys over one year, but excluding the breeding season from September to mid-December. For seals present in the water and hauled out on shore, these surveys will be done by boat and/or drone, whereas for seals present in the coastal hinterland the surveys will be done by drone. During the survey numbers of seals will be counted per location (determined by grid square – 10 m by 10 m or 50 by 50 m scale). The surveys will cover Faray and the Holm of Faray.

Harbour Seal

6.4.8 Sanday SAC, located approximately 11km east of Faray at its closest point, is designated for its breeding population of harbour seals (*Phoca vitulina*) which make up approximately 4% of the UK breeding population. Harbour seals do not breed on Faray but the island falls within the foraging range of the SAC population (40-50km) and harbour seal counts will therefore be included as part of the grey seal surveys outlined above.

Otter

6.4.9 All suitable watercourse habitat, drains and coastline within the site and 250 m zone of influence will be surveyed for evidence of otter in line with standard methodology (Chanin, 2003). Surveys will be conducted by experienced ecologists working from within channels, where possible, along the river bank/coast and on ground within 10 m of watercourses, and will focus on identifying the presence of otter signs, such as spraints (droppings), footprints, runs or other well-used access points to

watercourses (slides), feeding remains (e.g. fish carcasses) and sightings. Resting sites, for example, holts, couches and hovers, will also be identified.

6.5 Ecology Features Scoped Out of the Assessment

6.5.1 It is proposed to only include those nature conservation designations in the assessment that overlap with the site, i.e. Faray and Holm of Faray SAC and SSSI.

6.5.2 Given the nature of the site as an isolated and exposed island with few or no trees, and little apparent potential for structures to support roosting bats, it is proposed to scope bat surveys out of the assessment unless the extended Phase 1 habitat survey reveals a greater potential for bat presence, in which case a bat survey programme will be agreed with SNH.

6.5.3 Similarly, given the absence of major watercourses on the site, it is not proposed to undertake any dedicated freshwater fish or macroinvertebrate surveys.

6.6 Ecological Impact Assessment

6.6.1 In accordance with the CIEEM (2018) guidance, the Ecology and Nature Conservation chapter for the EIA Report will present a description of the ecology baseline for the Proposed Development site and local area. The findings of the survey work will be analysed and presented (where appropriate) in a technical report providing baseline conditions of the site. Activities during the construction, operational and decommissioning phases and their potential significance on valuable or vulnerable ecological features, such as protected species, will be identified and direct and indirect effects will be described with consideration of the above guidelines and the geographical scale at which they are significant. Potential cumulative ecological effects will also be assessed for schemes up to 10 km from the site boundary. The assessment will additionally present mitigation measures, as required, and assess any residual effects.

6.7 Mitigation

6.7.1 If it is considered that mitigation is necessary to reduce any adverse ecological effects and/or if there is considered to be potential for incorporating biodiversity enhancement measures into the development, then an integrated mitigation and enhancement package will be proposed. This will address ecological effects and will reflect local or national objectives in terms of biodiversity and the enhancement of environmental character. During the Proposed Development design and EIA process, mitigation measures will seek to follow the recognised hierarchy of avoidance, reduction, enhancement, and compensation.

6.8 Key Issues for Consideration in the EIA

6.8.1 The key ecology and nature conservation issues to be considered with respect to the Proposed Development are likely to include the following:

- disturbance and direct mortality of fauna during construction, operation and decommissioning;
- behavioural changes of fauna during operation;
- the potential for adverse effects on grey seal, as the qualifying feature of a Natura site, from construction, operation and decommissioning of the development; and
- pollution via road drainage and runoff during all development phases.

6.8.2 Given the absence of important habitats identified at the site (with the possible exception of the coastal fringe where no proposed turbines are to be located), habitat loss is not considered to be a

key issue for consideration, however opportunities for habitat enhancement will be explored as appropriate.

7 Ornithology

7.1 Introduction

7.1.1 The ornithology chapter will assess the potential significant effects on ornithology during the construction, operational and decommissioning phases of the Proposed Development.

7.1.2 The ornithology chapter of the EIA Report will present the following:

- A description of the existing ornithological baseline for the Proposed Development site and wider ecological study area between 500 m and 2 km from the boundary of the site (zone of influence).
- An assessment of the potential significant ornithological impacts of the Proposed Development (including collision risk).
- Proposals for appropriate mitigation to ameliorate identified potential impacts (where appropriate).
- An assessment of the residual potential significant impacts following the implementation of mitigation.

7.1.3 This Scoping exercise has been undertaken in accordance with the ‘‘Guidelines for Environmental Impact Assessment in the UK and Ireland’ (CIEEM, 2018).

7.2 Overview of Baseline

7.2.1 The Site consists of Faray Island and comprises an area of improved grassland and coastline and is predominately flat land.

Designations and Data Search

7.2.2 An initial search using publicly available data has revealed a number of statutory European and national nature conservation sites designated for ornithological considerations within 20 km of the site. A number of non-statutory RSPB reserves are also present. These designations are detailed in Table 7.1 and can be viewed in **Figure 7.1**.

Table 7.1 - Ornithological Designations

Name	Designation	Distance and Direction from the Proposed Development	Reason for Designation	
Doomy and Whitemaw Hill	SSSI	2.5km SSE	Species:	Breeding whimbrel (*Numenius phaeopus*) and Arctic skua (*Stercorarius parasiticus*).
Mill Loch	SSSI	2.6km E	Species:	Breeding red-throated diver (*Gavia stellata*)
Calf of Eday	SPA	2.7km NE	Assemblage:	A seabird assemblage of international importance
	SSSI	2.7km NE	Species:	Important nesting site for the cormorant
North Orkney	Proposed SPA	5.1km SW	Species:	Breeding red-throated diver.

Name	Designation	Distance and Direction from the Proposed Development	Reason for Designation	
				Non-breeding common eider (*Somateria mollissima*), shag (*Phalacrocorax aristotelis*), great northern diver (*Gavia immer*), long-tailed duck (*Clangula hyemalis*), red-breasted merganser (*Mergus serrator*), slavonian grebe (*Podiceps auritus*) and velvet scoter (*Melanitta fusca*)
Rousay	SPA	6.1km WSW	Assemblage:	A seabird assemblage of international importance
			Species:	Breeding arctic tern (*Sterna paradisaea*)
	SSSI	8.2km SW	Assemblage:	Breeding bird assemblage (moorland), seabird colony
			Species:	Breeding Arctic skua, Arctic tern, guillemot and kittiwake
Onziebust	RSPB Reserve	7.2km SW	Species:	Corncrake (*Crex crex*), curlew (*Numenius arquata*), lapwing (*Vanellus vanellus*) and redshank (*Tringa totanus*)
West Westray	SPA	9.8km NW	Assemblage:	A seabird assemblage of international importance
			Species:	Breeding Arctic tern and guillemot (*Uria aalge*)
	SSSI	11.5km NW	Species:	Breeding Arctic skua, Arctic tern, kittiwake (*Rissa tridactyla*) and razorbill (*Alca torda*)
			Assemblage:	Seabird colony
East Sanday Coast	SPA	12.8km E	Species:	Bar-tailed godwit (*Limosa lapponica*), purple sandpiper (*Calidris maritima*) and turnstone (*Arenaria interpres*)
	SSSI	12.8km E	Species:	Non-breeding bar-tailed godwit, purple sandpiper, ringed plover (*Charadrius hiaticula*), sanderling (*Calidris alba*) and turnstone Migratory turnstone
Papa Westray (North Hill and Holm)	SPA	13.0km N	Species:	Breeding Arctic skua and Arctic tern
Holm of Papa Westray	SSSI	13.0km N	Species:	Breeding black guillemot (*Cepphus grylle*)
Noup Cliffs	RSPB	15.3km NE	Species:	Breeding gannet (*Morus bassanus*), guillemot, fulmar (*Fulmarus glacialis*), razorbill (*Alca torda*) and puffin (*Fratercula arctica*)
North Hill	RSPB	15.6km N	Species:	Breeding Arctic skua and Arctic tern
	SSSI	15.6km N	Species:	Breeding Arctic skua and Arctic tern

Name	Designation	Distance and Direction from the Proposed Development	Reason for Designation	
Mill Dam	RSPB	17.6km S	Species:	Passage corncrake
			Assemblage:	Passage waders
Birsay Moors	RSPB	19.3km SW	Species:	Breeding hen harrier (*Circus cyaneus*) and red throated diver
Cottascarth and Rendall Moss	RSPB	19.7km SW	Species:	Merlin, kestrel and hen harrier

7.3 Proposed Desk Study Methods

7.3.1 A desk-based study for the Proposed Development and wider ornithology study area will be undertaken to review the local, regional and national planning framework and other sources of information sources/guidance (in line with CIEEM (2018)), as outlined in the Ecology and Nature Conservation section.

7.3.2 The desk study will additionally seek to identify records of protected or notable bird species within 2 km of the site (10 km for species listed on Annex 1 of the Wildlife and Countryside Act 1981 (as amended)) from statutory and non-statutory organisations; for example, local bird groups and other non-statutory groups, including the local raptor study group.

7.4 Proposed Surveys

7.4.1 Although SNH guidance (SNH, 2014a) recommends a survey period covering a minimum of two years, preliminary observations suggest that the Proposed Development site comprises largely semi-improved grassland, not providing high-value habitat for birds, although some pools may also be present. Taking account of this and, given the remote location of the island and requirement for private boat access for surveys, a pragmatic approach is proposed, involving one year of surveys supplemented by any available data from the local raptor study group and the RSPB, to be evaluated towards the end of the one-year survey period with a view to determining the value of and requirement for any further survey, in consultation with SNH and OIC.

7.4.2 It is proposed to undertake the following surveys:

Vantage Point (VP) Survey

7.4.3 A full year of Vantage Point (VP) surveys from two VPs will be carried out. It is anticipated that VPs will be located on the highest points of the island; ground-truthing will be carried out to demonstrate that adequate coverage of the site is feasible. Given the nature of the site as an isolated island, it is not considered feasible to site VPs off-site (the nearest points on adjacent Eday would not provide suitable viewshed coverage of the full site within a 2 km radius as per SNH guidance). Therefore, agreement is sought from SNH that siting VPs on Faray itself is suitable, with appropriate precautions to ensure any disturbance to birds and breeding grey seals on the island is minimised during the surveys. It is noted that the two island high-points are at least 200 m from any proposed turbines based on the current Scoping layout.

7.4.4 A minimum of 72 hours of VP survey effort will be undertaken from the confirmed VP locations (36 hours during the breeding season and 36 hours during the non-breeding season). Target species for the vantage point surveys are proposed to be, as a minimum: hen harrier, short-eared owl and other raptors, as relevant, red throated diver, seabirds, waders and geese. Vantage point surveys will cover the whole year, appropriately stratified to cover dawn, day and dusk in accordance with the SNH bird survey methods guidance. They will be carried out in a wind of Beaufort force 4 or less, where feasible, and in dry weather.

Breeding Bird Survey

7.4.5 A full breeding bird survey will be carried out during the breeding months from April to July, inclusive, and will cover the entire island of Faray and, if access is possible, the Holm of Faray. Faray is known for its breeding assembly of seabirds and the survey will follow the guidelines outlined in the Seabird Monitoring Handbook (Walsh *et al*., 1995).

