



P/140/16/OUT - Land South of Summer Lane & West of Pagham Road, Pagham

Habitats Regulations Assessment

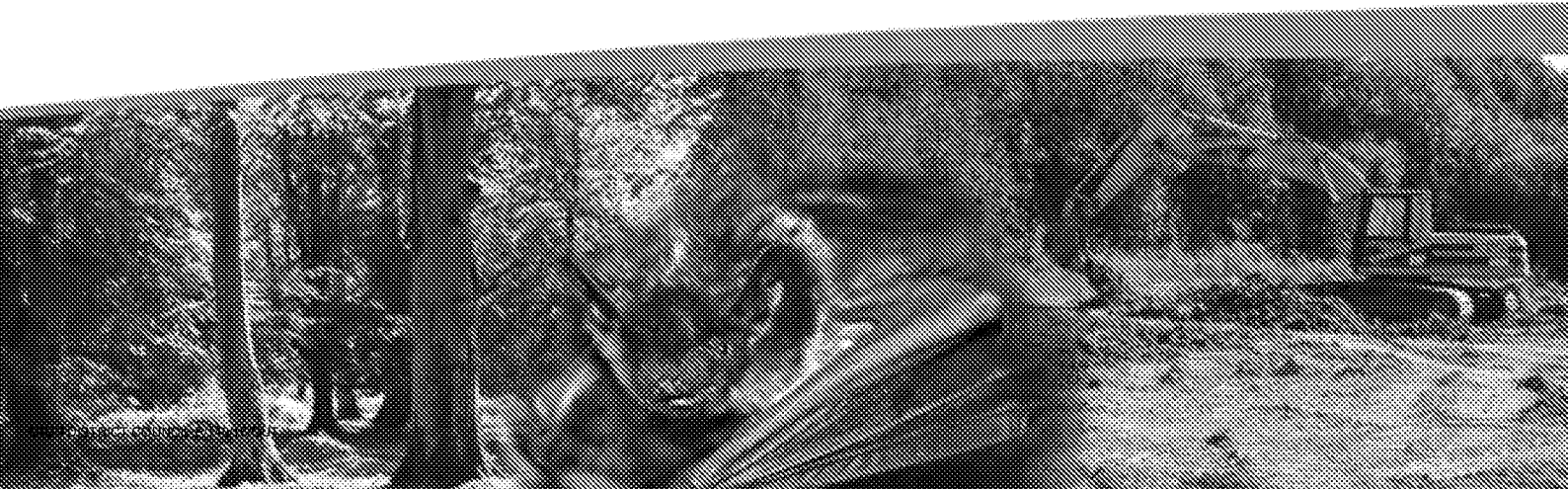
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Habitats Regulations Assessment

1. INTRODUCTION

Commission

- 1.1 Ecological Planning & Research Limited (EPR) was commissioned by Arun District Council (ADC) to undertake a Habitats Regulations Assessment (HRA) of a planning application identified as P/140/16/OUT Land South of Summer Lane & West of Pagham Road, Pagham, the larger part of Pagham South, a strategic housing allocation under Policy H SP2a of the Arun District Local Plan 2011-2031 (adopted July 2018).
- 1.2 The application site lies approximately 0.47km from Pagham Harbour Special Protection Area (SPA) and Ramsar site (see **Map 1**).

Brief

- 1.3 ADC provided the following brief:

'In the preparation of the recommendations reports for the above planning application the site had originally been screened out by virtue of the conclusions drawn in the HRA prepared in support of the emerging Local Plan and the mitigation measures proposed by the developers.

However, the LPA has subsequently become aware of a recent ECJ ruling (People over Wind), which stated that;

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site."

Therefore, in light of this it has been determined by the LPA that the screening of the application will need to be undertaken by a suitably qualified ecologist and appropriate assessment undertaken as necessary'.

Response to the Brief

- 1.4 In order to enable ADC (the 'competent authority') to discharge their duties under Regulation 63 of the Conservation of Habitats and Species Regulations 2017, EPR will review whether the development proposals will result in a likely significant effect on Pagham Harbour SPA/Ramsar site, either alone or in combination with other plans and projects. If so, then EPR will carry out an Appropriate Assessment (AA) to determine whether the proposals would lead to an adverse effect on the integrity of the site in view of its conservation objectives. This

process is carried out within the framework of an HRA of the proposals, based on available information.

Structure of this Report

- 1.5 **Section 2** of this report provides a summary of the HRA process and relevant supporting guidance. **Section 3** provides background information upon which the HRA can be based. **Section 4** describes the impacts predicted to be generated by the proposed development which could result in a likely significant effect on Pagham Harbour SPA/Ramsar, concluding by screening likely significant effects. **Section 5** takes the impacts not screened out forward into the Appropriate Assessment and explores the level of mitigation proposed by the applicant to prevent an adverse effect on integrity and discusses the confidence in the success of the mitigation in the context of current knowledge. Proposed mechanisms for securing delivery of the mitigation are discussed in **Section 6**. Finally, residual impacts and conclusions are considered in **Section 7**.

2. HABITATS REGULATIONS ASSESSMENT PROCESS

Legislation

- 2.1 The primary legislative protection covering International Site originates from European Directive 92/43/EEC (the 'Habitats Directive'), which is transposed into UK legislation by the Conservation of Habitats and Species Regulations 2017 (the 'Habitats Regulations') with the key sections of relevance to projects appearing from Regulation 63 onwards. Regulation 63 states that:

“(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

(a) is likely to have a significant effect on a European [International] site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of that site,

must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives.

(2) A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable it to determine whether an appropriate assessment is required.”

National Planning Policy

- 2.2 Section 15 of the National Planning Policy Framework (NPPF) (July 2018), particularly paragraphs 170 and 175 are of particular relevance to International Sites and have been taken into account when preparing this report.
- 2.3 Paragraph 176 requires that Ramsar sites are treated as if they are fully designated International Sites for the purposes of considering development proposals that may affect them.

Guidance

- 2.4 Guidance published by the European Commission entitled 'Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites' (2001) advises on carrying out the stepwise approach to HRA required by Article 6 of the Habitats Directive. This requires that the following stages are undertaken in sequence:
1. Screening the need for an Appropriate Assessment;
 2. The Appropriate Assessment;
 3. The Assessment of Alternative Solutions; and
 4. Assessment where no alternative solutions exist and where adverse impacts remain (also known as the test for "Imperative Reasons of Overriding Public Interest" or IROPI).

2.5 Other guidance that has been taken into account during the preparation of this document includes:

- The European Commission's 'Managing Natura 2000' document (2000) that provides guidance on some of the key concepts enshrined in Article 6 of the Habitats Directive;
- The 'Communication from the Commission on the Precautionary Principle' (2000) which provides guidance on the correct application of the precautionary principle, stating that it should be applied with proportionality and should not aim at zero risk;
- Circular 06/05 'Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System';
- 'Planning for the Protection of European Sites' (DCLG, 2006); and
- PINS NOTE 05/2018 '*Consideration of avoidance and reduction measures in Habitats Regulations Assessment: People over Wind, Peter Sweetman v Coillte Teoranta*' (Planning Inspectorate 9 May 2018).

Relevant Case Law

Case C-127/02 of the European Court of Justice (ECJ) – The “Waddenzee” Case

2.6 The ECJ Waddenzee Case clarified a number of important points in relation to the correct interpretation of Article 6(3) of the Habitats Directive in particular. This clarification has been helpfully set out in Government Circular 06/05 “Biodiversity and Geological Conservation”.

