



**B9075 Sandwater Road Realignment  
Draft Bird Protection Plan**

**March 2019**

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# Draft Bird Protection Plan

## Viking Energy Wind Farm LLP

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Job No.:	005.068

Version No.	Date	Comments	Commented by	Incorporated by
V1	8.3.19	First Draft (prior to consultation with SNH)	BM	AJM
V2	15.3.19	Draft (prior to consultation with SNH)		

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**FIGURE 8.1** Proposed Whimbrel Protection Zone (Figure 8.1 from the Withdrawn 2016 Application).

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## 1. FORWARD

- 1.1.1 This is a draft of the Bird Protection Plan to be implemented at the pre-construction and construction stages for the re-aligned B9075 Sandwater Road. This initial draft of the BPP has been provided at the planning stage to emphasise Viking Energy Wind Farm LLP's (VEWF) commitment to fully implement the mitigation measures put forward. There is also a separate Viking Wind Farm Bird Protection Plan (Appendix 2 of the Construction Environmental Management Plan). Discussion with Scottish Natural Heritage (SNH) will be undertaken in advance of any construction work commencing and a final construction version of this BPP will be produced post discussions.

## 2. EXECUTIVE SUMMARY

- 2.1.1 In 2019 a planning application will be submitted by VEWF for an upgrading and re-alignment of the B9075. Accompanying this will be an EIA Report which contains an updated chapter on birds and a summary of the 2018 breeding bird surveys. An important part of the required bird related mitigation for construction of this road, included in the 2019 application, is a commitment to provide and implement a Bird Protection Plan (BPP).
- 2.1.2 This BPP is necessary to assist with construction compliance in relation to the Wildlife and Countryside Act 1981, as amended. The key purpose of this BPP is to provide clear guidance on what is required to safeguard breeding birds. It provides a set of undertakings for the main contractor and the Ecological and Environmental Clerk of Works (ECoW) to follow. It also provides a clear commitment to the planning authority (Shetland Islands Council) and SNH that VEP will fully support the ECoW in the site implementation of the BPP and help to ensure that the contractor(s) fully comply with it.
- 2.1.3 The most important species are those of moderate and high nature conservation value. It is expected to be spring through to late summer for breeding birds that is of most relevance/importance in relation to the construction of the road. It is expected that the Schedule 1 species whimbrel will be present and breeding within and surrounding the B9075 road construction area. There are a range of other breeding bird species in the area, all of which are protected while nesting.
- 2.1.4 The most sensitive location, in relation to the road construction, is likely to be the Petta Dale valley area. However, previous experience indicates that breeding birds can turn up anywhere on a construction site and in the immediate surroundings.
- 2.1.5 There are a wide variety of construction activities that can cause disturbance to breeding birds and the most likely are detailed in this BPP. The two construction phases of this Proposed Development are important and need to be accounted for under this BPP. An important consideration in relation to the Petta Dale valley area, will be when construction commences and this is discussed; either after the bird breeding season (preferred) or prior to it, and both are possible.
- 2.1.6 Mitigation procedures are detailed for the whole site prior to and during construction work within the breeding season. The setting up and monitoring of a breeding whimbrel protection zone is discussed in detail, along with the required practical actions in this area of the Petta Dale valley. The practical actions detailed are subject to discussion with SNH prior to the finalising of this BPP.

- 2.1.7 Default stand-off distances for the likely breeding bird species are given and the procedure for marking these areas is detailed. It is stated that the occurrence of breeding birds close to construction areas could result in work having to be re-scheduled and/or areas of work being altered to safeguard birds during breeding.
- 2.1.8 Habitat loss and change is discussed along with methods to minimise temporary habitat loss and maximise habitat recovery/restoration.

### **3. INTRODUCTION**

#### **3.1 Site Location and Background Information**

- 3.1.1 The B9075 is located on the Shetland Mainland approximately 8km south of Voe. The approximate Ordnance Survey National Grid Reference (NGR) is HU 410 549 and it is at an elevation of less than 100m Above Ordnance Datum (AOD). The public road re-alignment and upgrade is approximately 2km in length to the west of the B9075 junction with the A970. This road upgrade and re-alignment is required to provide safe access for the construction of the Viking Wind Farm on the Shetland Mainland.
- 3.1.2 An Environmental Statement (ES) was published in 2016 by Viking Energy Partnership (VEP), which considered the environmental aspects of the proposed road re-alignment. The planning application was subsequently withdrawn prior to determination. The ES contained a detailed impact assessment for birds (Chapter 8) and a detailed survey report for birds (Technical Appendix 8.1).
- 3.1.3 In 2019 a planning application will be re-submitted by VEP for a similar upgrading and re-alignment of the B9075. Accompanying this planning application will be an EIA Report which contains an updated chapter on birds and a summary of the 2018 breeding bird surveys. This chapter is essentially a summary and review of the 2016 chapter, accounting for the minor changes proposed and the impacts and effects on birds. An important part of the required bird related mitigation for construction of this road, included in both the 2016 application and the 2019 application, is a commitment to provide and implement a Bird Protection Plan (BPP).