7.4.6 The following surveys are proposed surveys for ground-nesting seabirds:

- Arctic skua and Great skua (*Stercoarius skua*) – single walkover survey, visit mid-June to count adults on territory;
- Gulls – single visit using vantage points to count adults on nests late-May to Early June; and
- Arctic tern – weekly visits using vantage points to count incubating adults mid-May to mid-June.

7.4.7 The methodology additionally outlines the following methodology for cliff nesting birds:

- Black guillemot – two walkover surveys to count pre-nesting birds from the cliff tops in early April;
- Fulmar – a full island census by boat of apparently occupied nests in early June; and
- Shag – a full island census by boat of apparently occupied nests in late June.

7.4.8 Storm petrels (*Hydrobates pelagicus*) were recorded as breeding in two locations on Faray, in the last survey was undertaken in 2000. In order to establish the continued presence of breeding storm petrels, a callback survey will be undertaken at the two locations in mid-July following methods outlined in Gilbert *et al*. (1998), we propose a minimum of three visits.

7.4.9 Storm petrels breed hidden within boulders and man-made structures such as walls or buildings, and the methodology involves surveyors playing storm petrel calls at all suitable breeding habitat, including the suspected breeding sites, and listening for return calls. Should the presence of breeding storm petrels be confirmed, further survey work to establish their movements will be required. Storm petrels fly at night and further surveys will include dusk watches to monitor the petrels return to breeding sites and the use of night image binoculars in order to record their movements after dark. Given the lack of methodology involving storm petrel activity and windfarm proposal,s the number of further surveys will be agreed with SNH once breeding is confirmed, although is likely to involve one or two survey visits..

7.4.10 In addition a breeding bird walkover survey will be carried out on four occasions during the breeding months from April to July, using a modified Brown & Shepherd (Gilbert *et al*., 1998) method in order to record all breeding wader territories and any other birds of conservation concern. The survey study area will covers the entire island. Standard methodology normally involves extending 500m beyond the outermost turbine locations; however, given the island nature of the site this is deemed unnecessary. The survey will, where practical, incorporate the methods outlined above for seabird monitoring.

Breeding Raptor Survey

7.4.11 Any records of breeding raptors on Faray will be recorded during the breeding bird survey outlined above and given the island status of the Proposed Development data for the extended area will be confined to adjacent islands and data on breeding attempts in these areas will be collected from local raptor groups.

Diver Surveys

7.4.12 Aerial photography suggests that some small waterbodies may be present within the site that have the potential to provide suitable breeding habitat for red-throated diver. Should divers be recorded as breeding on the lochans during breeding bird walkover surveys, then dedicated diver lochan surveys will also be carried out. Focal diver lochans surveys involve undertaking vantage point surveys of the breeding lochans in order establish the flightpaths of divers from their breeding locations to feeding grounds on the sea. As required by the SNH bird survey guidance, we will attempt to record 20-30 flights will be recorded per breeding lochan.

7.5 Ornithological Impact Assessment

7.5.1 In accordance with the CIEEM (2018) guidelines, the Ornithology chapter for the EIA Report will present a description of the ornithological baseline for the Proposed Development site and wider ornithology study area. The findings of the survey work will be analysed and presented in one or more technical reports providing baseline conditions of the site. Activities during the construction, operation and decommissioning phases and their potential significance on valuable or vulnerable ornithological features will be identified and direct and indirect effects, including collision risk, will be assessed, taking account of the above guidelines and the geographical scale at which they are significant. Potential cumulative ornithological effects will also be agreed through consultation for an area up to 20 km from the site boundary and/or Natural Heritage Zone (where applicable). The assessment will additionally present mitigation measures, as required, and assess any residual effects.

7.6 Mitigation

7.6.1 If it is considered that mitigation is necessary to reduce any adverse environmental effects on bird populations, mitigation will be proposed in the ornithological chapter to reduce the significance of these effects to an acceptable level. During the Proposed Development design process mitigation measures will seek to follow the recognised hierarchy of avoidance, reduction, enhancement, and compensation.

7.7 Collision Risk Modelling

7.7.1 The following steps are proposed to inform the assessment of collision risk that will be undertaken in accordance with SNH's 'Collision Risk Model' (SNH, 2000):

- Review all digitised flight lines and recorded characteristics for target species (species, number of birds, start time of flight, height at 15 second intervals etc.), from the survey work.
- Define a turbine envelope and identify all flights which are at any point within the dimensions of the rotor height and which intersect the boundary of the turbine envelope.
- Calculate the number of transits through the turbine envelope per unit of observation time and extrapolate to determine total predicted transits over the period of interest at risk height.
- Run the collision model with relevant turbine and ornithological parameters, taking as input the total transits calculated previously.

7.8 Key Issues for Consideration in the EIA

7.8.1 The key ornithology issues to be considered for the Proposed Development will include the following:

- Potential for Schedule 1 or other notable raptors, and divers, to be displaced by the Proposed Development or suffer direct mortality through collision with turbines.

- Potential for breeding birds (including waders) within or adjacent to the site to be disturbed and/or displaced as a result of the Proposed Development (individuals may also collide with the turbines).

8 Archaeology and Cultural Heritage

8.1 Introduction

8.1.1 The archaeology and cultural heritage assessment will consider the potential both for direct effects of the development on archaeology and heritage assets within the Proposed Development site and for effects upon the settings of key heritage assets within the wider landscape. The assessment will also identify measures that should be taken to mitigate any predicted significant adverse effects.

8.1.2 Cultural heritage assets relevant in the context of the Proposed Development include: Scheduled Monuments and other archaeological features, and Listed Buildings and other buildings of historic or architectural importance.

8.2 Key Planning Policy and Guidance

8.2.1 The following legislation and policy concerning the protection and conservation of cultural heritage assets will be considered:

- Ancient Monuments and Archaeological Areas Act 1979;
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997;
- Town and Country Planning (General Development Procedure) (Scotland) Order 1992 (as amended 2001);
- The National Planning Framework for Scotland (NPF3) (Scottish Government, 2014a);
- Scottish Planning Policy (SPP) (Scottish Government, 2014b);
- Historic Environment Scotland Act 2014 (Scottish Government, 2014c);
- Historic Environment Scotland Policy (Historic Environment Scotland, 2016);
- Our Place in Time. The Historic Environment Strategy for Scotland (Scottish Government, 2014d);
- Planning Advice Note 2/2011 (PAN 2), Planning and Archaeology (Scottish Government, 2011);
- Orkney Islands Council Local Development Plan (OIC, 2017a);
- Orkney Islands Council Energy Supplementary Guidance (2017b);
- Heart of Neolithic Orkney World Heritage Site Supplementary Planning Guidance (Planning Policy Advice) (OIC, 2010); and
- Listed Buildings and the Orkney Local List (2011).

8.2.2 The collation of baseline information will be conducted in accordance with the Institute for Archaeologists' 'Code of Conduct' (CIfA 2014) and 'Standard and Guidance for Historic Environment Desk-Based Assessment' (CIfA, updated 2017).

8.3 Baseline Conditions and Key Issues

Proposed Development Site

8.3.1 There is one Scheduled Monument within the northwest extent of the Proposed Development site boundary, Quoy broch (SM11440). This is located approximately 215 m from the nearest turbine based on the current preliminary layout.

8.3.2 There is one Category C Listed building within a 2 km buffer of the Proposed Development site boundary, a house on Rusk Holm island, located approximately 1.4 km to the west of the site.

8.3.3 There are no other historic environment sites with statutory designations, within 2 km of the site boundary. **Figure 8.1** shows all the historic environment designations on and within 10 km from the site boundary.

On-Site Assets

8.3.4 There are 15 archaeological assets listed on the Historic Environment Record (HES, 2019) identified within the site boundary. The assets can be found across the site and comprise a mix of settlement buildings, enclosures, chapel and burial ground, and a chambered cairn.

External Receptors

8.3.5 Within the wider 10 km study area there are a total of 31 Scheduled Monuments, 19 of these are located on Eday to the east of the Proposed Development site. The nearest are:

- Dale burnt mound (SM1257) approximately 2.2 km south of the site boundary;
- Muckle Hill of Linkataing (SM1355) chambered cairn, homestead and field system, approximately 2.5 km northeast of the site boundary;
- Vinquoy Hill (SM1410) cambered cairn approximately 2.8 km east of the site boundary
- Huntersquoy (SM1250) cambered cairn approximately 2.8 km east of the site boundary;
- Carrick Farm (SM1251) cambered cairn approximately 2.8 km east of the site boundary
- Fold of Setter enclosure (SM1441) approximately 2.8 km east of the site boundary; and
- Stone of Setter standing stone and enclosure (SM4299) approximately 2.9 km east of the site boundary; and
- Carrick House (SM1432) cambered cairn approximately 3.4 km east of the site boundary.

8.3.6 There are a further eleven SMs located on Eday and a further nine SMs on Rousay and Egilsay, located between 8.2 and 9.5 km to the southwest, across the Westray Firth. There are additionally three SMs located approximately 8.8 km to the northwest near Langskaill on Westray.

8.3.7 There are no Category A listed buildings, 24 B listed buildings and 11 Category C listed buildings within the 10 km study area, the majority (20) of which are situated on Westray to the northwest and Sanday (further 11 listed buildings) to the east. The nearest Category B listed building is Carrick House (LB5438) located approximately 3.6 km to the east on Eday.

8.3.8 Analysis of the preliminary Zone of Theoretical Visibility Model (ZTV) indicates that many of the Scheduled Monuments and listed buildings in the study area would have visibility of the development, but topography would provide screening to some, to the east, southeast and southwest.

8.3.9 There are no World Heritage Sites, Conservation Areas or Gardens and Designed Landscapes within 10 km of the Proposed Development site boundary. The nearest World Heritage Site (outer perimeter

of the Sensitive Area of the Heart of Neolithic Orkney) lies approximately 16.6 km southwest of the site. The ZTV indicates very limited visibility within the Sensitive Area, and no visibility from any of the core monuments within the World Heritage Site.

8.3.10 The nearest Conservation Area lies approximately 17.3 km southwest of the site; Eynhallow Rural Conservation Area. No visibility of the development is predicted from Eynhallow.

8.3.11 The nearest Gardens and Designed Landscape lies approximately 18.8 km south of the site.

Key Issues

8.3.12 The potential effect of the Proposed Development on the settings of the nearby Scheduled Monuments will be carefully reviewed and considered. This will include consideration of the inter-relationship between the various SMs, where they relate to one another.

8.3.13 Appropriate visualisations will be provided to help inform assessment of the potential effects upon the setting of these and other heritage assets, in consultation with Historic Environment Scotland and OIC.

8.3.14 The assessment will also consider careful design of onsite infrastructure in consultation with OIC on the historic assets identified on the HER record.

Consultation

8.3.15 Historic Environment Scotland and OIC will be consulted to agree the approach to assessment, to obtain professional opinion on the likely effects of the Proposed Development upon cultural heritage assets, and to discuss approaches to mitigation.

8.4 Impact Assessment Methodology

8.4.1 The effects of the Proposed Development on cultural heritage assets will be assessed on the basis of their type (direct physical effects, effects on setting, cumulative effects), nature (beneficial, neutral or adverse), and longevity (reversible, short-term or long-term; irreversible, permanent). The assessment will take into account the sensitivity of the receptor and the magnitude of impact. The assessment of sensitivity of cultural heritage assets reflects the relative weight which statute and policy attach to them, principally as published in Scottish Planning Policy (SPP) and Scottish Historic Environment Policy.