2.7 In particular, one of the key messages from the ECJ was that, where a plan or project has the potential to affect a Natura 2000 site, an “Appropriate Assessment” is necessary:

“...if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either alone or in combination with other plans and projects” [our emphasis]

[Paragraph 13 of Circular 06/05 or paragraph 44 of the Waddenzee Judgment]

2.8 The ECJ expanded upon this by saying that:

“...where such a plan or project has an effect on that site but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned.”

[Paragraph 47 of the Waddenzee Judgement]

2.9 Further to the above the ECJ clarified that, once an Appropriate Assessment has been triggered, except in the circumstances outlined in Article 6(4) of the Directive, a plan or project can only be authorised where it will not have an adverse effect on the integrity of the Natura 2000 site, and that:

“That is the case where no reasonable scientific doubt remains as to the absence of such effects”.

[Paragraph 21 of Circular 06/05, or paragraph 59 of the Waddenzee Judgement]

The 'Dilly Lane' and 'People over Wind' Judgments

- 2.10 The High Court, in the judgment of J Sullivan in *Hart DC v Secretary of State for Communities and Local Government* (2008), has for some time formed the basis of established HRA Practice, insofar as it has determined the approach to the Screening and Appropriate Assessment stages of the HRA process.
- 2.11 Up until recently the established approach derived from the Dilly Lane Case meant that where impact avoidance and mitigation measures were put forward as integral parts of a plan or project, and where the competent authority was also satisfied that those measures would be effective, deliverable and could be secured, then there was no need for an Appropriate Assessment to be carried out.
- 2.12 This was because in such circumstances it was considered that the information pertaining to the efficacy of those impact avoidance and mitigation measures represented the 'objective information' referred to by the European Court of Justice (ECJ) in the Waddenzee case (above).
- 2.13 More recently however, in case C-323/17 of the ECJ (referred to as '*People over Wind*'), the ECJ concluded that it was not appropriate to take account of "...*measures intended to avoid or reduce the harmful effects of the plan or project*..." at the Screening stage of the HRA process. Although there appear to be some inconsistencies between this judgment and previous ECJ case law, until such time as the ECJ may provide further clarification, it will be necessary to consider the efficacy of impact avoidance and mitigation measures such as SAMM through the medium of an Appropriate Assessment in order to ensure compliance with the findings of the judgment.

The Grace and Sweetman Case

- 2.14 The above approach was confirmed in the July 2018 Grace and Sweetman case (C-164/17). In this case the ECJ ruled that a project resulting in the loss of land **within a European site** which could support the qualifying feature(s) cannot be **mitigated** by measures designed to improve the capacity of other areas of the European site to support those feature(s). Such a project must therefore fail the 'appropriate assessment test at Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. If the project must proceed for imperative reasons of overriding public interest, such measures may be required to **compensate** for the loss of area within the European Site, as per Article 6(4).
- 2.15 EPR's view is that, as there is no proposal to remove land from the SPA, ECJ ruling C-164/17 is not relevant to this application (see discussion at paragraph 5.52).

Screening Likely Significant Effects

- 2.16 The purpose of the initial screening stage is to determine whether the proposals will give rise to a 'likely significant effect' (LSE). If an LSE can be ruled out, the proposals are deemed to pass the screening stage. However, if an LSE is identified, or uncertain, the competent authority must proceed to the next stage and carry out an Appropriate Assessment of the proposals, in light of the conservation objectives of the International Site (s) in question.

The Appropriate Assessment Stage

- 2.17 The purpose of the Appropriate Assessment (AA) is to further analyse likely significant effects identified during the screening stage, as well as any effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. The AA evaluates the implications of the plan or project, either alone or in combination with other plans and projects, in light of the conservation objectives of affected International Sites.
- 2.18 The AA stage includes a test of whether the plan or project proposals will result in significant adverse effects on site integrity which can be defined as:

‘The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified (ODPM, 2005)’.

In Combination Effects

- 2.19 Other plans or projects being prepared or implemented in the area may have the potential to cause negative effects on the integrity of International Sites. These effects may act in combination with the effects of application P/140/16/OUT, potentially leading to a LSE becoming significant. It is therefore important to consider whether this application could contribute to effects generated by other plans and projects.

3. BACKGROUND INFORMATION

Introduction

- 3.1 This section presents background information including relevant: Local Plan policies; extracts from the HRA of the Local Plan; and consultation with Natural England and Chichester District Council's ecologist.

Supporting Information

- 3.2 Information reviewed to inform this HRA includes the following documents:
- 3.3 HRA of the Arun Local Plan:
- Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 1 Report: Baseline Data for Site Evaluations. April 2016. Urban Edge Environmental Consulting on behalf of Arun District Council.
 - Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 2 Report: Screening for Likely Significant Effects. June 2016. Urban Edge Environmental Consulting on behalf of Arun District Council.
 - Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 3 Report: Appropriate Assessment. February 2017. Urban Edge Environmental Consulting on behalf of Arun District Council.
 - PELP33a. Habitat Regulations Assessment for the Arun Local Plan. Analysis of new overwintering bird data and its implications for the conclusions of the HRA. September 2017. Urban Edge Environmental Consulting on behalf of Arun District Council.
 - PELP33b. Natural England Response to Inspector's Interim Findings.
- 3.4 HRA report provided by the applicant:
- Land South of Summer Lane, Pagham: Information to enable a Habitats Regulations Assessment of the impacts on the Pagham Harbour SPA/Ramsar site pursuant to Regulation 63 of the Conservation of Habitats and Species Regulations 2017. (Ecology Solutions, June 2018).
- 3.5 Some points are illustrated on **Maps 1 and 2**. Map 2 is taken from the Local Plan HRA PELP33a Technical Note.
- 3.6 **Map 1** shows the location of this planning application in relation to the Strategic Housing Allocations (Pagham North and South) and to Pagham Harbour SPA/Ramsar and the 400m buffer zone.
- 3.7 **Map 2** is included since it is relevant to the assessment of 'potential loss of important foraging areas for Dark-bellied Brent Geese'. The map shows the areas where Brent Geese have been recorded in relation to the Pagham Harbour SPA/Ramsar, its 400m buffer zone, the Strategic Housing Sites and the related planning applications, including this one. It also claims to show the '*Extent of alternative land suitable for foraging Brent Geese*'.

Arun District Local Plan

3.8 The relevant policy of the Arun District Local Plan is:

- Policy H SP2a Greater Bognor Regis Urban Area. 'To support the sustainable growth of Bognor Regis, growth will take place at three strategic allocations adjacent to the urban area onto the coastal plain'.
- SD1 – Pagham South – 400 units [P/140/16/OUT (this application) and P/25/17/OUT].
- SD2 - Pagham North – 800 units [P/6/17/OUT and P/134/16/OUT].
- SD3 – West of Bersted – 2,500 units

3.9 The locations of the applications falling under SD1 and SD2 are shown on **Map 1**.

3.10 The policy includes a requirement for the development proposals in all three locations to meet the following relevant requirements:

'Ensure no detrimental impact to Pagham Harbour SPA, through compliance with ENV DM2 (Pagham Harbour) and its supporting text'.