#### **3.2 Purpose of this BPP**

- 3.2.1 The key purpose of this BPP for the construction of the B9075 Sandwater Road is to provide clear guidance to VEP managers and the main construction contractor on what is required to safeguard breeding birds. It also provides a set of undertakings for the main contractor and the Ecological and Environmental Clerk of Works (ECoW) to follow.
- 3.2.2 A secondary, but important, purpose of this BPP is to provide a clear commitment to the planning authority (Shetland Islands Council) and SNH that VEP will fully support the ECoW in the site implementation of the BPP and help to ensure that the contractor(s) fully comply with it.

#### **3.3 Legal Basis for this BPP**

- 3.3.1 This BPP is necessary to assist with construction compliance in relation to the Wildlife and Countryside Act 1981, as amended. The BPP is also necessary to comply with relevant planning commitments in relation to the B9075 Sandwater Road given in the 2019 EIA Report and the Schedule of Mitigation Commitments.

3.3.2 The following legal protection for wild birds is a summary, there are other offences and the original legislation should always be used for the comprehensive text. However, in summary, all wild birds in Great Britain are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- kill or injure any wild bird;
- capture or keep (alive or dead) any wild bird;
- destroy or take the egg of any wild bird;
- sell or advertise for sale any wild bird or its eggs;
- destroy, damage, interfere with, take or obstruct the use of the nest of any wild bird while it is in use or being built.

3.3.3 The Wildlife and Countryside Act 1981 (as amended) provides enhanced statutory protection to rare breeding birds listed under Schedule 1. For any wild bird species listed on Schedule 1, it's an offence to disturb:

- any bird while it is building a nest;
- any bird while it is in, on, or near a nest containing eggs or young;
- any bird while lekking; and
- the dependent young of any bird.

### **3.4 Bird Protection Plan Contents**

3.4.1 The original requirements for the BPP were detailed in the 2016 application and repeated in the 2019 bird assessment (2019 EIA Report). In summary, a bird protection plan will be drawn up prior to construction commencing. It will detail the measures that will be undertaken to manage disturbance to breeding birds, particularly the Schedule 1 species whimbrel.

3.4.2 The 2019 planning application also contained changes and additions in relation to bird mitigation (2019 EIA Report). These are all included in this BPP and the most important of these is that the southern boundary of the whimbrel protection zone is noted as being 10m north of the edge of the proposed road, the current proposed re-alignment of the road is now slightly further north than it was in the 2016 application. Therefore, it is necessary to move the southern boundary of the whimbrel protection zone north by c. 15m in the Petta Dale valley area.

## **4. RELEVANT BIRD SPECIES**

### **4.1 Existing and Ongoing Surveying**

4.1.1 There was specific survey work undertaken from summer 2013 to summer 2018 in relation to the B9075 Sandwater Road Realignment. This surveying included a minimum 500m buffer around the site for all species and some were surveyed out to a 2km buffer.

4.1.2 Prior to the start of any construction of this road, including vegetation stripping, it will be ensured that recent pre-construction bird survey information is available and acted

on. It will be part of the role of the VEP lead ECoW to ensure that adequate bird surveying is undertaken immediately prior to and regularly during the on-going construction works. There is also likely to be ongoing bird survey support from a dedicated bird surveyor on the wind farm and it will be their responsibility to keep the ECoW up to date on all surveying and findings. All this information will be regularly collated by the ECoW.

- 4.1.3 The type and frequency of surveying will depend on time of year. During the breeding season all surveyors will be expected to have a Schedule 1 Licence, if there are Schedule 1 birds likely in the area they are surveying. The results of this surveying will be regularly fed back to VEP and site construction staff by the ECoW in various ways including staff notice boards, toolbox talks and meetings.

## 4.2 Important Species

- 4.2.1 The most important bird species are those of moderate and high nature conservation value and this will vary depending on time of year. In this area it is expected to be breeding birds (spring through to late summer) that are of most relevance/importance in relation to the construction of the road. Table 4.1 is extracted from the Viking Wind Farm Bird Protection Plan (Appendix 2 of the Construction Environmental Management Plan) and indicates legal protection, conservation status and sensitivity to breeding disturbance for regularly breeding species in the wider wind farm area.

- 4.2.2 There are three “groups” of breeding bird species of relevance in this construction area and its immediate surroundings. The three groups are: the most highly protected species – the Schedule 1 species of the highest nature conservation importance; the protected species of nature conservation importance; and all other wild bird species (all of which are protected to an extent). Taking these in turn, using the latest surveying data from 2018, it is expected that the following Schedule 1 species will be present and breeding within and surrounding the B9075 road construction area:

- Whimbrel (up to 3 pairs and very close to the construction area).

- 4.2.3 While not recorded as breeding in the area in 2018, it is also possible that the Schedule 1 species, merlin, could breed in proximity to the construction area in future years.