8.4.2 The assessment of effects on cultural heritage assets will be closely linked with the assessment of socio-economic, tourism and recreation effects, recognising that archaeology and cultural heritage are highly important to tourism and recreation in Orkney.

Direct Effects

8.4.3 Construction of the Proposed Development has the potential to disturb, damage or destroy features or buried remains of cultural heritage interest. Other construction activities, such as vehicle movements, soil and overburden storage and landscaping also have the potential to cause direct permanent and irreversible effects on the cultural heritage.

Desk-based Assessment

8.4.4 A desk-based assessment will be conducted across the entirety of the site, to identify all known cultural heritage assets, designated or otherwise, and to inform an assessment of the archaeological potential of the site. Sources to be consulted for the collation of data will include:

- The OIC Historic Environment Record (to supplement the search already undertaken above);

- The National Record of the Historic Environment;
- OS maps (principally 1st and 2nd Edition), and other published historic maps held in the Map Library of the National Library of Scotland;
- Unpublished historic maps held in the National Archives of Scotland;
- Vertical and oblique aerial photographs held by National Record of the Historic Environment;
- Published bibliographic sources, including historical descriptions of the area (Statistical Accounts, Parish Records);
- The Scottish Palaeoecological Database (Coles *et al*., 1998); and
- The Historic Land-use Assessment Data (HLAMap) for Scotland.

Field Survey

8.4.5 The results of the desk-based assessment will be reviewed to determine the requirement for field survey work, in consultation with OIC and the County Archaeologist.

8.4.6 Intrusive field evaluation is not anticipated to be undertaken as part of the baseline survey, however this will be discussed and agreed with OIC and HES based on findings of the desk study work and site walkover(s).

Indirect Effects (Effects on Setting)

8.4.7 The Proposed Development has the potential to affect the setting of cultural heritage assets within the wider landscape.

Desk-based Assessment

8.4.8 Details will be obtained for cultural heritage assets with statutory and non-statutory designations within 10 km of the Proposed Development.

8.4.9 A ZTV map generated for the site will be used to identify those cultural heritage assets within 10 km of the Proposed Development (and any particularly significant assets outwith 10 km), from which there is theoretical visibility of one or more development component.

8.4.10 The assessment of potential effects on setting will consider: the characteristics of the setting of the asset; the sensitivity of that setting; how the presence of the Proposed Development would affect that setting; and the significance of the effect on the cultural heritage asset's setting.

Site Visits

8.4.11 Heritage assets identified by the desk-based assessment and/or consultation as potentially being subject to significant adverse impacts on their settings will be visited to establish their current baseline setting and their sensitivity to such impacts from the Proposed Development. Where relevant the assessment of effects will include provision of visualisations (photomontages or wireframes).

Cumulative Effects

8.4.12 Cumulative effects on cultural heritage assets will be assessed, taking into consideration the impacts of the Proposed Development on the settings of assets with statutory and non-statutory designations within 10 km of the Proposed Development, in addition to the likely impacts of other operational, consented and proposed wind farm developments (at the application stage). The assessment will take into account the relative scales (i.e. size and number of turbines) of the other developments, their distances from the affected assets and the potential degree of visibility to the various developments.

Mitigation

8.4.13 Mitigation measures designed to prevent, reduce or offset significant adverse effects will be taken into account. Residual effects will be assessed, taking into consideration the likely effectiveness of the mitigation proposed.

9 Hydrology, Hydrogeology and Geology

9.1 Introduction

9.1.1 This section considers the potential for significant effects on surface water, groundwater, the potential risk of flooding, and the drainage requirements which may result from the Proposed Development. This section also considers the potential effects associated with the ground conditions, including any contamination associated with historic land uses, geological resources, and the ground stability of the site and the surrounding area.

9.2 Baseline

Hydrology

Site Description

9.2.1 The site comprises agricultural fields, surrounded by sea. There are a number of drainage ditches on the site but no major surface watercourses.

Drainage Catchments

9.2.2 The entire site area is within the Orkney Coastal catchment area. The site is drained by several small drainage ditches which drain into the sea on the site boundaries.

Groundwater

9.2.3 Groundwater beneath the site is not given a specific classification by SEPA (2015) however the surrounding islands all have groundwater classified by SEPA as having an overall status of Good. The aquifer, based on British Geological Survey (BGS) hydrogeology mapping, is Old Red Sandstone, a moderately productive aquifer in which flow is virtually all in fractures and other discontinuities.

9.2.4 OS mapping shows six wells and an area marked as springs, in the northern half of the site.

Flooding

9.2.5 SEPA flood risk mapping shows a high risk of coastal flooding around the coastal fringes as would be expected, however no flood risk across the main body of the site (SEPA, 20115).

Private Water Supply

9.2.6 As noted above, a number of wells and springs are shown on OS mapping. However, with no inhabitants on the island, any which may have once been used as private water supplies, for example for drinking water, are assumed to no longer be in such use.

Geology

Designated Sites

9.2.7 There are no SSSIs designated for geological interests, nor Geological Conservation Review (GCR) sites within the site boundary or in the close vicinity.

Superficial Geology

9.2.8 British Geological Survey (BGS) mapping shows that low lying ground in the west and central part of the site is underlain by till (diamicton – typically sandy clay with variable amounts of gravel, cobbles and boulders). There are localised areas of blown sand in the south, and there are two area of marine beach deposits (sand, gravel, cobbles and boulders) on the east coast near the southern-most point and on the west coast near the northern point (refer to **Figure 9.1**).

Solid Geology

9.2.9 British Geological Survey (BGS) mapping indicates the bedrock underlying the western half of site comprises the Upper Stromness Flagstone Formation, formed of siltstone, mudstone and sandstone. To the east of this are the Lower Eday Sandstone Formation and Eday Flagstone Formation (siltstone, mudstone and sandstone).

Peat

9.2.10 No peat is recorded on BGS mapping within the site boundary. The SNH Carbon and Peatlands map shows no Class 1 or 2 peat on or near the site.

9.3 Approach and Justification for Scoping Out

9.3.1 A high-level desk-based baseline study has been carried out as reported above. Baseline geological, hydrological and hydrogeological conditions beneath the site have been identified as being straightforward.

9.3.2 A review of the Proposed Development proposals and reports from other technical studies being undertaken for the planning application will be undertaken, principally ecology surveys, to identify any potential groundwater dependent terrestrial ecosystems (GWDTE). However, this is considered unlikely based on the site being largely semi-improved grassland.

9.3.3 No dedicated field survey work for geological, hydrological and hydrogeological assessment is proposed. Findings from other site survey work (e.g. ecology) will be reviewed together with desk study data.

9.3.4 With site drainage being directly to the sea, the receiving surface water network is not highly sensitive. It is considered likely that suitable mitigation can achieved through good construction practices and implementation of a robust Construction Environmental Management Plan (CEMP), to ensure no significant adverse effects on water quality. New drainage systems will be designed, as required, to ensure that any discharges are appropriately treated prior to outflow into surface waters. Similarly, appropriate protection of groundwater can also be achieved through measures implemented in accordance with a CEMP. No sensitive geological receptors have been identified.

9.3.5 Based on the above, it is considered appropriate to scope out assessment of effects on geology, hydrology and hydrogeology from the EIA process.

10 Aviation and Radar

10.1 Introduction

10.1.1 This section considers potential issues associated with aviation and radar as a result of the Proposed Development during the construction, operation and decommissioning phases.

10.2 Baseline

10.2.1 The nearest civil aerodrome is at Eday, approximately 3 km southeast of the site boundary. Flights from Eday operate to Kirkwall and the other North Isles (Westray, Papa Westray Stronsay, Sanday, and North Ronaldsay).

10.2.2 Stronsay Airport is approximately 11.4 km southeast of the site, and Sanday Airport is 14 km east-northeast. Papa Westray and Westray aerodromes are 14 km and 15 km north-northwest.

10.2.3 A preliminary consultation response has been requested from Highlands and Islands Airports Authority (HIAL) to identify any potential concerns with the development. No response has yet been received.

10.2.4 The Proposed Development site lies within a low priority, military low flying area.

10.3 Methodology and Guidance

10.3.1 Pending a response from HIAL, an aviation risk assessment will be undertaken by an experienced specialist, to identify potential conflicts with aviation interests, largely relating to inter-island flights. The findings will feed into the iterative design process, and where possible and appropriate, measures will be identified to mitigate against potentially unacceptable impacts.

10.3.2 Further consultations may also be required with HIAL to determine whether they would object to a wind farm development at the site, and, if required, identify any required mitigation for effects on aviation infrastructure.

10.3.3 OIC's Marine Services will also be consulted with respect to any marine/shipping radar installations and the potential for the Proposed Development to create conflicts with any such installations.

10.4 Key Issues for Consideration in the EIA

10.4.1 The EIA will take into consideration any construction or operational effects on radar systems or airspace associated with airfields at Eday and the other North Isles.

11 Telecommunications

1.1 Introduction

11.1.1 This section considers potential issues associated with telecommunication and television reception as a result of the Proposed Development during the construction, operation and decommissioning phases.

11.2 Methodology

Telecommunication

11.2.1 The Ofcom online database of fixed links has been interrogated to identify any links near the Proposed Development site (note that Ofcom no longer provides such information directly). None have been identified, with the nearest link path being 800 m or more from the nearest proposed turbine.

11.2.2 The Joint Radio Company (JRC) has been consulted for information on any potential conflict with telecommunications links it manages. JRC has responded to confirm no conflicts have been identified.

11.2.3 Atkins Global has been consulted for information on any potential conflict with telecommunications links it manages. A response is awaited.

Television Reception

11.2.4 The closest television transmitters are Pierowall 16 km to the north, and Burgar Hill 21 km to the southwest, both part of the Keelylang Hill transmitter group. These transmitters have switched to digital transmission only. Currently there is no widely accepted method of determining the potential effects of wind turbines on digital television reception, however digital television signals are better at coping with signal reflections, and do not suffer from ghosting that may occur with analogue signals.

11.2.5 To date, there are very few known cases of wind turbine interference with digital television reception post-digital switchover. Given the separation distance between the proposed turbines and any residential receptors, and the inherently resilient nature of digital television reception at the location of the Proposed Development, there is considered to be a low risk of any interference from a wind energy development at this location on domestic television reception.

11.2.6 Due to the low risk of interference with television reception, the requirement to address any reception issues once the Proposed Development were operational, could be conditioned in planning consent. It is not proposed to carry out a detailed assessment of potential effects on television reception and therefore will be scoped out of further assessment.

11.3 Key Issues for Consideration in the EIA Report

11.3.1 Unless Atkins Global identifies any conflicts with links it manages, then consultations have shown there to be no potentially significant effects on telecommunications links, and it is proposed that further assessment is scoped out of the EIA.

11.3.2 The Applicant proposes to scope out any assessment on television reception.

12 Transport and Accessibility

12.1 Introduction

12.1.1 This section considers potential issues associated with transport and access routes as a result of the Proposed Development during the construction, operation and decommissioning phases and their implications for the detailed environmental assessment.

12.2 Baseline Conditions

12.2.1 At present the site has a small jetty located on the southeast cost of the island and no formal road network. Both current and historical OS mapping show disused tracks across the site, with a main track running from north to south long the centre of the island.