3.11 The policy ENV DM2 Pagham Harbour states:

- a. Within Zone A (0-400m from the boundary) as identified on the Policies Maps, development will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour, including non-native species and the water environment. Regard shall also be had to tests 1-4 as set out in Policy DM1 (Designated Sites of Biodiversity or Geological Importance).*
- b. Within Zone B (0-5km) for all new residential development and development which is likely to have an impact on Pagham Harbour will be required to:*
 - i. Make developer contributions towards the agreed strategic approach to access management at Pagham Harbour.*
 - ii. create easily accessible new green spaces for recreation within or adjacent to the development site. These shall be capable of accommodating the predicted increases in demand for local walking, including dog walking. Good pedestrian links shall be provided between housing areas and new and existing green space in order to discourage car use.*
- c. Major developments (as defined in the GDPO 1995 as amended) taking place outside Zone B and close to its boundary will be considered on a case by case basis to determine any potential effects on Pagham Harbour, and the need for any avoidance or mitigation measures'.*

3.12 Policy H SP2a also states that for SD1 and SD2 that:

‘the sites lie in close proximity and are within the drainage catchment of the internationally designated Pagham Harbour site which has drainage and waste water implications’.

3.13 The supporting text in the Local Plan states:

‘the Pagham North site consists of a number of parcels of land which will be planned comprehensively with each other to ensure that a sustainable development is provided. The Pagham South allocation is in close proximity to Pagham Harbour, which is an important and sensitive natural site within the wider Bognor Regis area. Development from this allocation should reduce any impacts from the loss of supporting habitat or recreational disturbance that may arise’.

3.14 The supporting text in the Local Plan also includes the following relevant background information on Pagham Harbour SPA/Ramsar and the means by which the Local Plan policies will ensure its protection:

Pagham Harbour

*‘Pagham Harbour is a SPA as it supports important populations of rare birds for a large proportion of the year. The Ramsar Convention recommends designation of wetlands that regularly support 1% of the population of a species of waterbird. Pagham Harbour has regularly supported more than this percentage of the western European populations of Dark-bellied Brent Goose *Branta bernicla bernicla*, and Black-tailed Godwit *Limosa limosa islandica*. The Habitats Regulations Assessment has assessed, in detail, the various habitats at the Harbour, that support species and the main threats and opportunities for Pagham Harbour. The key recommendations were the identification of zones to protect the site from development. These zones of influence have been mapped on the Proposals Map and the implications of considering developments in each zone are outlined below (and see ENV DM2 above).*

Pagham Harbour is an estuarine site which includes intertidal mudflats, saltmarsh, lagoons, shingle, open water, reed, swamp and wet grassland. It is an important breeding and wintering ground for wildfowl. As such, to ensure no detrimental impacts through the loss of supporting habitat, development within close proximity to the boundary of Buffer Zone A for Pagham Harbour SPA, will need to prove the site is not used regularly by birds. To do this, information on the cropping regime, frequency of planting favoured by Brent Geese, sources of disturbance, openness of the site and at least one seasons wintering surveys will need to be provided. Where results show frequent use, an additional winter bird survey should be carried out and mitigation design aspects incorporated, to enable informed judgements to be made’.

‘Pagham Harbour is vulnerable to disturbance, pollution, changes in hydrology and neglect of management which could lead to changes in habitat and invasion by non-native species. In terms of human population growth in the area, key vulnerabilities are associated with recreational pressures which include disturbance to wintering and breeding birds by people and their dogs. The exact levels of disturbance are unknown, however it is assumed that with higher visitor numbers, the likelihood of

disturbance and therefore impacts occurring that could have an impact on the integrity of the site and the features for which it is designated, will increase’.

‘Due to the current and future pressure on Pagham Harbour from recreational disturbance identified in the Appropriate Assessment, a strategic approach to mitigation at the designated site to reduce impacts has been agreed between the relevant parties, which activities are focussed on:

Wardening..., Access management and site protection..., Habitat improvements..., Interpretation..., Monitoring of wildlife and visitor numbers...

Though it is recognised that the special draw of the coast cannot be fully removed, this may be reduced through the addition of design aspects, such as on-site green space or dog walking areas’.

Consultation with Natural England

- 3.15 Natural England (NE), the Government's statutory adviser on nature conservation in England, has been consulted on the proposals. The Courts have determined in several occasions that the views of NE as the statutory nature conservation advisor should be given 'great weight' unless a 'cogent explanation' is given for not doing so. NE has advised ADC in the following correspondence (see **Appendix 1**):

- NE consultation response dated 13 February 2017
- NE consultation response dated 18 August 2017
- NE consultation response dated 13 February 2018

- 3.16 In their letter of 13 February 2018, NE confirmed they had no objection to the planning application subject to appropriate mitigation being secured.

- 3.17 The advice given, in summary, was as follows:

‘We consider that without appropriate mitigation the application could have a significant effect on Pagham Harbour Special Protection Area and Ramsar site.

In order to mitigate these adverse effects and make the development acceptable, the following mitigation measures are required / or the following mitigation options should be secured:

- *Appropriate financial contributions to the strategic approach to mitigating recreational disturbance;*
- *Alternative foraging habitat for dark-bellied brent geese (hereafter brent geese);*
- *Measures to minimise disturbance to brent geese foraging in fields adjacent to the application site.*

‘We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures’.

- 3.18 Full text is included in the letter from NE at **Appendix 1**.
- 3.19 [NB. The recent ECJ ruling (People over Wind) means it is no longer possible to rule out a likely significant effect at the screening stage of the HRA where impact avoidance and mitigation measures are relied upon. Instead, the assessment must be taken through to the AA stage of the HRA to demonstrate the proposal will have no adverse effect on the integrity of the International Site (see **Section 5**)].

Consultation with other Parties

- 3.20 Other relevant consultation responses were received as follows:

- **Environment Officer, Chichester District Council (CDC) response dated 30 March 2017**

- 3.21 In summary, this states:

‘Recreational Disturbance – Chichester District Council have identified that net new dwellings within a 5km zone of influence around the Pagham Harbour SPA boundary will increase the number of visitors to the SPA. Natural England have advised both Arun and Chichester DCs that increased visitor numbers in combination with all other developments in the zones of influence in the two districts will have a likely significant effect on the SPA unless there is a strategic scheme of avoidance/mitigation measures...

The two councils, together with the RSPB, have developed a joint strategic scheme of avoidance and mitigation measures along the lines of that which exists for the Solent Maritime SAC. This involves a jointly agreed uniform level of developer contribution in the two zones of influence, set at a level to fund the measures in-perpetuity.

The preferred method would be to collect a contribution towards the implementation of the joint project. The level of contribution to the interim scheme is £1,153 per unit / pitch. Such a planning obligation should be payable at commencement in order to ensure that avoidance measures are in place before first occupation’.

- **RSPB consultation response dated 12 February 2018.**

- 3.22 In summary, this states:

‘Many thanks for giving the RSPB the opportunity to comment on the proposed Brent Goose Mitigation Plan...The RSPB welcomes the recognition by Ecology Solutions of the concerns raised by the RSPB and SOS, over the likely importance of the Pagham South planning application site (Ref: P140/16/OUT) for foraging Brent Geese, which are a qualifying interest feature of the Pagham Harbour SPA/Ramsar and SSSI. Whilst we do not agree with Ecology Solutions statement that there is ‘no evidence to allow a conclusion that the ‘Development Proposals would give rise to an adverse effect on the integrity of the SPA/Ramsar site’, we do support the

decision reached with NE, that the 'precautionary principle' should apply and that additional mitigation is required'.