- 4.2.4 In addition, it should also be expected that the following species of nature conservation importance (in a Shetland and/or a British context) will be present and breeding within and surrounding the construction area;

- Arctic skua;
- Dunlin;
- Golden plover;
- Common sandpiper (Shetland context);
- Arctic tern;
- Curlew; and
- Lapwing.

**Table 4.1. Bird species regularly breeding in the vicinity of the proposed Viking Wind Farm roads and turbines.**

Species	Legal Protection <sup>1</sup>	Conservation Status	Disturbance Sensitivity
Red-throated diver	S1, A1	favourable	High
Whooper swan	S1, A1	BoCC Red List	Moderate
Whimbrel	S1, A1	BoCC Red List	Moderate
Merlin	S1, A1	BoCC Red List	High
Golden plover	A1	favourable	Moderate
Dunlin	A1	favourable	Moderate
Lapwing	basic	BoCC Red List	Moderate
Curlew	basic	BoCC Red List, IUCN Nr. Threat.	Moderate
Snipe	basic	favourable	Moderate
Redshank	basic	favourable	Moderate
Common sandpiper	basic	favourable	Moderate
Oystercatcher	basic	favourable	Moderate
Arctic skua	basic	BoCC Red List	Moderate
Great skua	basic	favourable	Moderate
Great black-back gull	basic	favourable	Moderate
Common gull	basic	favourable	Moderate
Arctic tern	A1	BoCC Red List	Moderate
Common tern	A1	favourable	Moderate
Greylag goose	basic	favourable	Moderate
Wigeon	basic	favourable	Moderate
Teal	basic	favourable	Moderate
Red grouse	basic	favourable	Moderate
Raven	basic	favourable	Low
Skylark	basic	BoCC Red List	Low
Meadow pipit	basic	favourable	Low
Wheatear	basic	favourable	Low
Wren	basic	favourable	Low

4.2.5 In addition to the two groups above, all other wild bird species are protected when nesting and a wide variety of species could nest within or immediately adjacent to the new road construction area. The following species have been recorded in the area:

- Oystercatcher;
- Ringed plover;
- Snipe; and
- Redshank.

<sup>1</sup> The legal frameworks relating to the protection of birds are abbreviated as follows; Wildlife and Countryside Act, general protection (basic), Schedule 1 (S1) and Birds Directive, Annex 1 (A1).



- 4.2.6 In addition, to all the above, more widespread species including mallard, greylag goose, widgeon, teal, hooded crow, wheatear, meadow pipit and skylark, as well as Shetland wren and red grouse could all breed in the area.

### 4.3 Specific Sensitive Locations

- 4.3.1 While all breeding bird species receive some legal protection, the most sensitive location, in relation to the road construction, is likely to be the Petta Dale valley area. This is a breeding area for whimbrel (Schedule 1 species), as well as other species, and is located to the immediate north of the construction area in the flattish valley running north between Lamba Scord and the A970. It is whimbrel that this BPP is specifically designed to protect and prevent from disturbance during construction.
- 4.3.2 Other potentially sensitive locations are the wider blanket bog to the immediate north and south, the northern half of Sandwater and the drains and burns running through the construction area and close to it.
- 4.3.3 The combined survey information suggests that the nest locations of the most sensitive breeding bird species have locally changed from year to year but the numbers of pairs, with several notable exceptions, have not significantly changed. It is important to note, that previous experience indicates that breeding birds can turn up anywhere on a construction site and in the immediate surroundings, so while everything possible will be done to predict in advance what safeguarding and mitigation is necessary and where, it can never be ruled out that alteration to construction timing and locations for work will be necessary at short notice.

## 5. CONSTRUCTION

### 5.1 Brief Description of the Works

- 5.1.1 The new road alignment will be to the north of the existing B9075 and will be adjacent to it from a new junction with the A970 to the east side of the Burn of Weisdale. The road will be back on the existing B9075 alignment prior to the existing Burn of Weisdale crossing. There will be a new road bridge built over the Burn of Pettawater to the north of the existing B9075 bridge.
- 5.1.2 Initially the road would be used for the completion of the wind farm construction only but following this the track will be upgraded to public road standard and tied back into the existing B9075 to the east of the existing Burn of Weisdale crossing. The new road would then be adopted by Shetland Island Council as a public road. The section of road to be adopted as the new B9075 would require a two stage design and construction process comprising a temporary track for the wind farm construction, followed by a permanent road. The works to achieve public road adoption would include re-profiling to achieve the permanent alignment, surfacing, and instalment of permanent road features such as signage.
- 5.1.3 Sections of the re-alignment route contain peat of at least 4-5m deep. Therefore, a mix of floating and founded sections of road will be used. In the area of the Petta Dale valley it is proposed that the road will be mainly floated.

## 5.2 Ground Investigations

- 5.2.1 Any need for further ground investigations prior to road construction should be treated as “construction”. This BPP should be fully adhered to during all such works, depending on the time of year.