12.3 Proposed Assessment Methodology

12.3.1 The Applicant proposes to either upgrade the existing jetty and / or construct a new jetty on Faray for the delivery of personnel, construction materials and abnormal loads to the island. This jetty will also be assessed by a local marine expert. From the jetty, the onsite access tracks are anticipated to use the disused central track, with spur roads to the individual turbine locations located to the east and west.

12.3.2 It is proposed that the following stakeholders would be consulted for information and guidance related to traffic and transport:

- Orkney Islands Council;

- Orkney Ferries; and
- Marine Scotland.

12.3.3 Assumptions for construction activities and transport specifications will be defined and agreed with relevant project team members drawing on experience from other wind farm sites. This will include collating information on:

- access route to site (by sea) for the different component types and materials;
- number and type of onsite vehicles required and how general construction traffic will access the site;
- travel times;
- direction of origin; and
- access points to the site.

12.3.4 It is likely that the main transport impacts will be associated with the delivery of construction materials and abnormal loads to the site by sea, and the movement of ferries travelling to and from the site during the construction phase of the project. An estimate of the number of ferry trips associated with the proposed construction, operation and decommissioning phases of the Proposed Development site will be developed and included within the TA.

12.3.5 Depending on the access route to site, there is potential for the construction phase of the Proposed Development to have an effect on ferry and cruise ship traffic in and out of nearby ports and ferry terminals, for example reducing capacity or disrupting scheduled sailings. Consultation with the OIC harbour authority will be required to assess potential effects and derive appropriate mitigation.

12.3.6 Operational traffic to the Proposed Development site is anticipated to be a minimal and therefore no operational effects are anticipated.

12.4 Key Issues for Consideration in the EIA

12.4.1 Consideration and defining the proposed access route to site for construction materials, abnormal loads and site personnel for the construction and operational phases of the Proposed Development. This is assumed to be by sea, likely from Hatston to a new or upgraded jetty on Faray.

12.4.2 Requirements for upgrades to existing infrastructure and new built infrastructure to accommodate the Proposed Development access proposals.

12.4.3 The potential impact of construction traffic on existing infrastructure such as ports and ferry terminals will also be assessed in detail as outlined above. Suitable mitigation measures will be established where required and appropriate.

13 Socio-economics, Tourism and Recreation

13.1 Introduction

13.1.1 The potential for both adverse and positive local impacts will be evaluated in the environmental assessment process. This will involve identification of the existing socio-economic baseline conditions in the surrounding area, and consideration of potential direct or indirect impacts on employment, recreation and tourism and the local population in terms of community benefit. Particular to this project, the potential benefits associated with the Local Authority's potential to gain an income from

the site's generation, and to provide support to the needs case for a new subsea cable between Orkney and mainland Scotland, will be taken into account.

13.2 Baseline Description

13.2.1 The site itself is uninhabited and used only for sheep grazing.

13.2.2 Orkney is characterised by:

- a population increase of over 10% in the years 2001 to 2011;
- lower unemployment rates than across the Highlands and Islands and Scotland as a whole;
- a business and employment base that compares closely to that of the Highlands and Islands, but with higher rate of self-employment, and a higher rate of employment in agriculture, forestry and fishing, construction, and transport and storage; and
- a higher share of employment, compared to the Highlands and Islands as a whole, in skilled trades.

13.2.3 Renewable energy is an important facet of the socio-economic baseline of Orkney, with the European Marine Energy Centre (EMEC) based on the Orkney Mainland and the International Centre for Island Technology (ICIT) offering renewable energy related MSc courses. There are several Orkney-based companies providing technical and operational support to the renewable energy industry.

13.2.4 EMEC provides wave and tidal energy developers with full scale grid connected test sites, facilities and technical support. It "*exports its knowledge around the world to stimulate the development of a global marine renewables industry*."[1] However, it has been identified that a key challenge for EMEC is to "*find ways to unblock the restrictions currently placed on renewable energy generation in Orkney by inadequate grid connections to mainland Scotland*".[6] The unblocking of such restrictions through delivery of a new subsea cable between Orkney and mainland Scotland has potential to provide highly significant economic benefits to Orkney over a long-term period.

13.1.1 With respect to the tourism and recreation baseline, the most popular activities undertaken by visitors are visiting archaeological sites and to enjoy the coastal scenery and beaches. Orkney also receives visits from a growing number of cruise liners throughout the year.

13.1.2 A review of available tourism and recreation activities on the islands surrounding Faray has highlighted wildlife tours, archaeological and historical tours and walks, beaches, sailing, walking and surfing as being important. Notltland Castle on Westray and a heritage and visitor centre on Eday are points of interest. The potential for seeing the northern lights is also highlighted on online tourism sites.

13.3 Guidance/Legislation

13.3.1 There is currently no established EIA methodology for the assessment of socio-economic impacts. This chapter of the EIA Report therefore will describe the processes and outcomes of a socio-economic impact assessment based on professional experience and EIA good practice. It will also draw relevant information from the 2008 Moffat Report 'The Economic Impacts of Wind Farms on Scottish Tourism', the subsequent 2012 Climate X-Change Report 'The Impact of Wind Farms on Scottish Tourism', and the good practice in the preparation of socio-economic, tourism & recreation impact assessment as set out in the EU and Scottish Government 'Good Practice Wind' guide.

[6] www.emec.org.uk

13.3.2 Identification and assessment of effects on recreational receptors will also follow SNH guidance 'Outdoor Access Effect Assessment'.

13.4 Proposed Scope of Assessment

13.4.1 The assessment will consider the likely impacts of the Proposed Development on the economic profile of the area (including employment opportunities and the wider economic impacts of a new subsea export cable), tourism and recreation, and public perception of wind farms. The work will also consider socio-economic impacts within other sections of the EIA Report (i.e. noise, landscape and visual, and traffic). Data will be collected on the socio-economic profile of the area (with specific reference to the importance of tourism). Data will be collected from a variety of sources including the Office of National Statistics (ONS), OIC, Visit Scotland, and other local tourist information/organisations.

13.5 Potential Impacts

13.5.1 The potential impacts of the Proposed Development therefore may include:

- the generation of employment and business opportunities during manufacturing, construction and operational phases of the Proposed Development;
- impacts on land values, local tourism and recreational amenity;
- indirect and direct economic benefits and dis-benefits from the Proposed Development, including the economic impacts of the Proposed Development being owned by OIC and therefore providing direct economic and community benefits to the population of the Orkney Islands; and
- wider economic benefits to Orkney from the delivery of a new subsea cable to the Scottish mainland, the needs case for which could be supported by the Proposed Development.

13.5.2 The importance of archaeology and cultural heritage to Orkney's tourism industry is recognised and the assessment of effects will reflect this association.

13.5.3 The assessment will also consider the impacts of the Proposed Development to the renewables industry in Orkney, and Scotland, through the promotion of the renewables industry, skills and experience within the Orkney Islands – particularly given the private wire element which would be unique within Orkney to date.

13.6 Cumulative Impacts

13.6.1 Cumulative impacts upon tourism, employment opportunities, or local amenity will be considered.

13.7 Mitigation

13.7.1 Thorough communication will take place throughout the development process and every effort will be made to fully engage the community (principally Eday and Westray). Meetings with community councils, ward members and local politicians will be initiated at the very early stages of planning the Proposed Development and will continue throughout the design and planning process. The site itself falls within the Eday Community Council area but it will be important to also engage with Westray Community Council, and Rousay, Egilsay, Wyre and Garisay Community Council. Input from local stakeholders will be sought to establish appropriate mitigation and potential community benefits arising from the Proposed Development.

13.7.2 The potential for both adverse and beneficial local effects will be evaluated in the environmental assessment process. This will involve identification of the existing socio-economic baseline conditions

in the surrounding area, and consideration of potential direct or indirect effects on employment, recreation and tourism and the local population in terms of community benefit.

14 Shadow Flicker

14.1 Introduction

14.1.1 This section considers shadow flicker, an effect caused by the rotation of the turbine blades when the sun is shining, which can create a flickering or strobe like effect.

14.2 Guidance

14.2.1 There are at present no formal guidelines available on what exposure would be acceptable in relation to shadow flicker. There is no standard for the assessment of shadow flicker. The specific advice sheet from Scottish Government, Onshore Wind Turbines, a web-based guide (Scottish Government, 2013) sets out the potential geographic area which may fall under assessment: "*Where this (shadow flicker) could be a problem, developers should provide calculations to quantify effect. In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule ten rotor diameters), 'shadow flicker' should not be a problem.*" In addition, the distance between the turbine and a window has an impact on the intensity of any shadow flicker that is experienced. The study area has been set at 10 rotor diameters as the effects of shadow flicker are shown to be greatly reduced outside this distance.

14.2.2 Published research by the Department of Energy and Climate Change (DECC), Update of UK Shadow Flicker Evidence Base (DECC, un-dated), evaluates the current international understanding of shadow flicker and confirms an acceptable study area for assessment is ten rotor diameters from each turbine and within 130 degrees either side of north.

14.3 Baseline

14.3.1 Based on an indicative candidate turbine model at the larger scale being considered, the rotor diameter could indicatively be 120 m. Therefore, the minimum distance from the turbine at which residential property must lie in order to be outwith consideration for shadow flicker effects, is 1.2 km (ten times the rotor diameter). There are no residential properties within 10 rotor diameters of the site boundary. The nearest residential property is on Eday, at Greenan Nev, located approximately 1.4 km to the east of the site.

14.3.2 It is therefore proposed that Shadow Flicker be scoped out from further assessment.

15 Miscellaneous

15.1 Carbon Displacement

15.1.1 A wind farm has the potential to displace electricity generated from fossil fuels during its operational lifespan and consequently prevent carbon dioxide (CO_2) from being released. The EIA will provide an estimate of the potential amount of CO_2 savings that can be made, based on assessing the electricity generation mix that the Proposed Development is displacing at any given time.

15.1.2 A wind farm constructed on peatland habitat also has the potential to generate CO_2 emissions as a result of the degradation of peat. The current best practice guidance available on the Scottish Government website provides a method to calculate carbon emission savings associated with wind farm developments on Scottish peatlands using a full life cycle analysis approach. The tool was

originally published in 2008 and the latest version published in December 2018 (Scottish Government, 2018). The tool compares the carbon costs of wind farm developments with the carbon emissions savings attributable to the Proposed Development. The calculation is summarised as the length of the time (in years) it will take the carbon savings to amount to the carbon costs also referred as the "payback period".

15.1.3 No peat has been identified at the Proposed Development site. Therefore, it is proposed to undertake a simplified analysis of the development's carbon balance based on estimated carbon used to develop the site (manufacture and transport of components, construction etc.) and the estimated carbon savings through renewable energy generation.

15.2 Health and Safety

15.2.1 The indicative turbine locations are located outwith the topple height distance from any dwelling. Modern turbines are also fitted with sensors that can shut the turbine down in icing conditions to prevent ice throw from the turbine blades.

15.2.2 Health and safety considerations during construction of the Proposed Development would be subject to relevant legislation and best practice, for example, appropriate risk assessments and method statements to be in place for various aspects of the construction and de-commissioning works. The Proposed Development would operate in line with best practice guidelines from Renewable UK 'Onshore Wind Health and Safety Guidelines' published in 2015.

15.2.3 The EIA will take into account health and safety considerations relevant to the construction, operation and de-commissioning of the Proposed Development including safety of structures in extreme weather conditions and health and safety procedures during construction. There is no further requirement for an additional assessment of the operational health and safety impacts, so health and safety is scoped out from the EIA.