- 3.23 The response then makes a series of recommendations to alter the *Brent Goose Mitigation Plan*. It concludes that:

'the RSPB had previously requested that a further two winters of Brent Goose surveys and habitat mapping should be undertaken to properly ascertain usage by Brent Geese of these areas. In order to help with gathering this information, a programme of surveys and mapping has been commenced with RSPB and SOS helping to coordinate these surveys'.

- **RSPB consultation response dated 24 August 2018.**

- 3.24 In summary, this states:

'We note the updated information provided by Ecology Solutions (June 2018) to enable ADC to conduct a habitats regulation assessment has not taken into account our recommendations on the Brent Goose Mitigation Strategy. The RSPB therefore disagrees with Ecology Solutions statement that "proposals would not adversely affect the integrity of the SPA / Ramsar site when the development proposals are considered" (para 6.23). Our concerns remain that although the current strategy presents a good starting point, to ensure the mitigation is sufficient in offsetting the loss of brent geese foraging grounds and adequately secured in appropriate manner, the following concerns still need to be addressed.

This Brent Goose Mitigation Strategy currently proposed by Ecology Solutions, whilst providing around 5ha of suitable brent goose foraging habitat, would not effectively replace the c.10ha lost. We would suggest that you review our previous recommendations (submitted February 12th 2018), however, in summary we have concluded that all of SZ8798 9309 (7.04ha) should be managed as permanent pasture and contained in a livestock fence to allow any mowing regimes to be complemented by grazing livestock. This area (7.04 ha) still falls short of the land of the foraging habitat lost to the development.

The shortfall could be adequately addressed by following a suitable crop rotation in the two fields to the north of this area, field parcels SZ8798 9029 (8.45ha) and SZ8898 1141 (4.32ha). We recommend the larger field (SZ8798 9029) being managed as two parcels; this would allow for a crop rotation including 4ha of either winter cereal or clover rich fallow mix, to be present in anyone year.

As the proposed mitigation for brent geese stands, with the area of replacement brent goose foraging habitat unable to adequately replace the area lost (as a result of the development site), we will continue to uphold our opposition to consent of the application.

While we welcome the information obtained from the additional wintering bird survey 2017/2018, in the absence of suitable crops (the fields in question have all been left fallow and therefore have no foraging value for brent geese), an accurate representation of usage on P/140/16/OUT site cannot be obtained.'

- **Sussex Ornithological Society (a series of letters dated from 3 July 2017 to 22 June 2018).**

3.25 In summary, this most recent letter states:

'On 12 April 2018 the European Court of Justice ruled that mitigation measures could not be used to justify development of sites such as those near the Pagham Hbr SPA and Ramsar site that are subject to Habitat Regulations, without a full Habitats Assessment being made to assess the importance of the site in question.

The SOS believes that this ruling makes it clear that all planning applications that have not yet been decided have to demonstrate the impact that the loss of proposed to-be-developed sites will have on the designated species – which in the case of the South Pagham sites means on wintering Dark-bellied Brent Geese. In other words under the Habitats Regulations the importance of the South Pagham sites for wintering Brent Geese has to be formally assessed, before a decision on whether they should be developed can be considered.

*On P/140/16/OUT the applicant's consultants, Ecology Solutions, have provided an "Updated Statement to allow a Habitats Regulation Assessment to be made". However, it fails in this objective because it ignores the fact that wintering Brent Geese **DO** forage on the P/140/16/OUT site and therefore that the importance of this site must be properly assessed under the ECJ ruling. The report also does not provide data, at the required level of certainty, about precisely where the wintering flock of Pagham Harbour Brent Geese do actually forage, so that the importance of the South Pagham sites can be assessed against the other sites used by wintering Brent Geese. It merely concludes that this site is "not important".*

3.26 Further remarks are included on Brent Goose sighting and reporting omissions, errors and clarifications. It then goes on:

It, therefore, is in the interests of local councils that more detailed location evidence is gathered, together with data on how many birds are present, so that robust assessments can be made of where the important foraging areas are. Without an overall picture of where the geese forage it is difficult to make an assessment of the importance of any one site.

To address this, SOS is working with RSPB to obtain more comprehensive information of precisely where (by field) wintering Brent Geese forage, along with the numbers of Brent recorded in each field. To this end the first of a series of annual surveys was carried out in 2018. Until this data gathering is completed it is important that areas where we know that they do forage, such as the South Pagham sites, are not developed - otherwise our ability to use this data to identify "goose sanctuaries" to fully protect the wintering Brent Geese will be jeopardised.

Recognising the lack of information on how many Brent Geese use the South Pagham sites, and how frequently they are used, the Planning Inspector in 2017, during his hearings on the Arun Local Plan, agreed with Natural England's recommendation that the South Pagham sites be planted up with suitable foraging crops, kept free of bird scarers, and their use by wintering Brent Geese be recorded.

Until this is done no formal Habitats Assessment of the importance of these sites for wintering Brent Geese can be made’.

- **Report for Pagham Parish Council dated March 2017**

- 3.27 A report by Petra Billings Woodland Consultancy Ltd. which was commissioned by Pagham Parish Council and titled ‘Report on Ecological Appraisals Presented in Support of Applications for Housing Development at Pagham, West Sussex’ (Petra Billings, 2017).

4. SCREENING OF LIKELY SIGNIFICANT EFFECTS

Introduction

- 4.1 This section presents Stage 1 of the HRA, Screening. It describes the application site and development proposals, and explores the potential impacts generated by the development that could give rise to a likely significant effect (LSE) on Pagham Harbour SPA/Ramsar.

Application Site Description

- 4.2 The following description is made with reference to the Applicant's ecologist's HRA report (Ecology Solutions, 2018).
- 4.3 The Site is located at the western settlement boundary of Pagham, to the immediate south of Summer Lane (see **Map 1**). The surrounding landscape is dominated by residential development to the north, south and east. To the west, south west and north west lies land under arable cultivation. To the immediate east lies Pagham Road.
- 4.4 The Site comprises arable land bounded by hedgerows and drainage ditches. It lies approximately 2.3km east of Pagham Harbour SPA and Ramsar site.

Description of Development

P/140/16/OUT Land South of Summer Lane and West of Pagham Road, Pagham

- 4.5 Hanbury (PM) Ltd has applied for outline planning permission for a mixed use development at Land South of Summer Lane and West of Pagham Road, Pagham (hereafter 'the Site') (see **Map 1**). The Site is allocated for residential development in the Arun District Local Plan under Policy H SP2a. This is one of the 'Pagham South' allocated sites.
- 4.6 The application is for:
- Outline application for access only - mixed use development comprising of up to 400 dwellings, a care home with up to 70 beds, a Local Centre comprising up to 2000sqm of A1/A2/A3/D1/sui generis floorspace, provision of land for a 1FE primary school (with sufficient space to ensure that it is expandable to 2FE), provision of land for a scout hut, safeguarding of land to help link the site to the Pagham Harbour Cycle Route & other community uses including public open space & allotments with some matters reserved*
- 4.7 As the proposal is 'not directly connected with or necessary to the management of the [European] site' it must be subject to HRA.