## 5.3 Construction Activities with Potential to Cause Breeding Bird Disturbance

- 5.3.1 Once the road alignment is marked out, pre-construction walkover surveys by an experienced ECoW should eliminate the potential for direct destruction of nests and eggs/young in all areas of works. However, disturbance of breeding birds still needs to be considered. Virtually all construction related activities during the bird breeding season have some potential to cause breeding bird disturbance. Topography is also important in relation to how birds are affected, in some situations close visual and noise disturbances together can be less disturbing to a bird than a hidden close noise. Disturbance is also complicated by the degree to which some birds will habituate to more regular disturbance. Taking a fairly generic approach, the following construction activities are potentially disturbing to breeding birds, with the most disturbing listed first (however this can vary):

- Workers getting in and out of vehicles and walking around the construction site/carrying out work, normally in hi-viz;
- Piling and drilling rig operations;
- Use of peckers to remove rock;
- Use of vibrating rollers;
- Use of explosives;
- Use of taller plant such as moving large excavator arms and cranes;
- All noise generating activities but particularly sudden noises from plant and shouting;
- General plant and vehicle movements;
- Use of lights, flashing lights, beacons;
- Vehicle horns and reversing warnings/communication between plant using a horn.

## 5.4 Construction Phases

- 5.4.1 An important consideration in relation to the Petta Dale valley area will be that the construction is split in two; initially for the wind farm construction which it is suggested will take 9-12 months for the total road length and then perhaps a 2 to 3 year use period for the construction of the wind farm, after which there will be a further construction period to build the permanent road to be adopted as the public road. This will be important in relation to bird breeding because it will be likely to involve two separate bird breeding periods and this BPP being implemented during two separate construction periods. The BPP will need to be fully implemented whenever construction works are scheduled to be completed between approximately the beginning of April

and the end of August period in any particular year (to be determined exactly by surveying).

## 5.5 Management of Construction Timing

5.5.1 For both phases of construction, an important consideration in relation to the Petta Dale valley area, will be when construction commences. This will have a direct bearing on the need to avoid disturbance to whimbrel (and other bird species). The timing of construction work starting in the eastern section of the new road will be critical. The ideal time of year to start work on the eastern section of the road beyond Lamba Scord would be immediately post-bird breeding. This would be likely to be mid-August but would be determined exactly by survey (Snow and Perrins, 1998). Alternatively, if a spring start is desired by the main contractor on the eastern section, then starting work on the road in early March would be possible and would allow time to implement the breeding whimbrel protection zone prior to their arrival in April. An early spring start would need to be under the clear understanding that if on-going bird surveying into the spring identifies close whimbrel presence and the likelihood of disturbance then work would have to be suspended completely in this area, at short notice, and possibly until mid to late August. A construction start in the eastern section of the road later into the spring or early summer should be completely avoided and would be likely to be stopped due to breeding birds.

## 6. MITIGATION FOR CONSTRUCTION

### 6.1 Introduction

6.1.1 *“Developers should be aware that a valid planning consent does not over-ride the need to comply with the law in relation to species protection. Sufficient safeguards and mitigation must be put in place to ensure that construction does not result in an offence being committed under the W&CA.”* (SNH, 2016).

### 6.2 Site Wide Initial Procedure

6.2.1 In advance of construction commencing at any local location this “initial procedure” must be followed. This includes all areas where some work may have been done previously but the area has not been active on a regular basis for a period of time. In all areas and times of year where breeding birds are likely to be present, it is essential that:

- A breeding bird survey is carried out by suitably experienced ecologists/ornithologists, holding a relevant Schedule 1 licence. The results of this will be discussed with the ECoW, if they did not directly complete the survey and they will then inform the construction team of any possible constraints;
- A pre-construction walkover survey will be completed by the ECoW as close to construction commencing as possible (2-3 days prior, maximum);
- Relevant plans and documentation will be updated with new and amended information as it is produced, with changes communicated to appropriate construction staff as required;
- Regular reviews must be undertaken to identify whether project works are likely to affect birds. This will be totally dependent on site construction staff regularly

updating the ECoW, as plans are developed and as timescales alter. Planned works may need to be modified to reduce the impact on protected bird species; and

- The site working methods and detailed mitigation will be amended as necessary to take account of the findings of the surveys and legal requirements.

### 6.3 Site Wide, During Construction

6.3.1 As construction continues in an area, the following procedures must be followed. In all areas and times of year where breeding birds are likely to be present, the following will be undertaken, as construction is on-going:

- All site staff will be briefed on procedures to be implemented if any nesting birds are found within the construction areas i.e. all work must cease immediately in the area until the ECoW attends and gives advice on what is required;
- The ECoW will be present on site throughout the construction period to ensure all environmental mitigation relevant to birds (and other species) is delivered, and to advise construction staff on compliance with the mitigation and legislation. The ECoW will regularly undertake on-going surveying for birds, collate all information from the other wind farm bird surveyors, and liaise with construction staff regularly;
- Relevant site construction staff must regularly update the ECoW, as construction proceeds and as plans are modified and timescales alter. Planned works may need to be modified to reduce the impact on protected bird species.