15.3 Air Quality

15.3.1 The main source of impact on air quality would be construction traffic flows on on-site roads and tracks during construction and emissions from construction activities including exhaust fumes and dust. It is not considered that the effects of these activities would be significant, particularly given the absence of any local residents on the island, provided mitigation measures including adopting recognised best management practices on site were implemented.

15.3.2 There would be no routine emissions to air during operation with the only source being occasional vehicles accessing the site for maintenance purposes. Operation of the Proposed Development would displace alternative sources of power generation, mainly fossil fuels, and therefore would result in reduced emissions of carbon dioxide and other pollutant gases (NO_x and PM_{10} etc.)

15.3.3 Air Quality is therefore scoped out from further assessment.

16 Consultation

16.1 Public Consultation

16.1.1 The Applicant is fully committed to engaging with local communities and ensuring that they are informed throughout the EIA process. The Applicant proposes to undertake consultation using various methods, such as meetings with key stakeholders and near site neighbours, leaflets/newsletters and public exhibitions.

16.1.2 A project website will also be set up on which information including site location, preliminary layout photomontages, dates of upcoming public exhibitions and scoping reports will be publicised. In addition a direct email address to the Applicant will be provided to allow members of the public to make enquiries.

16.1.3 The Applicant will undertake public exhibitions as part of the community engagement process, at which it intends to gather feedback in order to assess public opinion. The consultation exercise provides an opportunity for organisations and any interested parties to raise concerns or issues with regard to the Proposed Development that they would like to see addressed as part of the EIA. The feedback on concerns will ultimately be fed into the iterative design process and recorded in appropriate sections of the EIA Report.

16.2 Statutory and Non-statutory Consultees

16.2.1 As a part of this Scoping exercise, the Applicant is inviting inputs from both statutory and non-statutory consultees to inform the Proposed Development. Consultees are invited to comment on the content of the EIA Scoping Report and should answer whether the report has missed any potential effects associated with the Proposed Development.

16.2.2 A list of consultees who are recommended to be contacted as a part of the Scoping exercise is included in Appendix A.

17 References

British Standards Institute (2009). *BS 5228 (2009) Part 1: Noise + A1 (2014) Code of practice for noise and vibration control on construction and open sites*.

Brown and Shepherd (1993). *A method for censusing upland breeding waders.*

Chanin, P.R.F. (2003). *Ecology of the European Otter Lutra lutra*. Conserving Natura 2000 Rivers Ecology Series No.10. English Nature, Peterborough.

Chartered Institute for Archaeologists (2014). *Code of Conduct*. Available at: http://www.archaeologists.net/sites/default/files/CodesofConduct.pdf

Chartered Institute for Archaeologists (2014). *Standard and Guidance for Historic Environment Desk-Based Assessment*. Available at: http://www.archaeologists.net/sites/default/files/CIfAS&GDBA_2.pdf

Chartered Institute of Ecology and Environmental Management (2018*). Guidelines for Ecological Impact Assessment in the UK and Ireland*. Available at: https://www.cieem.net/data/files/ECIA%20Guidelines.pdf

Coles *et al.* (1998). *The Scottish Palaeoecological Database*.

Department for Energy and Climate Change (2012). *Aviation Safeguarding Maps*. Available at: https://restats.decc.gov.uk/cms/aviation-safeguarding-maps/

Department of Energy and Climate Change (undated). *Update of UK Shadow Flicker Evidence Base*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48052/1416-update-uk-shadow-flicker-evidence-base.pdf

Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. (2009). *Birds of Conservation Concern 3: the Population Status of Birds in the United Kingdom, Channel Islands and the Isle of Man*. British Birds 102, 296-341.

Gilbert, G., Gibbons, D.W. & Evans J. (1998). *Bird Monitoring Methods: A Manual of Techniques for Key UK Species*. RSPB, Sandy, Bedfordshire UK.

Hardey, J. Crick, H, Wernham, C, Riley, H, Etheridge, B & Thomspon, D. (2013) Raptors A field guide for surveys and monitoring 3rd ed. TSO Edinburgh.

Historic Scotland (2010). *Managing Change in the Historic Environment: Setting*. Available at: http://www.historic-scotland.gov.uk/setting-2.pdf

Historic Environment Scotland (2016). *Historic Environment Scotland Policy*. Available at: https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/historic-environment-scotland-policy-statement/

Historic Environment Scotland (2019). PastMap. Available at: https://pastmap.org.uk/

Horner + MacLennan and Envision (2006). *Visual Representation of Wind farms - Good Practice Guidance*. Available at: http://www.snh.gov.uk/docs/A305436.pdf

Institute of Acoustics (2009). *Bulletin Article Volume 34 No. 2*, March / April 2009.

Institute of Acoustics (2013). *A good practice guide to the application of ETSU-R-97 for wind turbine noise assessment (IoA Good Practice Guide) and associated Supplementary Guidance Notes (SGS).* Available at: http://www.ioa.org.uk/sites/default/files/IOA%20Good%20Practice%20Guide%20on%20Wind%20Turbine%20Noise%20-%20May%202013.pdf

Institute of Environmental Management and Assessment (1995). *Guidelines for Baseline Ecological Assessment.* Institute of Environmental Management and Assessment.

Ironside Farrar for Orkney Islands Council and Scottish Natural Heritage (2015). *Landscape Capacity Assessment for Wind Energy in Orkney.*

Joint Nature Conservancy Council (2007). *Handbook for Phase 1 Habitat Survey - a technique for environmental audit*. JNCC, Peterborough, UK.

Land Use Consultants for Scottish Natural Heritage (1998). *Orkney Landscape Character Assessment*. Available at: http://www.snh.org.uk/publications/on-line/LCA/orkney.asp#

The Landscape Institute (2011). *Landscape Institute Advice Note 01/11, Photography and photomontage in landscape and visual impact assessment*. Available at: http://www.landscapeinstitute.org/PDF/Contribute/LIPhotographyAdviceNote01-11.pdf

The Landscape Institute and the Institute of Environmental Assessment (2013*). Guidelines for Landscape and Visual Impact Assessment, Third Edition*.

Natural England (2014). *An Approach to Landscape Character Assessment*. Available at: https://www.gov.uk/government/publications/landscape-character-assessments-identify-and-describe-landscape-types

Orkney Local Biodiversity Action Plan Steering Group (2018). Orkney Local Biodiversity Action Plan 2018 to 2022. Available at: http://www.orkney.gov.uk/Service-Directory/L/Local-Biodiversity-Plan.htm

Orkney Islands Council (2010). *Heart of Neolithic Orkney World Heritage Site Supplementary Planning Guidance.* Available at: http://www.orkney.gov.uk/Files/Planning/Development-and-Marine-Planning/The_Heart_of_Neolithic_Orkney_World_Heritage_Site_SG.pdf

Orkney Islands Council (2017a). *Orkney Local Development Plan*. Available at: http://www.orkney.gov.uk/Files/Planning/Development-and-Marine-Planning/Local-Plan/OLDP_2017/Orkney_Local_Development_Plan_2017_2022.pdf

Orkney Islands Council (2017b). *Energy Supplementary Guidance*. Available at: http://www.orkney.gov.uk/Files/Planning/Development-and-Marine-Planning/Adopted_PPA_and_SG/Energy_SG/Energy_SG.pdf

Orkney.com (2017). *Hoy and Graemsay*. Available at: http://www.orkney.com/about/explore-orkney/hoy-graemsay

Renewable UK (2015). *Onshore Wind Health and Safety Guidelines.*

Rodwell JS (2006). National Vegetation Classification: Users' Handbook. JNCC, Peterborough.

Rodwell JS (ed) (1991 *et seq*.). British Plant Communities Volumes 1 – 5. Cambridge University Press.

Scottish Government (2013). Scottish Biodiversity List, version 1.5. April 2013.

Scott, K.E. *et al* for Scottish Natural Heritage (2005). *An Assessment of the Sensitivity and Capacity of the Scottish Seascape in Relation to Offshore Windfarms*. Available at: http://www.snh.org.uk/pdfs/publications/commissioned_reports/F03AA06.pdf

Scottish Environment Protection Agency (2006). *Guidelines for Water Pollution Prevention from Civil Engineering Contracts and Special Requirements.*

Scottish Environment Protection Agency (2015). *Water Classification Hub*: Available at: https://www.sepa.org.uk/data-visualisation/water-classification-hub/

Scottish Environment Protection Agency (2015). *Flood Risk Management Maps*. Available at: http://map.sepa.org.uk/floodmap/map.htm

Scottish Environment Protection Agency (2012). *SEPA Guidance Note 4 'Planning guidance on wind farm developments'*

Scottish Government (2008). *The economic impacts of wind farms on Scottish tourism:* Available at: http://www.scotland.gov.uk/Publications/2008/03/07113554/0

Scottish Government (2017). *The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended).* Available at: http://www.legislation.gov.uk/ssi/2017/102/contents/made

Scottish Government (2011). *Planning Advice Note 1/2011 Planning and Noise*. Available at: http://www.gov.scot/Publications/2011/02/28153945/0

Scottish Government (2011). *Planning Advice Note 2/2011 Planning and Archaeology*. Available at: http://www.gov.scot/Publications/2011/08/04132003/0

Scottish Government (2013). *Onshore Wind Turbines, a web-based guide*. Available at: http://www.gov.scot/Resource/0044/00440315.pdf

Scottish Government. (2014a). *Scottish Planning Policy*. Available at: http://www.scotland.gov.uk/Topics/Built-Environment/planning/Policy

Scottish Government (2014b). *National Planning Framework 3.* Available at: http://www.gov.scot/Topics/Built-Environment/planning/NPF3-SPP-Review/NPF3

Scottish Government (2014). *Our Place in Time. The Historic Environment Strategy for Scotland*. Available at: http://www.gov.scot/Resource/0044/00445046.pdf

Scottish Natural Heritage (2000). *Windfarms and Birds: Calculating a Theoretical Collision Risk Assuming No Avoiding Action*. SNH Guidance Note Series.

Scottish Natural Heritage (2002). *Guidelines on the Environmental Effects of Wind Farms and Small Hydroelectric Schemes*. Available at: http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=108

Scottish Natural Heritage (2005; revised 2013). *Survey Methods for Use in Assessing the Impacts of Onshore Windfarms on Bird Communities.* SNH Guidance Note Series.

Scottish Natural Heritage (2007). *Assessing the Impacts on Wild Land Interim Guidance Note*. Available at: http://www.snh.org.uk/pdfs/strategy/landscapes/assessingimpactsonwildland.pdf

Scottish Natural Heritage (2017). *Assessing Impacts on Wild Land Areas – Technical Guidance (Draft for Consultation).* Available at: http://www.snh.gov.uk/docs/A2179580.pdf

Scottish Natural Heritage (2002, revised 2009). *Strategic Locational Guidance for Onshore Wind Farms*. Available at: http://www.snh.gov.uk/policy-and-guidance/policy-documents/document/?category_code=Policy&topic_id=1122

Scottish Natural Heritage (2010). *The special qualities of the National Scenic Areas. Scottish Natural Heritage Commissioned Report No.374 (iBids and Project no 648)*. Available at: http://www.snh.gov.uk/docs/B695223.pdf

Scottish Natural Heritage (2012). *Guidance: Assessing the Cumulative Impact of Onshore Wind Energy Developments*. Available at: http://www.snh.gov.uk/docs/A675503.pdf

Scottish Natural Heritage (2012). *Offshore Renewables – Guidance on Assessing the Impact on Coastal Landscape and Seascape.* Available at: http://www.snh.gov.uk/docs/A702206.pdf

Scottish Natural Heritage (2013). *Information Database*. Available at: http://www.snh.gov.uk/publications-data-and-research/snhi-information-service.