Potential for Likely Significant Effects on Pagham Harbour SPA/Ramsar

- 4.8 The ALP HRA *Screening Report* (UEEC, 2016a) noted that 37ha of the Pagham South allocation was within the Pagham Harbour SPA/Ramsar site and 68.7ha was within its 400m buffer zone. Counts of between 1 and 2,000 Brent Goose in most years since 2000, mostly from within the part of the site within the SPA/Ramsar.
- 4.9 The screening conclusion was that potential impacts on Brent Goose feeding sites from the development allocation at Pagham South was Likely to significantly affect the SPA/Ramsar alone; effects in combination were possible and would require further survey and assessment.
- 4.10 However, in a subsequent iteration of the emerging Local Plan, the boundary of the Pagham South allocation was changed to take it out of the Pagham Harbour SPA/Ramsar site and out of the 400m buffer zone.
- 4.11 The ALP HRA *Screening Report* (UEEC, 2016b) identifies a number of potential effects on Pagham Harbour SPA/Ramsar associated with the 'Pagham South' developments. These were subsequently reduced once the Pagham South allocation was removed from the SPA/Ramsar and its 400m buffer for the current Local Plan. Those remaining are:
- Disturbance;
 - Effects on supporting habitat; and
 - Water pollution.
- 4.12 The Applicant has provided *Information for a Habitats Regulations Assessment* (Ecology Solutions, 2018) for this planning application, which has been used to inform this HRA.
- 4.13 [NB. The ecologist's report is dated after the ECJ ruling and so the information presented relates to both the screening and Appropriate Assessment stages of the HRA].
- 4.14 The Applicant's HRA states that the potential pathways for significant effects are:
- Disturbance effects through increased recreational pressure of the SPA;
 - Hydrological impacts; and
 - Loss of functionally linked habitat for qualifying bird interest features of the SPA/Ramsar, or disturbance to such species using such habitat.
- 4.15 Natural England agrees in their correspondence dated 13 February 2017 (see **Appendix 1**).
- 4.16 A summary of the relevant sections of the Local Plan HRA screening report is included below, with each point followed by relevant extracts from the Applicant's HRA report.

Disturbance

- 4.17 For disturbance impacts, the ALP HRA *Screening Report* (UEEC, 2016b) discusses how the 2013 ALP HRA concluded that '*residential allocations within 5km of Pagham Harbour SPA/Ramsar site would be the principal source of additional visitors to the European site, and would hence result in a risk of adverse effects on site integrity*'. Also, that '*mitigation measures*

recommended in the 2013 HRA were subsequently incorporated into the Publication ALP (October 2014) as Policy ENV DM2'.

- 4.18 The ALP HRA *Screening Report* confirmed that Pagham South is one of the potential new (residential) development allocations located within 5km of the SPA/Ramsar but concluded that the Pagham South allocation was likely to be deliverable in compliance with Policy ENV DM2, if all development including residential) is located outside the 400m zone.
- 4.19 This conclusion relied on the joint interim scheme of mitigation to avoid individually insignificant effects from the scheme contributing to a combined LSE.
- 4.20 The Applicant's HRA report (Ecology Solutions, 2018) includes the following response on this issue:

'Given the distances involved, it is considered that there is potential for new residents associated with the proposed development to access areas of the SPA / Ramsar site (e.g. for recreational purposes), thereby increasing visitor pressure on the site and potentially disturbing birds, including those listed as designating features of the site.

The SPA / Ramsar site is designated on account of its breeding and over-wintering bird populations (see Section 4) and as such, it is considered that effects are associated with both the spring / summer and winter periods. During winter, birds are susceptible to adverse effects through disturbance due to food sources being scarcer and efficient use of energy being of heightened importance to survival. During the breeding season, disturbance can result in adult birds being flushed from nests, leaving eggs or young exposed to the elements and predation. Prolonged or repeated disturbance can cause the adults to abandon a nest site.

Assessing visitor impacts

The proposals are for the construction of up to 400 residential units.

The average number of residents per household within the Arun District is 2.2. On this basis, the new development could give rise to a population of 880 additional people. It is reasonable to assume that the housing mix associated with any future Reserved Matters application would include a number of three and four bedroom properties in addition to those of smaller size. It has been assumed that the Development proposals could give rise to around 1000 new residents.

Some of these new residents would be expected to own pets, including dogs and access to nearby recreational areas for dog walking will be required. Whilst noting the presence of public rights of way close to the Application Site, in the absence of suitable, additional open space provision in the immediate vicinity of the new dwellings, it is possible that new residents would access the SPA / Ramsar site on a more regular basis than would otherwise be the case.

The Development Proposals provide for a significant area of open space for informal recreation, including dog walking and this is discussed further below in respect of mitigation measures.

On the basis of emerging planning policy and guidance in respect of the effects of new residential developments in the district, a package of mitigation and avoidance measures aimed at mitigating / avoiding recreational impacts on the SPA / Ramsar site has been put forward'.

NE's response on Disturbance

- 4.21 In their consultation response on the application dated 13 February 2017, NE stated:

'Appropriate financial contributions should be made to the Pagham Harbour strategic access management and monitoring project...[so that] 'a likely significant effect from increased recreational disturbance can be ruled out'.

EPR's Screening Conclusion

- 4.22 The recent ECJ ruling (People over Wind) means that impact avoidance and mitigation measures should now be considered at the AA stage. The applicant's ecologist's HRA report correctly recognises that it is no longer possible to rule out a LSE where such measures are relied upon. Instead, the assessment must be taken through to the AA stage to explore the effectiveness of mitigation in order to conclude whether there will be a residual adverse effect on the integrity of the International Site (see **Section 5**).
- 4.23 In summary, disturbance impacts arising from the proposed development will not have the potential for a LSE on the Pagham Harbour SPA/Ramsar alone, but there is potential for a LSE on the SPA/Ramsar in combination with other plans and projects.
- 4.24 This is considered in detail in the AA in **Section 5**.

Effects on Supporting Habitat

- 4.25 The ALP HRA *Screening Report* (UEEC, 2016b) discussed how the Local Plan could potentially have a negative effect on Dark-bellied Brent Geese overwintering in Pagham Harbour, caused by loss of high tide foraging habitat to allocated development in the coastal zone. However, the Local Plan HRA found that, given the largely rural nature of the district's landscape, it is likely that alternative sites would continue to be available, particularly in the context of ALP policies SD SP2 (which direct development to within the established built-up area in the majority of instances) and OSR DM1 (which protects existing open spaces in the built-up area from development).
- 4.26 The screening conclusion of the ALP HRA *Appropriate Assessment* report (PELP 33) (UEEC, 2017a) was subsequently that there will be no adverse effect on the integrity of Pagham Harbour SPA/Ramsar as a result of impacts on supporting habitats.
- 4.27 Following the ALP HRA *Appropriate Assessment* report PELP33 (UEEC, 2017a), further information was presented to inform the Local Plan EiP of relevance to this topic area.
- 4.28 PELP 33a (UEEC, 2017b) was a Technical Note providing analysis of new overwintering bird data and its implications for the conclusions of the HRA. It was aimed mostly at addressing issues surrounding loss of functional supporting habitat for Dark-bellied Brent Geese at Pagham South, but also clarified the situation at Pagham North.

4.29 In particular, it referred to new data compiled by Sussex Ornithological Society (SOS), submitted as part of its representations on a number of related planning applications at Pagham North and Pagham South, including this one.