### 6.4 Specific Mitigation to be Implemented

#### Breeding Whimbrel Protection Zone

- 6.4.1 The proposed whimbrel protection zone was recommended in the 2016 withdrawn application to allow for a separation distance of a minimum of 150m to the nominal territory centres for whimbrel. The basis for this was as follows, "*Whimbrel nest-flush-distances (the distance at which an incubating bird leaves its nest in response to a person approaching on foot) were recorded during the breeding studies undertaken in Shetland by NRP in 2010 and 2011 (Jackson and Chapman, 2010; NRP/VEWF unpublished data). This study found that flush distances are highly variable but that 92% of incubating birds (out of a sample of 77) had flush distances of below 150m, and 81% had flush distances of 100m or less; the median flush distance was 75m. Thus there is a high likelihood that the proposed southern boundary of the BWPZ shown in Figure 8.1 would effectively prevent disturbance in the core part the territories, including the nest sites, of the two to three pairs of whimbrel that breed in the BWPZ.*" (VEP, 2016). If whimbrel nest within 150m of the edge of the initially marked out protection zone then all construction work is likely to be stopped in this area and this is likely to include the construction of the new bridge. Plotting the 2018 breeding bird survey data, two pairs of whimbrel had nominal territory centres within 150m (estimated using GIS to be around 85m and 105m, Atlantic Ecology, 2019), and their nests were also likely to have been within 150m.
- 6.4.2 The 2016 ES (VEP, 2016) and the 2019 EIA Report recognised that nesting of whimbrel (or another Schedule 1 species) could be so close as to require a temporary cessation of construction in that part of the site. This will require to be closely monitored by the ECoW and/or a surveyor (a Schedule 1 licence holder) by regularly surveying for

whimbrel, locating nests and collecting behavioural information to take account of changing circumstances.

- 6.4.3 During the period from setting up the protection zone until whimbrel leave the area (the breeding season) there will be no access for construction personnel or any plant. This will be made clear to all construction personnel through toolbox talks, liaison with construction managers and other means including notice boards.

#### Practical Measures for the Breeding Whimbrel Protection Zone

#### **THE FOLLOWING SECTION REQUIRES DISCUSSION WITH SNH.**

- 6.4.4 Depending on the proposed timing of the first construction start on site (See Section 5.5) will determine whether a breeding whimbrel protection zone needs to be set up in advance of this or not. An early spring start would require it, where as a post-breeding start for construction would not require it until the following spring. It is not likely to be possible to set up the breeding whimbrel protection zone once whimbrel have arrived for breeding on the site and hence it is very unlikely that construction could commence, in this area, within the whimbrel breeding season.
- 6.4.5 The main contractor in agreement with the ECoW will mark out the protection zone on the ground using dGPS surveying equipment and 2x2 posts, every 20m. This will be undertaken at the immediate start of construction to prevent unnecessary habitat disturbance for birds within this zone (regardless of time of year). Unless agreed otherwise with the ECoW this will be at c. 10m north of the curb of the final road alignment (the road alignment to be adopted). In practice, this will be a maximum of 15m north from the indicative Whimbrel Protection Zone shown on Figure 8.1, from the previous application. The west and east boundaries of the protection zone are likely to be as per Figure 8.1 but will be finally determined by the ECoW taking cognisance of up to date survey information. The west and east boundaries will also be marked with 2x2 posts to a point far enough north that construction personnel or plant should not be near it.
- 6.4.6 It was suggested in the 2016 application (VEP, 2016) that before birds return, a strip of 50–100 metres wide along the southern edge of the proposed BWPZ (Figure 8.1) could be made visually less attractive to returning prospecting birds and this could be achieved using light weight hazard tape strung between bamboo canes. Further, the same measure could also be used elsewhere to discourage other bird species (i.e., those not on Schedule 1) from nesting close to the project site. It is the author's ECoW experience that hazard tape is not strong enough and will quickly disintegrate in the wind. MBEC have tried all kinds of tape in this situation and all have been shredded by the wind and caused a plastic litter nuisance. However, on other construction sites MBEC have used various other bird deterrents prior to birds returning – all based on spinning or moving spikes placed at regular intervals. In our experience the only one strong enough to stand up to Scottish weather has been "Cropguard" and they have been largely successful on construction sites. As SNH make clear (SNH, 2016), they advise against relying on deterrents as they may not be successful and the ECoW has to ensure regular survey continues to prevent disturbance, if birds do choose to nest close to a deterrent. Cropguards may be used on this construction site, with ongoing ECoW agreement and surveying, to discourage birds from nesting. However, an alternative is proposed as the primary mitigation for the breeding whimbrel protection zone – see below.