SNH (2014a). Recommended bird survey methods to inform impact assessment of onshore wind farms. Scottish Natural Heritage

Scottish Natural Heritage (2014b). *SNH Policy Statement No 02/03 'Wildness in Scotland's Countryside'*. Available at: http://www.snh.gov.uk/docs/A150654.pdf

Scottish Natural Heritage (2017a). *Siting and Designing Wind Farms in the Landscape Version 2*. Available at: http://www.snh.gov.uk/docs/A2213231.pdf

Scottish Natural Heritage (2017b). *Visual Representation of Wind Farms, Version 2.2.* Available at: https://www.nature.scot/sites/default/files/2017-07/A2203860%20-%20Visual%20representation%20of%20wind%20farms%20-%20Guidance%20-%20Feb%202017.pdf

SEPA (2017). Planning guidance on on-shore windfarm developments. Land Use Planning System SEPA Guidance Note 4. Version 9, September 2017. Scottish Environment Protection Agency.

UK Government (1974). *Control of Pollution Act 1974*. Available at: http://www.legislation.gov.uk/ukpga/1974/40/contents

UK Government (1979). *Ancient Monuments and Archaeological Areas Act 1979*. Available at: http://www.legislation.gov.uk/ukpga/1979/46

UK Government (1981). *The Wildlife and Countryside Act 1981.* Available at: http://www.legislation.gov.uk/ukpga/1981/69

UK Government. (1992). *The UK Biodiversity Action Plan.* Available at: http://jncc.defra.gov.uk

UK Government (1992). *Town and Country Planning (General Development Procedure) (Scotland) Order 1992.* Available at: http://www.legislation.gov.uk/uksi/1992/224/contents/made

UK Government (1997). *Town and Country Planning Act 1997 (as amended).* Available at: http://www.legislation.gov.uk/ukpga/1997/8/section/25

UK Government (1997). *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997*. Available at: http://www.legislation.gov.uk/ukpga/1997/9/part/I/chapter/II/crossheading/applications-for-listed-building-consent

Walsh, P.M., Halley, D.J., Harris, M.P., del Nevo, A., Sim, I.M.W., & Tasker, M.L. (1995). Seabird monitoring handbook for Britain and Ireland. Published by JNCC / RSPB / ITE / Seabird Group, Peterborough.

Working Group on Noise from Wind Turbines (1996). *Assessment and Rating of Noise from Wind Farms (ETSU-R-97).* Available at: http://www.dumgal.gov.uk/CHttpHandler.ashx?id=9117

Appendix A – Proposed Consultee List

Atkins	Orkney Islands Council – relevant departments
British Telecom	Orkney Raptor Study Group
Civil Aviation Authority	Rousay, Egilsay, Wyre and Garisay Community Council
Eday Community Council	Royal Society for the Protection of Birds
Highland and Islands Airports Limited	Scottish Environment Protection Agency
Historic Environment Scotland	Scottish Natural Heritage
Ministry of Defence	Spectrum Licensing (Ofcom)
Orkney Ferries	Visit Scotland
Orkney Harbour Authority	Visit Orkney
Orkney Heritage Society	Westray Community Council

Appendix B – Planning Policy Context

Part 1 – National Planning Policy

National Planning Framework 3 (2014)

Scotland's third National Planning Framework (NPF3) was published by the Scottish Government on 23 June 2014. NPF3 is a long-term strategy for Scotland and is the spatial expression of the Government's Economic Strategy and plans for development and investment in infrastructure. Together, NPF3 and Scottish Planning Policy 2014 (referred to below) applied at the strategic and local levels, are intended to help the planning system deliver the Government's vision and outcomes for Scotland and to contribute to the Government's central objective: sustainable development.

NPF3 sets out the Government's "vision" for Scotland which is referred to as inter alia:-

A successful, sustainable place – "*we have a growing low carbon economy which provides opportunities*…"

A low carbon place - "*we have seized the opportunities arising from our ambition to be a world leader in low carbon generation, both onshore and offshore*…"

A natural resilient place - "*natural and cultural assets are respected; they are improving in condition and represent a sustainable economic, environmental and social resource for the nation*…"

A Low Carbon Place

Chapter 3 of NPF3 address 'A Low Carbon Place'. As noted below, this is also a 'subject policy' in Scottish Planning Policy. Paragraph 3.1 explains that planning will play key role in delivering on the commitments set out in 'Low Carbon Scotland': The Scottish Government's Proposals and Policies'. It adds:

"the priorities identified in this spatial strategy set a clear direction of travel which is consistent with our world leading climate legalisation".

The introduction to Chapter 3 states that the Government's ambition "*is to achieve at least an 80% reduction of greenhouse gas emissions by 2050*".

The introductory section acknowledges that at present, the energy sector accounts for a significant share of the country's greenhouse gas emissions and that a planned approach to development has ensured that onshore wind development has widely avoided internationally and nationally protected areas.

Paragraph 3.7 states that whilst there is strong public support for wind energy as part of the renewable energy mix, opinions about onshore wind in particular locations can vary. It adds that the technology is also "…*recognised as an opportunity to improve the long-term resilience of rural communities*".

Paragraph 3.8 makes reference to targets and states that by 2020, the aim is reduce total energy demand by 12 %. In order to achieve this, and to maintain energy supplies, further diversification of supplies will be required.

Scottish Planning Policy (2014)

A new Scottish Planning Policy (SPP) was published on 23rd June 2014. The purpose of the SPP is to set out national planning policies which reflect Scottish Government Ministers' priorities for the operation of the planning system and for the development and use of land. The SPP is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed.

Paragraph (iii) states that as a statement of Ministers' priorities, the content of the SPP is a material consideration that carries significant weight, although it is for the decision maker to determine the appropriate weight to be afforded to it in each case.

Relationship of SPP to National Outcomes

SPP contains two Principal Policies: 'sustainability' and 'place making'. Sustainability is addressed at Page 9. The SPP states:

"*the Scottish Government's central purpose is to focus Government and public services on creating a more successful country with opportunities for all of Scotland to flourish through increasing sustainable economic growth*".

Paragraph 25 adds that the Scottish Government's commitment to the concept of sustainable development is reflected in its Purpose.

Paragraph 27 cross refers to the Government's Economic Strategy which it states, "*indicates that sustainable economic growth is the key to unlocking Scotland's potential…. and to achieving a low carbon economy*…" It also makes reference to the need to maintain a high quality environment and to pass on "*a sustainable legacy for future generations*".

SPP Subject Policies – A Low Carbon Place

SPP addresses 'A Low Carbon Place' as a 'subject policy' on page 36 and refers to 'delivering electricity'. Paragraph 152 refers to the NPF3 context and states that NPF3 is clear that planning must facilitate the transition to a low carbon economy and help to deliver the aims of the Scottish Government. It is stated that Scotland has significant renewable energy resources, both onshore and offshore.

Paragraph 153 states that terrestrial planning 'facilitates' development of renewable energy technologies, and guides new infrastructure to appropriate locations. It adds that "*sufficient supply of low carbon and low cost generation of electricity from renewable energy sources are vital to reducing greenhouse gas emissions…*" It explains that renewable energy also presents a significant opportunity for associated development, investment and growth of the related supply chain.

In terms of 'Policy Principles', Paragraph 154 states that the planning system should:

- Support the transformational change to a low carbon economy, consistent with national objectives and targets, including deriving:
  - 30 % of overall energy demand from renewable sources by 2020; and
  - the equivalent of 100 % of electricity demand from renewable sources by 2020.
- Support the development of a diverse range of electricity generation from renewable technologies – including the expansion of renewable energy generation capacity.
- Guide development to appropriate locations and advise on the issues that will be taken into account when specific proposals are being assessed.
- SPP also cross refers to 'key documents'. Those of relevance include:
  - The Electricity Generation Policy Statement;
  - The 2020 Routemap for Renewable Energy in Scotland; and
  - Low Carbon Scotland: Meeting Our Emissions Reductions Targets 2013 – 2027.

Onshore Wind

Onshore wind is specifically addressed at Paragraphs 161 et seq. of SPP. Detailed guidance is provided for Planning Authorities with regard to the preparation of spatial frameworks for onshore wind development, and it makes it clear that proposals for onshore wind turbine development should continue to be determined whilst

spatial frameworks and local policies are being prepared and updated. It makes it clear at Paragraph 166 that moratoria on onshore wind development are not appropriate.

In terms of spatial framework guidance, a "community separation for consideration of visual impact" is set out as an area not exceeding 2 km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge.

As with the previous SPP, this separation distance seeks to guide the preparation of spatial frameworks and is not a requirement for a 'set back' to settlements for wind farms in terms of development management.

Based on the criteria set out in SPP Table 1: Spatial Frameworks, the Costa Head site falls within Group 3: Areas with potential for wind farm development.

Development Management for Energy Infrastructure Developments

In terms of development management, Paragraph 169 of SPP set out that "*proposals for energy infrastructure should always take account of spatial frameworks for wind farms and that considerations will vary relative to the scale of proposals and area characteristics but are likely to include a number of matters*". These are set out as follows:-

- net economic impacts, including local and community socio economic benefits such as employment, associated business and supply chain opportunities;
- the scale of contribution to renewable energy generation targets;
- effects on greenhouse gas emissions;
- cumulative impacts – planning authorities should be clear about the likely cumulative impacts arising from all of the considerations below;
- impacts on communities and individual dwellings, including visual impact, residential amenity and noise and shadow flicker;
- landscape and visual impacts including effects on wild land;
- effects on the natural heritage, including birds;
- impacts on carbon rich soils using the carbon calculator;
- public access, including impact on long distance cycling and walking routes and scenic routes identified in the NPF;
- impacts on the historic environments, including scheduled monuments, listed buildings and their settings;
- impacts on tourism and recreation;
- impacts on aviation and defence interests and seismological recording;
- impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;
- impacts on road traffic;
- impacts on adjacent trunk roads;
- effects on hydrology, the water environment and flood risk;
- the need for conditions relating to the decommissioning of developments, including ancillary infrastructure and site restoration; and

- the need for a robust planning obligation to ensure that operators achieve site restoration.

Paragraph 170 states that areas identified for wind farms should be suitable for use in perpetuity. It further adds that consents maybe time limited, but nevertheless "*wind farms should be sited and designed to ensure impacts are minimised and to protect an acceptable level of amenity for adjacent communities*".

In terms of the various considerations set out above, SPP also contains detailed policies on a number of the topics referred to: for example cultural heritage and the historic environment, natural heritage and landscape designations.

National Policy Conclusions

Support for renewable energy development at an appropriate scale and location remains within NPF 3 and SPP, with the 2020 targets being reiterated and the continued support for onshore wind being firmly re-stated. The Proposed Development is entirely consistent with both NPF 3 and SPP and would further the sustainable development and low carbon objectives set out. The site is in a location defined as Group 3: Areas with potential for wind farm development, according to the criteria set out by SPP.