4.30 In summary, it was SOS's view that *'this proposal is likely to directly affect wintering wetland birds and so objects to the proposals'*.

4.31 The conclusion of PELP 33a was as follows:

'The new information provided by SOS is not considered to alter the conclusions of PELP33 with respect to the potential impact of Pagham South and Pagham North. Taking account of incorporated mitigation measures, it can still be concluded that there will be no adverse effect on the integrity of Pagham Harbour SPA/Ramsar as a result of impacts on supporting habitats'.

4.32 Natural England agreed in PELP33b (NE, 2017), where they stated:

*'PELP33a is very helpful in assessing the new information and making recommendations. Figure 3 (see **Map 2** of this report) is particularly informative, as it plots the locations of brent goose sightings in the context of the SPA and suitable, available surrounding habitat.'*

'In conclusion, Natural England's view that the use of the Pagham South allocation (SD1) by foraging brent geese does not represent a constraint to allocating the site in the Local Plan. This is because mitigation measures are available, should an assessment at the planning application stage demonstrate that they are necessary, and Policy H SP2a and supporting text incorporates the requirement for that assessment. Therefore, Natural England agrees with the conclusion of the Technical Note (PELP 33a), that given the mitigation measures incorporated into the Local Plan, there will be no adverse effect on the integrity of the Pagham Harbour SPA as a result of potential impacts on foraging brent geese from the allocation sites'.

Initial information from the ecologist

4.33 The applicant's ecologist originally addressed this matter in their 'Information to enable a HRA' document (Ecology Solutions, 2016) which accompanied the planning application and NE responded (see below). A subsequent HRA report (Ecology Solutions, 2018) was submitted (see further below).

NE's response on potential loss of functionally linked habitat

4.34 In their consultation response dated 13 February 2017 NE state:

'Dark-bellied Brent Geese forage within, and on land near to, Pagham Harbour SPA/Ramsar site. Where the geese regularly forage on land outside the SPA/Ramsar site, this land may be considered functionally linked to the SPA/Ramsar by providing supporting habitat. Its loss should, therefore, be considered in any in combination assessment of impacts under the Habitats Regulations'.

'The Report to Inform an HRA states that the application site could be used by brent geese on occasion, though surveys carried out in support of the application, and a data search for records submitted to the Sussex Biological Records Centre, did not record any use by brent geese. The Report to Inform an HRA concludes that the fields to the west of the application site are more important for brent geese, and suggests mitigation in the form of planted screening to reduce visual disturbance which may arise from the application site.'

Natural England's view is that the size of the fields within the application site, and their location within 500m of the SPA, means that brent geese may use them when they are planted with a suitable crop. However, as surveys have not recorded any use, and given the availability of alternative foraging habitat around the SPA, we are satisfied that the loss of the application site as foraging habitat is not likely to have a significant effect on brent geese, alone, or in combination with other housing developments currently going through the planning process. Furthermore, we welcome the mitigation measure, in the form of screening, proposed to minimise disturbance to geese foraging in adjacent fields'.

- 4.35 As part of the EiP of the ALP, the following Main Modification was proposed by the Inspector and was subsequently included in the supporting text to Policy ENV DM2:

'To ensure no detrimental impacts through the loss of supporting habitat, development within close proximity to the boundary of Buffer Zone A for Pagham Harbour SPA, will need to prove the site is not used regularly by birds. To do this, information on the cropping regime, frequency of planting favoured by Brent Geese, sources of disturbance, openness of the site and at least one seasons wintering surveys will need to be provided. Where results show frequent use, an additional winter bird survey should be carried out and mitigation design aspects incorporated, to enable informed judgements to be made'.

- 4.36 The applicant's ecologist's updated HRA report (Ecology Solutions, 2018) includes the following details on this issue.

'It is necessary to give specific consideration to the extent to which land associated with the Development Proposals could be classed as 'supporting habitat' to the SPA / Ramsar site. Supporting habitat is that which, whilst not designated, plays an important role in the maintenance of populations of qualifying bird interest features at the SPA / Ramsar site. This would include, for example, land which provides an important foraging resource for such species. In some instances, adverse impacts on supporting habitat can lead to a conclusion that the plan / project is likely to have a significant effect on the European designated site.'

The Application Site, has been subject to specific survey and assessment work in order to determine whether qualifying bird interest features of the SPA / Ramsar site would be in any way dependent upon the habitat features present.

Of the listed qualifying bird interest features for the SPA / Ramsar site, the only species which requires more detailed consideration is Dark-bellied Brent Goose. This species is known to utilise arable land in the local area for foraging and loafing. Other qualifying bird interest features (Tern sps, Ruff and Pintail) would not be reliant

upon the land in question given the habitats present and the specific requirements of these species.

*With specific regard to the wintering habitats of Brent Geese, this species is most likely to forage on short dense swards of dry, improved grasslands with a high abundance of perennial Rye-grass *Lolium perenne* and an area of between 5 and 6 ha, located up to 1.5 km inland and 4-5 km along the coast from coastal roosting sites (Vickery and Gill 1999). In addition, this species has increasingly taken to grazing on cultivated grasslands and winter cereal fields near the coast (Scott and Rose 1996).*

Winter waterfowl surveys, undertaken by Aluco Ecology Ltd during the period November 2014 – March 2015 recorded no use of the Application Site by Dark-bellied Brent Goose, or indeed any waterfowl. Relevant survey information is presented at Appendix 5. During survey visits made by Ecology Solutions in winter 2017/18 (see Appendix 6), it was noted that the relevant fields are not planted with a winter cereal crop and are therefore unsuitable for use by Brent Geese. To confirm, again no use of the land by Brent Geese has been recorded.

Noting the fact that Dark-bellied Brent Geese will forage on different fields, year to year, depending on the crops present, and since the Application Site comprises arable land, further analysis has been undertaken into the potential importance of the Application Site and surrounding land for this species.

Whilst not corroborated by the specific wintering bird surveys undertaken, Ecology Solutions was alerted (by local residents who attended a public consultation event held in respect of the proposals), to the fact that Geese regularly utilise the Application Site. Whilst such information has been treated with a degree of caution it has been assumed that Dark-bellied Brent Geese may utilise the Application Site from time to time. In order to further inform this assessment, pre-existing information was additionally sought on the recorded abundance of this species in the locality of the Application Site.

It is understood from conversations with Natural England in relation to a planning application submitted (and consented) for land immediately north of the Application Site in 2015, that the specific area in question (the Application Site and surrounding arable land, north east of the SPA) was considered of 'low' importance for the species, based on survey work undertaken several years ago. Further information on Dark-bellied Brent Goose numbers for the Application Site and surrounding area was sought from the Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology Wetland Bird Survey (WeBS) and Sussex Biological Records Centre.

Pre-existing survey information obtained through this data search is presented at Appendix 7. This information shows that the Application Site and land in the immediate vicinity is of limited importance to Dark-bellied Brent Geese in the context of the habitats in closest proximity to the SPA / Ramsar site.