- 6.4.7 If construction is proposed to start prior to the bird breeding season then a tall barrier fence will be erected along the line of the posts to cover the whole of the southern boundary of the whimbrel protection zone. If construction is proposed to start post bird breeding season (preferred) then this barrier would not require to be erected until prior to the bird breeding season the following year. While no construction disturbance of vegetation will occur beyond the posts, the purpose of this barrier will be primarily to hide and minimise visual construction disturbance to breeding birds to the north. It will also have several other potential benefits: it will provide an obvious physical barrier to prevent construction works and personnel going further north towards the breeding area; and, it may encourage breeding birds, including whimbrel, to nest slightly further north hence, minimising the potential for unintentional nesting disturbance and perhaps providing a greater level of certainty that construction can continue in that area as the breeding season progresses.
- 6.4.8 This tall barrier fence would need to have a strong construction to resist winds for a whole breeding season. It is not likely to be possible to carry out maintenance on it within a breeding season. The ECoW will determine when this fence can be removed but it is likely to be at the end of the bird breeding season and it will be re-erected as necessary for the following year/second phase of construction or any maintenance works on the road within the breeding season. Discussion of its materials and strength will be required with the main contractor. It is suggested that a strong structure of scaffold poles could be used. The actual fence could then be built onto the strong “skeleton” and could be made using e.g. securely fastened strong horticultural wind netting or perhaps a “hit and miss” type wooden fence to allow some wind dissipation. This fencing would need to be tall enough to substantially lessen the visual disturbance by construction traffic and workers building the road i.e. it would need to mask all vehicle and people movements up to and including dumper truck height. The precise topography would need to be studied once the location posts are in to work out the precise height of fence required – the height required may vary across the southern boundary. It will not be practical to try to hide all excavator arm movements or crane use but a significant proportion of construction disturbance could be visually hidden by such a barrier.
- 6.4.9 Directly to the south of the breeding whimbrel protection zone, the timing of construction operations which will have the highest risk of bird disturbance will be managed by the main contractor. Movement of larger excavator arms cannot be mitigated because they are important to many common construction operations. However, it is likely that some crane use will be necessary for e.g. the building of the bridge over the Burn of Pettawater and this will be timed to be outside of the bird breeding season. If short-term crane operations are needed within the breeding season then these will be done at the least disturbing times and only with specific ECoW permission. Similarly, any piling works or rock pecking will be timed to be completed outside of the bird breeding season. The ECoW will liaise with the main contractor over noisier operations that may be required within the bird breeding season in the eastern part of the road and in sensitive areas for breeding birds outside of it. It may be possible for some potentially disturbing operations to be agreed with the ECoW for times/dates which would be less disturbing for breeding birds and could still be completed within the breeding season. For example, although whimbrel and chicks may still be present in August, they will be less susceptible to disturbance by then and depending on the particular breeding year it may be possible to agree an earlier start for more disturbing works.
- 6.4.10 All bird mitigation for this development is subject to ongoing surveying in relation to effectiveness and bird disturbance. If it is found that measures could be causing

increased disturbance/being ineffective then the ECoW will consider this carefully and alter this BPP appropriately.

Whole Site Safeguarding of Breeding Birds

6.4.11 Although the breeding whimbrel protection zone is particularly sensitive in relation to construction work, all parts of the construction site have potential for nesting birds. Indeed it is possible that a Schedule 1 species could nest anywhere along the route of the new road. All nesting birds are protected and the general measures detailed in this BPP could potentially apply to anywhere on the whole construction site.

6.4.12 The 2018 bird survey data indicated that curlew, redshank, wheatear, oystercatcher and snipe all bred within the Proposed Development boundary. In addition, past surveying suggests there is the possibility of additional species breeding in future years including lapwing, meadow pipit, skylark and wheatear within the boundary and further species in the wider surrounding area. Therefore the “site wide” procedures detailed above will be undertaken for the whole site and will require close and regular liaison with the main contractor.

**Table 6.1: Default stand-off distances from nests/territory centres to prevent disturbance of breeding birds and the destruction of nests and dependent young.**

Species	Legal Protection	Stand-off Distance	Measured From	Disturbance Sensitivity
Red-throated diver	S1, A1	350m	Shore of breeding lochan (water bodies <100m across)	High
		250m	Shores of breeding loch (water bodies >100m across)	
Whooper swan	S1, A1	300m	Shores of breeding loch	High
Merlin	S1, A1	300m	Nest/terr. centre	High
Whimbrel	S1, A1	200m	Nest/terr. centre	Moderate
Golden plover	A1	150m	Nest/terr. centre	Moderate
Curlew	basic	150m	Nest/terr. centre	Moderate
Dunlin	A1	100m	Nest/terr. centre	Moderate
Lapwing	basic	100m	Nest/terr. centre	Moderate
Arctic tern	A1	150m	Nest/terr. centre	Moderate
Common tern	A1	150m	Nest/terr. centre	Moderate
Redshank	basic	100m	Nest/terr. centre	Moderate
Oystercatcher	basic	100m	Nest/terr. centre	Moderate
Arctic skua	basic	200m	Nest/terr. centre	Moderate
Great skua	basic	200m	Nest/terr. centre	Moderate
Great black-b. gull	basic	200m	Nest/terr. centre	Moderate
Common gull	basic	150m	Nest/terr. centre	Moderate
Wigeon	basic	50m	Nest/terr. centre	Low
Teal	basic	50m	Nest/terr. centre	Low
Snipe	basic	50m	Nest/terr. centre	Low
Starling	basic	20m	Nest/terr. centre	Low