Part 2 – Local Planning Policy and Guidance

Orkney Local Development Plan (LDP)

The Orkney LDP was formally adopted in April 2017. Relevant elements of the LDP are summarised in Table B1 below:

Table B1 - Local Development Plan – Summary of Relevant Policies

Policy	Name	Summary
20-Year Vision for Orkney		The introductory "vision" statement states that Orkney is, "*Policy support has been establisshed to ensure that all appropriate energy generation schemes will be supported in the county*".
1	Criteria for All Development	Refers to supporting development which takes into consideration the location and wider landscape, which is appropriate to its location, which does not prejudicial development or use of the wider area, which preserves the amenity of the surrounding area, which does not create an unacceptable burden on infrastructure or risk to public health and saftey, which is resource efficient, which promotes and enhances access to natural heritage and protects and enhances Orkney's cultural heritage resources.
7C	Energy	Relates to renewable energy developments stating "*the development of renewable and low carbon energy schems, icluding the onshore infrastructure and/or buildings required for offshore marine renwable energy developments, and related transmission infrastrucutre, will be supported where it has been demonstrated that the proposal will not result in significant adverse effects on known constraints , either individualy or cumulatively".*
7C	Energy	Relates to renewable energy development. "*proposals for wind energy developments of all scales, including extensions to exisiting developments and repowering, will be assessed against the following factors to ensure that there will be no significant adverse individual or cumulative impacts: communities and amenity; landscape and visual impact; natural heritage; historic environment; tourism and recreation; peat and carbon rich soils; water environment; aviation, defence and communications; and construction and decommissioning."* "*Applications for any wind farms should take account of the Spatial Strategy Framework for wind famr development".*
8	Historic Environment & Cultural Heritage	Development which will have an adverse impact on cultural heritage assests will only be permitted where it can be demonstrated that "*measures will be taken to mitigate any loss of this signficance and any lost significance which cannot be*

Policy	Name	Summary
		mitigated is outweighed by the socia, economic, environmental or saftey benefits of the development". It goes on to state that where a proposed development will have an adverse effect on the integrity of the setting of a scheduled monument, "*planning permission will only be granted where: there are exceptional circumstances; there is no practical alternative site; and there are imperative reasons of over-riding public need*".
9	Natural Hertiage and Landscape	Refers to consideration of internationally, nationally and locally designated natural heritage sites, protected species, geodiversity and wider biodivesity and associated restrictions on development in such sites, or which would significantly affect such sites. It also includes restrictions on development which will impact on peat and soils, water environments (both coastal and inland) and wetlands. It goes on to sate that all developments should be designed to minimise adverse impacts on landscapes, townscapes and seascapes.
13	Flood Risk, SuDS & Waste Water Drainage	Refes to the requirement for a flood risk assessment to be undertaken for developments in areas identified as medium to high risk of flooding. It also contains the requirement that development proposals must incorporate SuDS which demonstrates compliance with best practice.

Supplementary Guidance

Energy Supplementary Guidance

In March 2017, OIC published their Energy Supplementary Guidance document, which currently forms part of the development plan. This guidance "*seeks to ensure that appropriate development can take place, whilst at the same time seeking to ensure the character and special qualities of Orkney is not adversely affected*".

The Guidance identifies Areas with Potential for Wind Farms where a wind farm is a development with turbines over 50 m. These places represent the areas with the least constraints and within which the Proposed Development site falls.

The Guidance goes on to outline the development criteria for wind energy developments which covers the following:

- communities and amenity (including noise, shadow flicker, electromagnetic interference, construction phase and traffic);
- landscape and visual impact;
- natural heritage;
- historic environment;
- tourism and recreation;
- peat and carbon soils;
- water environment;
- aviation, defence and communications; and
- construction and decommissioning.

Appendix C – Figures

N

Point of Peterkirk
Rusland
West Sous
El Sub Sta
Point of Geldibist
Neven
Benziecott
Ness
Pier
Scarra Taing
Lincro
Point of Huro
Steeths
Weatherness Sound
West Bight
East Bight
The Kiln
Sibbies Geo
Inniens Bay
Holm of Faray
Whelky Geo
Lavey Sound
Chambered Cairn
Point of Tobar
Cott
Surrie Geo
Starry Geo
Doggerboat
Hamar
Ringie Geo
The Nev
FARAY
32
Windywall
Langie Geos
Holland
Bight of Sandbister
Ness
Jetty
Point of Scaraber
Cairn
Rusk Holm
Sheep Fort
Fers Ness
Axna Geo
Fersness
Rammy Geo
Diffin
Quarryhouse
26
Red Holm
Little Noup Head
Corbie Ness
Otters Pool
Noup Hill
Vertigo Well
Broad Ebb
Chambered Cairn (remains of)
Linkataing
North Ayre
Cusbay
Chambered Cairn
Carrick Ho
Carrick Fm
Bay of Carric
Blet
Chambered Cairns
Geo of Crowber
Crowber
Cusbay
Banks of Yarphey
Lesshamar
Stone of Setter
Hill of Calfsound
Resting Hill
Hide
Mill Loch
Greenan Nev
Guith
Benstonhall
Bay of Newark
Farahouse
Millbounds
Stennie Hill
Chamber Cairn
Bay of Doomy
Loch of London
Whitebeir
Doomy
Airfield
Sands of Doomy
Loch of Doomy
Cauldhame
Point Cauld
Bay o Iceva
Sands of Mussetter
Chambered
Fersness Bay
RAPNESS SOUND
Ferry V
SOUND OF FARAY

Key:

Site Boundary

0 0.25 0.5 1 1.5 km

Scale 1:25,000 @ A3

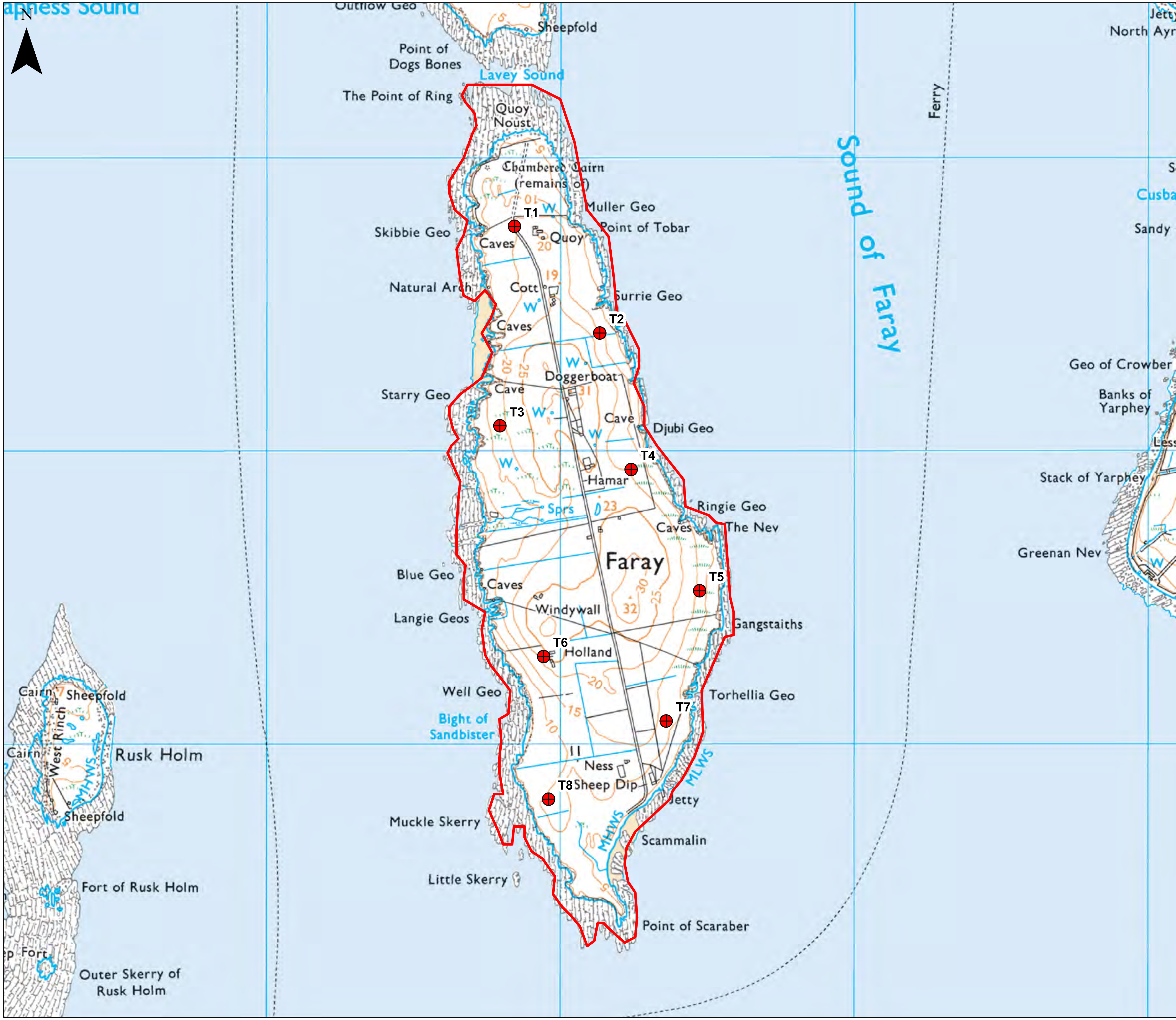
Faray Wind Farm
EIA Scoping Report

Figure 1.1

Site Location Plan

Date:	Drawn by:	Checked by:	Version:
15/01/2019	CP	JH	V1

Project Number: 10806



Key:

Site Boundary

Turbine Location

0 0.25 0.5 km

Scale 1:12,500 @ A3

ORKNEY ISLANDS COUNCIL

ITPENERGISED

Faray Wind Farm
EIA Scoping Report

Figure 1.2

Indicative Site Layout Plan

Date:	Drawn by:	Checked by:	Version:
15/01/2019	CP	JH	V1

Project Number: 10806

N

Mull Head
Papa Westray
North Ronaldsay
North Ronaldsay Firth
Westray
Gallowhill
Gallowhill
The North Sound
2h
Start Point
Sanday
Westray Firth
Sanday Sound
Rousay
Spurness
Sandy Banks
Egilsay
Brough Head
Costa Head
Ludenhill
Kingarly
Evie Hill
Burgar Hill
Stronsay
2½h
Stronsay Firth
Twatt
Hammars Hill
Holodyke
Rothiesholm
A967
A966
A965
Shapinsay
ORKNEY ISLANDS
Howe Community Turbine
Work Farm
Stromness
Rennibister
Crowness Business Park
Kirkwall
A964
Akla
Upper Stove
Deerness
Barns of Ayre
New Holland
Hoy
Scapa Flow
Rora Head
Flotta
Burray
HOY
Northfield

Key:

- Site Boundary
- 35km Study Area

Cumulative Sites

Status

- Application
- Approved
- Operational

0 1.5 3 6 9 12 15 km

Scale 1:300,000 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 1.3

Cumulative Wind Farms (within 40km)

Date:	Drawn by:	Checked by:	Version:
06/02/2019	CP	JH	V1

Project Number: 10806

N

ORKNEY ISLANDS

Key:

- Site Boundary
- LVIA Study Area (40km)
- National Scenic Area
- Garden and Designed Landscape
- Wild Land