As can be seen from the SxBRC information presented at Appendix 8, only historic records (from 1986) exist for this species within quadrat G, within which the majority of the Application Site is located. The data also shows historic use of habitat within

Quadrat E (into which the development footprint extends), with such use almost certainly focussed on the large area of arable habitat in the northeast. In relation to Quadrat D, into which the Application Site extends, records show use by circa 2,000 individuals for several years (1990, 1994, 2000, 2007 and 2011), with low level use (100 individuals) in 2012. For two of these years, 1990 and 1994 specific locations are provided and these are shown on the plan at Appendix 7 as “D1” and “D2”, in the far north west of this quadrat, at a considerable distance from the Pagham settlement boundary and close to the SPA / Ramsar site. It is likely that the non-specific location records provided for the D 1km2 quadrat (2000, 2007, 2011 and 2012) are for birds recorded in the north west (i.e. similar areas to the location specific records from 1990 and 1994).

WeBS data provided by the BTO shows a maximum count of 3,001 Dark-bellied Brent Geese for the relevant recording sector, from 2010. During subsequent years this number has fallen, with a maximum counts of 1,620 in 2011, 2,500 in 2012, 2,280 in 2013 and just 730 in 2014.

More recently, additional information has been made available by the Sussex Ornithological Society. Whilst the data presented cannot be considered robust for assessment purposes (in part due to the methodologies employed), it does indicate use of the Application Site by Brent Geese. The relevant information is presented at Appendix 8.

Looking at the broad data set obtained, it is clear that the farmland in the local area is of some value to this species. However, the information strongly suggests that activity is more heavily focussed on land in and around the SPA / Ramsar site itself, and located at a considerable distance from the settlement boundary of Pagham.

Survey work, does not demonstrate with any certainty that the Application Site is of importance to the species and therefore that it can be considered functionally linked to the SPA / Ramsar site. However, it can be concluded that use of the Application Site by Dark-bellied Brent Geese on at least an occasional basis cannot be ruled out. In determining whether loss of habitat within the Application Site would give rise to a likely significant effect however, important considerations include; the context of the site's location in the wider landscape; the availability of other suitable habitat and the population trends for the species in the local area. Of course it is also important to bear in mind that whilst supporting habitat has a role in the maintenance of the population being considered, it in itself has not been deemed of sufficient importance to be classified as such and brought within the Natura 2000 network (e.g. through an extension of the existing SPA boundary).

The Application Site includes arable habitat, which is common place within the local area. It is clear from aerial photography that a large swathe of arable and grassland habitats extend north from the SPA/Ramsar site towards South Mundham, between Pagham and Sidlesham. Noting the lack of evidence for any significant use of the Application Site by the species and also the fact that for planning policy compliance reasons additional land to the west and north west of the Application Site would not be likely to be subject to development, the losses proposed cannot be seen as significant.

The Application Site is located adjacent to the existing settlement boundary. In these terms, the proposals will not result in fragmentation or compartmentalisation of habitat which could be used by the species. Such matters are relevant given that the species tends to avoid small enclosed fields.

It is also of note that evidence gives rise to the conclusion that the population of wintering Dark-bellied Brent Geese has fallen considerably over recent years. The precise reasons for this decline is not known, but it is likely that poor fledging success (e.g. through increased predation) at the breeding grounds in the Arctic Circle is a contributing factor. It is also possible that, as with several migratory duck species, 'short stopping' is occurring. This is where the increasingly less severe winters mean that previously unavailable habitats along the migration route, closer to the breeding grounds, remain suitable for foraging for longer. In some instances, this can mean that populations of birds never reach those areas which historically formed part of their range, simply because they no longer need to.

*It is considered that sufficient evidence does not exist to show that losses of arable habitat within the Application Site would be considered significant in Habitats Regulations terms. However, on a precautionary basis mitigation is nonetheless proposed. The mitigation measures, which are set out in the following section, are targeted at preventing disturbance impacts on Dark-bellied Brent Geese which may continue to use habitats to the west of the Application Site. In addition, a bespoke package of measures is proposed which secures foraging resources for Brent Geese long term. These measures are discussed in the following section' (see **Section 5**).*

EPR's Screening Conclusion

- 4.37 The HRA of the ALP concluded that although the Pagham South allocation was unlikely to have a LSE on Pagham Harbour SPA/Ramsar, and NE agreed, it was also proposed at the ALP EiP and agreed in a Main Modification that the policy for the allocation should include suitable wording to allow for planning application specific assessment and mitigation where this assessment found it was required. The information provided by the applicant addresses this and concludes that although a LSE alone or in combination is unlikely, a precautionary approach means mitigation is proposed. On this basis it is necessary to take the issue through to the AA stage of the HRA (see **Section 5**).

Water Pollution

- 4.38 The ALP HRA *Screening Report* (UEEC, 2016b) discussed the relevance and constraints associated with the Pagham wastewater treatment works (WWTW). The potential for foul water pollution impacts on Pagham Harbour SPA/Ramsar from the Pagham South allocation were summarised as being '*currently unclear how much headroom capacity is available at Pagham WWTW*'. The screening conclusion was '*Unlikely to significantly affect the SPA/Ramsar alone; effects in combination are possible*'.
- 4.39 The Applicant's ecologist addressed this issue in their original 'Report to Inform an HRA (Ecology Solutions, 2016) which was submitted with the planning application. Since this was updated in 2018 (and included below) it is not covered here, although a response from NE to the 2016 report follows.

NE's Response on Water Pollution

- 4.40 In their consultation response dated 13 February 2017 NE state:

'The Report to Inform an HRA submitted with this application states that there is no direct hydrological link between the application site and Pagham Harbour (paragraph 5.7.16), and that a Sustainable Drainage System will address surface water run-off (paragraph 5.7.21). For these reasons, Natural England is satisfied that there will be no likely significant effect from hydrological impacts during construction, or from surface water run-off during operation.'

'Your authority's HRA Stage 2 report: Screening for likely significant effects, regarding the emerging Arun Local Plan, identifies that developments in this location have the potential to impact the water quality of Pagham Harbour SPA/Ramsar site. Pagham waste water treatment works (WwTW) serves the Pagham area, and discharges to Pagham Rife, which feeds into the SPA/Ramsar site. Paragraph 5.7.23 of the Report to Inform an HRA states that Southern Water have indicated that there is sufficient capacity at Pagham WwTW and that discharge rates would not be adversely affected. If there is sufficient capacity, in combination with the other new developments currently being considered through the planning process, then Natural England is satisfied that there will be no likely significant effect from water quality impacts.'

- 4.41 In subsequent correspondence from NE this issue is not raised again.

Letter from Southern Water

- 4.42 In a letter dated 23 August 2017, Southern Water provided ADC with confirmation as follows:

'Further to our response sent out on 23/08/2017 regarding the above planning application consultation and additional assessment of treatment capacity, Southern Water can confirm the proposed development (400 dwellings) can be accommodated at the Pagham Wastewater Treatment Works (WWTW).'

Memorandum of Understanding on sewerage capacity

- 4.43 A Memorandum of Understanding on sewerage capacity (and treatment), between ADC and Southern Water Services (SWS), dated September 2017, was prepared for the ALP EiP. This set out the areas of common ground in respect of the delivery of sewerage and drainage networks for foul water, relating to locations identified for allocation in the ALP area.
- 4.44 Of relevance to Policy SD1 (the Pagham South allocation), and hence this planning application was the following area of agreement:

'With respect to capacities of the waste water treatment works in the District, impacts to water quality and expected phasing and timings, the parties agree that:

- 1. Environmental permits at Pagham wastewater treatment works (WWTW) are sufficient to accommodate growth proposed in Policy SD1 of the Arun Local Plan (2011-20231), whilst continuing to ensure water quality objectives in Pagham Harbour are met.'*

4.45 It was further stated that:

'As mentioned under the background section, potential capacity and water quality at Pagham Harbour was raised through work connected with the updated Appropriate Assessment. Information provided by the Environment Agency identified that the microalgae status of the Harbour is classed as borderline for the Water Framework Directive. Though the contribution from the treatment works is small, if flows were to go over that consented then it may be considered significant.'