Species	Legal Protection	Stand-off Distance	Measured From	Disturbance Sensitivity
Skylark	basic	20m	Nest/terr. centre	Low
Meadow pipit	basic	20m	Nest/terr. centre	Low
Wheatear	basic	20m	Nest/terr. centre	Low
Wren	basic	20m	Nest/terr. centre	Low

6.4.13 Where a nest is found within or immediately adjacent to the construction area the relevant buffer zone will be decided upon by the ECoW and marked out accordingly. Table 6.1, which has been copied from the Viking Wind Farm Bird Protection Plan, indicates the stand-off or buffer zones for different bird species which will be used as an initial guide by the ECoW. The ECoW may vary these distances depending on topography and judged sensitivity to disturbance in particular circumstances. Blue topped canes will be used to mark no-disturbance areas and it will be made clear to all construction staff that they must not enter blue caned areas. Any breeding bird species has the potential to have an effect on construction timetabling and operations, until breeding is completed. These canes will be removed once the ECoW can confirm that nesting is complete and construction staff will be regularly updated.

#### Additional Practical Measures

- 6.4.14 The use of demarcated no-stopping zones for set periods of time within construction sites has assisted in limiting disturbance to a range of species, including birds, on other construction sites. Although birds will, to differing degrees, habituate to traffic, they can be prone to disturbance if a vehicle is stationary and particularly if a person gets out of the vehicle to e.g. make a phone call. Therefore, no-stopping zones will be used, where it is thought they will be beneficial to nesting birds.
- 6.4.15 It is normal practice to have lower set speed limits on construction sites (often 5, 15 or 20mph maximums). Where chicks are close to vehicle movements, all drivers will be regularly made aware of this, and this extra vigilance by drivers can limit the risk of RTAs to young birds. This has been used successfully on other sites the author has worked on.

## **7. HABITAT LOSS AND CHANGE**

### **7.1 Introduction**

- 7.1.1 As noted in the 2016 ES (VEP, 2016) and committed to in the Proposed Development EIA Report, measures will be undertaken to avoid and reduce the negative effects on birds arising from habitat loss and change. The footprint of the new road cannot be altered and will be a permanent habitat loss. However, minimising the road edge peat/mineral soil and vegetation disturbance of the proposed development is possible. Blanket bog/moorland habitat is particularly sensitive to any disturbance and restoring damaged habitat in good condition for birds is also important. These measures are dependent on the main contractor using good practice methods and careful supervision.



## 7.2 Practical Measures

- 7.2.1 Minimising the disturbed edges of the development in the Petta Dale valley (the most sensitive area of breeding bird habitat) and hence minimising habitat loss and damage will be achieved by all construction works being completed within 10m of the northern curb edge of the final new road alignment, which will be undertaken as part of the breeding whimbrel protection zone. Elsewhere on the site the main contractor will also limit the temporary disturbance of all vegetation and underlying peat/soils (including all vehicle tracking) to the minimum necessary for the road construction. The ECoW will monitor this and advise the main contractor.
- 7.2.2 The amount of damaged habitat can be minimised by construction staff preventing all machinery from tracking out beyond unstripped vegetation limits, with all construction drainage and permanent drainage being undertaken within the disturbed road edges and not further out from the final alignment of the adopted road. Using only end on road construction practices, even if this is in sections, will also help to minimise additional habitat damage to the road edges. The restoration of damaged habitat, particularly peatland habitats, is largely dependent on the initial vegetation and peat stripping (with the exception of floating road sections) and storage. With proper separated storage of turves, surface peat (acrotelm peat) and deep peat (catotelm peat), and timely restoration of this, then similar habitats can be re-created along the road edges using this stored material, as long as adequate peat depths are restored (no less, and preferably more than 500mm of peat for blanket bog). There may still be a need for seeding of a few areas but this should be minimised by saving all vegetation as stripped turves and re-using them fully and in a timely manner. The seed mix to be used will be a native mix and will be agreed with the ECoW, prior to any use on the site.
- 7.2.3 The split construction of this road (wind farm access first and then upgrading to the permanent road), may complicate restoration. It is hoped that the running surface of the wind farm access track build will be approximately the same width as the permanent road, therefore allowing nearly all peat/soil and vegetation restoration to be completed in the first phase of the construction. The ECoW will discuss this with the main contractor because longer-term storage of peat and vegetation turves will have a negative impact on the quality of restoration which can be completed and the time it will take to recover.