0 1.5 3 6 9 12 15 18 km

Scale 1:300,000 @ A3

ORKNEY ISLANDS COUNCIL

ITPENERGISED

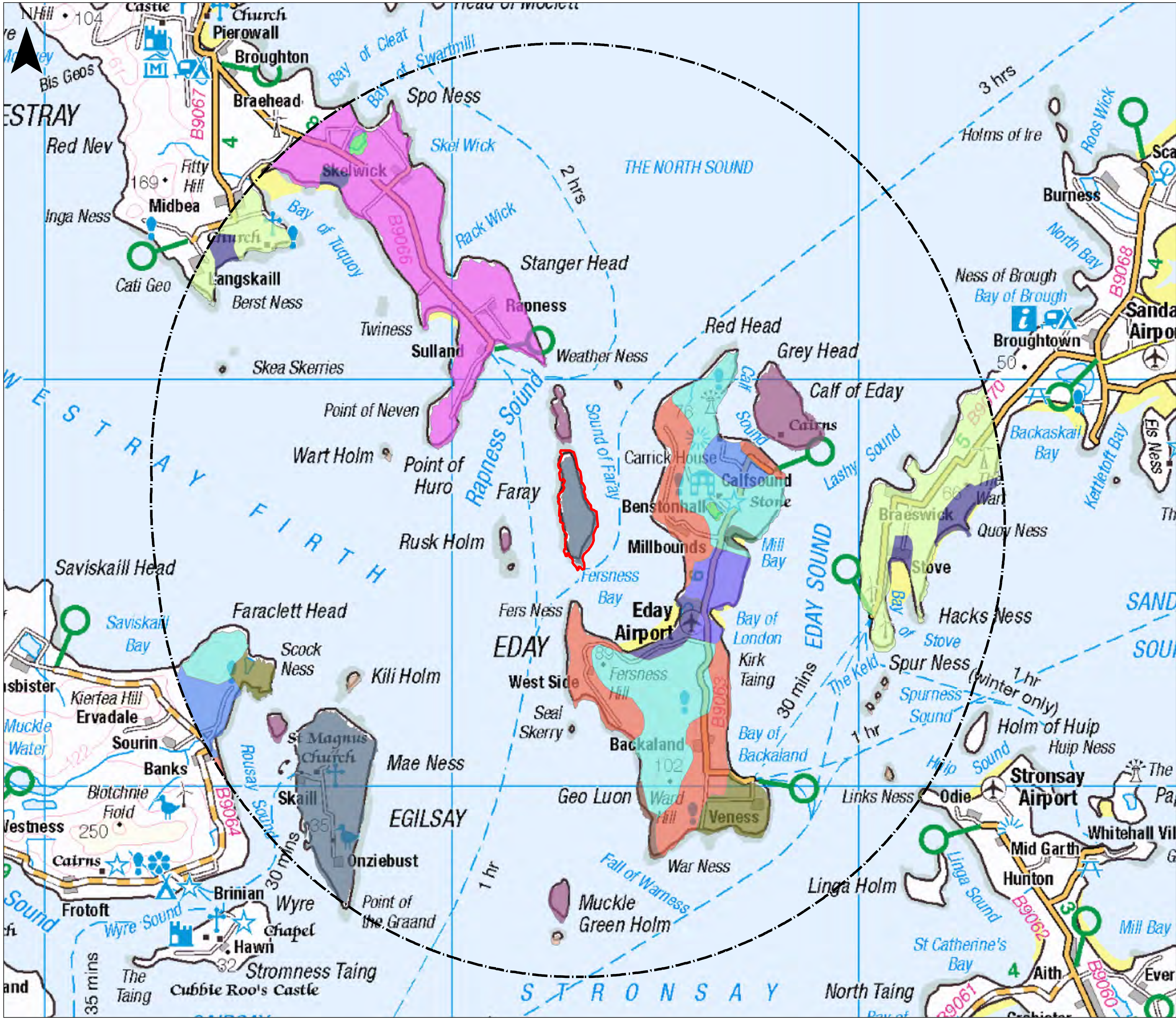
Faray Wind Farm
EIA Scoping Report

Figure 5.1

LVIA Study Area and Designations

Date:	Drawn by:	Checked by:	Version:
06/02/2019	CP	JH	V1

Project Number: 10806



Church
Pierowall
Broughton
Braehead
Bay of Cleat
Bay of Swartmill
Spo Ness
Skel Wick
Bis Geos
Red Nev
Fitty Hill
Midbea
Inga Ness
Skelwick
Bay of Tuquoy
Rack Wick
2 hrs
THE NORTH SOUND
3 hrs
Holms of Ire
Roos Wick
Burness
North Bay
Cati Geo
Langskaill
Berst Ness
Stanger Head
Rapness
Twiness
Sulland
Weather Ness
Skea Skerries
Red Head
Grey Head
Ness of Brough
Bay of Brough
Broughtown
Sanday Airport
WESTRAY FIRTH
Point of Neven
Rapness Sound
Sound of Faray
Calf Sound
Calf of Eday
Cairns
Lashy Sound
Backaskail Bay
Kettletoft Bay
Els Ness
Wart Holm
Point of Huro
Faray
Carrick House
Calfsound
Stone
Benstonhall
Braeswick
Quoy Ness
Rusk Holm
Millbounds
Mill Bay
EDAY SOUND
Stove
Saviskaill Head
Fersness Bay
Fers Ness
Eday Airport
Bay of London
Bay of Stove
Hacks Ness
SANDAY SOUND
Faraclett Head
Saviskaill Bay
Scock Ness
Kili Holm
EDAY
West Side
Fersness Hill
Kirk Taing
The Keld
Spur Ness
Spurness Sound
1 hr (winter only)
Holm of Huip
Huip Ness
Kierfea Hill
Ervadale
Muckle Water
Sourin
Banks
Seal Skerry
Backaland
Bay of Backaland
30 mins
1 hr
Huip Sound
St Magnus Church
Mae Ness
Rousay Sound
Skaill
Geo Luon
Ward Hill
Veness
Links Ness
Odie
Stronsay Airport
Blotchnie Fiold
EGILSAY
Onziebust
War Ness
Whitehall Village
Mid Garth
Hunton
Cairns
Brinian
Wyre
Point of the Graand
Fall of Warness
Muckle Green Holm
Linga Holm
Linga Sound
Frotoft
Wyre Sound
Chapel
Hawn
Stromness Taing
St Catherine's Bay
Mill Bay
Aith
The Taing
Cubbie Roo's Castle
STRONSAY
North Taing

Key:

- Site Boundary
- 10km Boundary Buffer

Landscape Character Types

- Cliff Landscapes
- Coastal Basins
- Coastal Island
- Coastal Sand Landscapes
- Enclosed Bay Landscapes
- Holms
- Inclined Coastal Pastures
- Inland Loch
- Low Island Pastures
- Moorland Hills
- Peatland Basins
- Ridgeline Island Landscapes
- Undulating Island Pasture
- Whaleback Island Landscapes

0 0.5 1 2 3 4 5 km

Scale 1:90,000 @ A3

ORKNEY ISLANDS COUNCIL

ITPENERGISED

Faray Wind Farm
EIA Scoping Report

Figure 5.2

Landscape Character Types

Date: 06/02/2019	Drawn by: CP	Checked by: JH	Version: V1

Project Number: 10806

N

ORKNEY ISLANDS

Key:

- Site Boundary
- LVIA Study Area (40km)
- National Scenic Area
- Garden and Designed Landscape
- Wild Land
- One or more turbines theoretically visible
- Proposed Viewpoint

This ZTV represents theoretical bare ground visibility of the development, based on an indicative three-turbine layout with 150m tip height. The ZTV model is based on 50m DTM data.

The layout and tip height used to create this ZTV model are preliminary and indicative, and would be subject to further study and design iteration.

0 1.5 3 6 9 12 15 18 km

Scale 1:300,000 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 5.3
Preliminary ZTV (150m Tip Height) and Proposed Viewpoints

Date:	Drawn by:	Checked by:	Version:
19/03/2019	CP	JH	V1

Project Number: 10806

N

Faray and Holm of Faray SAC/SSSI

Rousay SSSI

Wyre and Rousay Sounds MPA

Muckle and Little Green Holm SSSI

Key:

- Site Boundary
- 10km Study Area
- 2km Study Area
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Marine Protected Area (MPA)
- Local Nature Conservation Sites (LNCS) 2km

0 0.25 0.5 1 1.5 2 2.5 km

Scale 1:85,000 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 6.1

Ecology Designations (within 10km)

Date:	Drawn by:	Checked by:	Version:
29/01/2019	AH	JH	V1

Project Number: 10806

N

North Hill SSSI/RSPB

Papa Westray (North Hill and Holm) SPA/SSSI

Noup Cliffs RSPB

West Westray SPA/SSSI

East Sanday Coast SPA/SSSI

Calf of Eday SPA/SSSI

Mill Loch SSSI

Doomy and Whitemaw Hill SSSI

Rousay SPA

Onziebust RSPB

Birsay Moors RSPB

North Orkney PSPA

Cottascarth and Rendall Moss RSPB

Mill Dam RSPB

Key:

- Site Boundary
- Buffer (20km)
- Special Protection Area (SPA)
- Proposed Special Protection Area (PSPA)
- Site of Special Scientific Interest (SSSI)
- RSPB reserve

0 0.751.5 3 4.5 6 7.5 km

Scale 1:160,000 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 7.1

Orthinology Designations (within 10km)

Date:	Drawn by:	Checked by:	Version:
29/01/2019	AH	JH	V1

Project Number: 10806

N

Key:

- Site Boundary
- 2km & 10km Study Area
- World Heritage Site Sensitive Area
- Scheduled Monument
- A Listed Building
- B Listed Building
- C Listed Building

0 2 4 km

Scale 1:85,000 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 8.1

Cultural Heritage Designations (within 10km)

Date:	Drawn by:	Checked by:	Version:
22/01/2019	AH	JH	V1

Project Number: 10806

N

Rapness Sound

Outflow Geo

Sheepfold

Point of Dogs Bones

The Point of Ring

Quoy Noust

Chambered Cairn (remains of)

Muller Geo

Point of Tobar

Skibbie Geo

Quoy

Caves

Natural Arch

Cott

Surrie Geo

Caves

Doggerboat

Starry Geo

Cave

Cave

Djubi Geo

Hamar

Ringie Geo

Caves

The Nev

Faray

Blue Geo

Windywall

Gangstaiths

Langie Geos

Holland

Well Geo

Torhellia Geo

Bight of Sandbister

Ness

Sheep Dip

Jetty

Muckle Skerry

Scammalin

Little Skerry

Point of Scaraber

Sound of Faray

Ferry

Nor

Geo of Cr

Banks

Yarph

Stack of Yarph

Greenan Nev

T1

T2

T3

T4

T5

T6

T7

T8

Cair

Sheep ld

West Rinch

Cair

Rusk Holm

MLWS

SMHWS

epfold

k Holm

Fort of Rusk Holm

Sheep Fort

Outer Skerry of Rusk Holm

Key:

- Site Boundary
- Turbine Location
- Blown Sand
- Marine Beach Deposits
- Till

0 0.25 0.5 km

Scale 1:12,500 @ A3

Faray Wind Farm
EIA Scoping Report

Figure 9.1

Superficial Geology

Date:	Drawn by:	Checked by:	Version:
29/03/2019	CP	JH	V1

Project Number: 10806

ITPENERGISED
Earth. Smart. Solutions

Registered Address:

7 Dundas Street

Edinburgh

EH3 6QG

+44 (0) 131 557 8325