## 8. REFERENCES

Atlantic Ecology. (2019). 2018 Breeding Bird Survey Update for Sandwater. In 2019 B9075 Sandwater Road EIA Report, Viking Energy Wind Farm LLP.

Scottish Natural Heritage (2016). Guidance: Dealing with construction and birds. March 2016, accessed on-line.

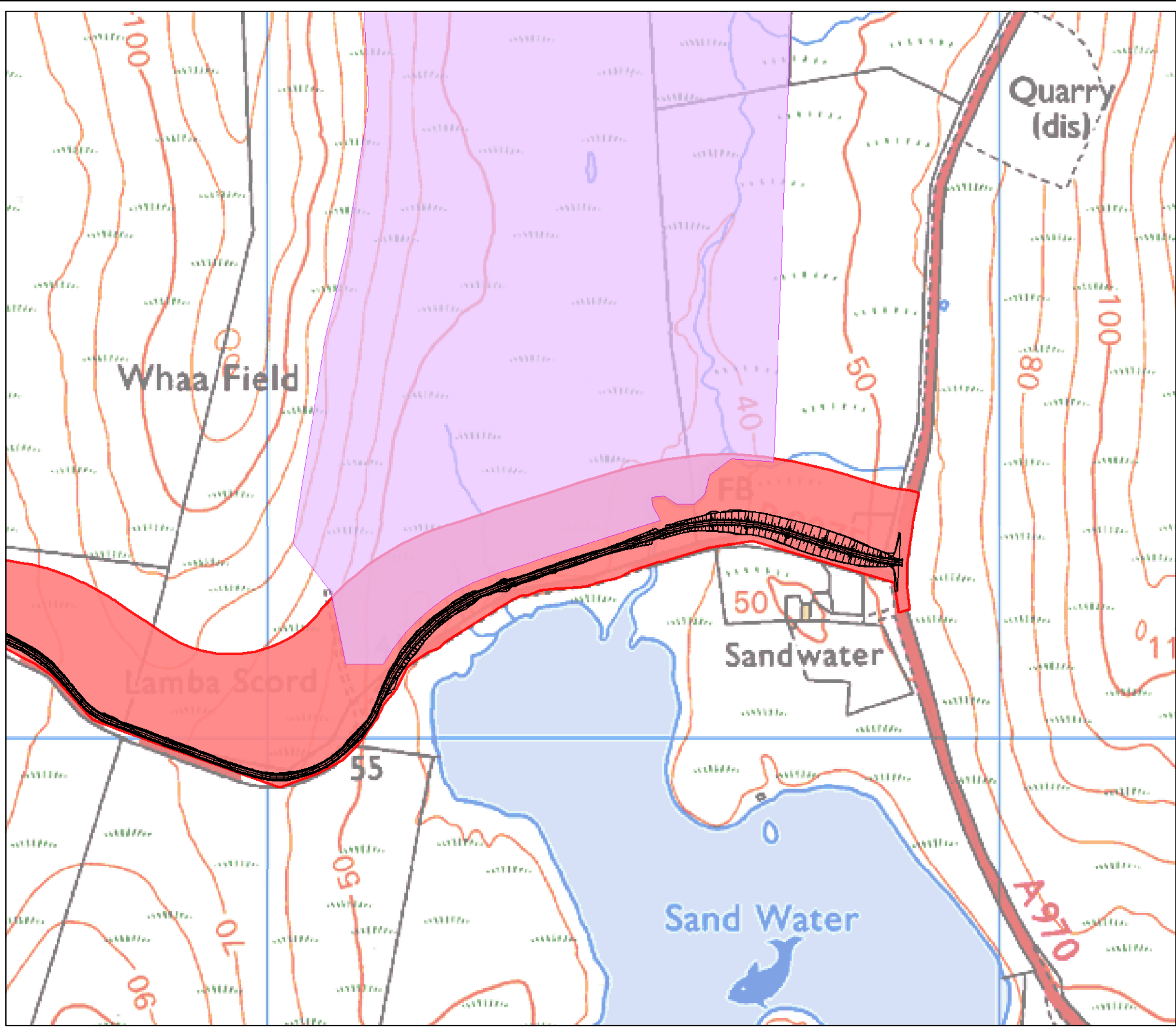
Snow, D.W. and Perrins, C.M. (Eds.). (1998). The Birds of the Western Palearctic. Concise Edition - 2 Volumes. Oxford University Press.

VEP. (2016). Viking Energy Partnership. B9075 Sandwater Road Environmental Statement. Volume 1: Main Text, Chapter 8. Ornithology. (May 2016, subsequently withdrawn).






## FIGURES

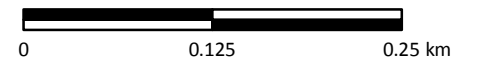




**Key**

-  Proposed B9075 Sandwater Road alignment
-  Site boundary
-  Indicative Breeding Whimbrel Protection Zone

Scale 1:5,000 @ A3



0 0.125 0.25 km

**Figure 8.1**  
 Proposed Whimbrel Protection Zone