In March 2017, SWS produced a table (SEDP4) showing the preferred drainage options for the strategic locations. On the basis, it is expected that only the 400 at Pagham South (SD1) connect to Pagham WWTW, in line with the preferred option, this would only take capacity to the existing permit level and so it would not be expected to impact water quality at Pagham Harbour.'

4.46 Further areas of agreement for other allocations were as follows:

2. *'Sufficient capacity can be delivered in the overall sewerage network in line with the intended phasing of the BEW site.'*

3. *'Any requirement for an extension at the Ford treatment works would be triggered by the rate and scale of housing delivery within the catchment over the plan period.'*

There is existing capacity at the Ford WWTW and some additional capacity may be gained through less obvious actions. It is acknowledged by the statutory bodies that an extension to this treatment works may be required towards the end of the Plan period, as recognised in the IDP {PEDP5}, however this is dependent upon housing delivery rates throughout the Plan period. Currently it is expected that this could be achieved against the expected timings of the housing trajectory'.

ALP EiP Inspector's report

4.47 The ALP EiP Inspector's report (July 2018) covers the issue of foul water treatment in the consideration of the ALP and suggests modifications to address the issues surrounding in combination effects arising from the Policy SD 1, 2 and 3 developments at Bognor Regis due to lack of capacity at Pagham WWTW and the issue with diversion to other WWTW in the catchment at Lidsey and Ford.

4.48 At paragraph 137, the Inspector states:

'There is limited capacity and there are permit limitations at Pagham Waste Water Treatment Works (WWTW) so most foul drainage would need to go to Lidsey or Ford WWTW.'

4.49 And at paragraph 164, the Inspector states:

'Lidsey WWTW has limited capacity so would only be able to serve early phases of the development [at BEW]. Later stages would be served by a new connection to Ford WWTW which has spare capacity to serve development and potential to be

upgraded during the lifetime of the LP. This is explained by MM58 and MM65 (paragraph 210 refers).'

4.50 At Paragraph 210, the Inspector states:

The HIS and IDP both indicate that waste water is currently a significant constraint to housing, particularly because of the limited capacity at Lidsey WWTW. However, there is capacity at Ford which could be used as an alternative to Lidsey. Moreover, capacity issues are capable of being addressed during the LP period so that proposed development can be accommodated. Upgrades to both Lidsey and Ford WWTW are shown within the IDP. Joint funding by Southern Water and developers would be likely. To be effective the LP should highlight the critical nature of such infrastructure which would be achieved by MM58 and MM65.'

ALP Policy on Water

4.51 In Section 18 - *Water* of the ALP, a review is included of the current situation with regard to the existing sewerage and drainage network and water resource availability in the District to understand existing pressures upon the quality of the District's water environment. In terms of the existing sewerage and drainage network, it states the following:

'Public wastewater networks and treatment facilities are the responsibility of Southern Water throughout the whole of Arun District. Southern Water have indicated that there is little spare capacity in the foul water network and pumping mains to the Waste Water Treatment Works (WWTW) serving the District at Ford, Lidsey and Pagham. Upgrading will therefore be required by developers, through existing arrangements under the Water Industry Act, in line with network modelling of site specific requirements. Local improvements are considered likely and new pumping mains to the appropriate WWTW may also be required to ensure that the sewerage network can cope with increased use.'

Southern Water Commitment

4.52 In an email from Charlotte Mayall of 16 August 2018, Southern Water sets out its proposed approach to ensure that critical infrastructure is delivered when necessary:

'Further to our conversation earlier this week, I've now spoken with Paul Kent regarding the planning applications on SD1 and SD2. He informed me that regardless of the developer's intentions, it will be Southern Water's ultimate decision as to which WTW catchment new development connects to (most likely to be Ford in the case of development within the SD2 allocation).

With regard to network capacity (ie, sewerage pipes), once contacted either by a developer or consulted on a planning application by a local authority, Southern Water will carry out an initial assessment and where a capacity constraint is identified, Developer Services will offer the following advice:

Southern Water has undertaken a desk study of the impact that the additional foul sewerage flows from the proposed development will have on the existing public sewer network. This initial study indicates that there is an increased risk of flooding

unless any required network reinforcement is provided by Southern Water. Any such network reinforcement will be part funded through the New Infrastructure Charge with the remainder funded through Southern Water's Capital Works programme.

Southern Water and the Developer will need to work together in order to review if the delivery of our network reinforcement aligns with the proposed occupation of the development, as it will take time to design and deliver any such reinforcement. It may be possible for some initial dwellings to connect pending network reinforcement. Southern Water will review and advise on this following consideration of the development program and the extent of network reinforcement required.

Southern Water will carry out detailed network modelling as part of this review which may require existing flows to be monitored. This will enable us to establish the extent of works required (If any) and to design such works in the most economic manner to satisfy the needs of existing and future customers.

Our assessment of the timescales needed to deliver network reinforcement will consider an allowance for the following:

Initial feasibility, detail modelling and preliminary estimates.

Flow monitoring (If required)

Detail design, including land negotiations.

Construction.

The overall time required depends on the complexity of any scheme needed to provide network reinforcement. Southern Water will seek however to limit the timescales to a maximum of 24 months from a firm commitment by the developer to commence construction on site and provided that Planning approval has been granted.

We then request the following condition in any planning consent:

"Occupation of the development is to be phased and implemented to align with the delivery by Southern Water of any sewerage network reinforcement required to ensure that adequate waste water network capacity is available to adequately drain the development"

The aim of the above condition is to allow Southern Water sufficient time to put the necessary infrastructure in place, to a maximum of 24 months (as underlined above). Southern Water is unable to prevent developers from connecting to its sewer network prior to any essential upgrades being carried out, which could lead to foul flooding. This is why we look to local authorities to ensure through policies and conditions that development is phased to align with the delivery of the infrastructure required to serve it.'

Applicant's Response on Water Pollution

- 4.53 The Applicant's ecologist most recent report sets out their case with regard to water pollution impacts in their HRA report (Ecology Solutions, 2018) as follows:

Vulnerability

'Estuarine habitats are susceptible to toxic contamination, sedimentation and erosion, with the latter two affecting the structure of the habitats present. Toxic contamination has the potential to kill off benthic, and other invertebrates as well as plant species. Via the uptake of toxins by these groups, knock on effects on organisms further up the food chain (e.g. birds) are also possible.

Predicted Impacts

There is no watercourse (e.g. river, stream) within or adjacent to the Application Site, which would offer a direct hydrological link with the SPA/Ramsar site. The Pagham Rife is located approximately 0.8km to the west of the Application Site at its closest point. Field drains / ditches in the local area may offer potential hydrological connectivity to the SPA / Ramsar site, although from studying the relevant Ordnance Survey map, there appears to be no direct link, with several gaps in the network.

Specific consideration has been given to the proposed surface water and foul water drainage strategies associated with the proposals.

Noting the lack of direct hydrological connectivity between the Application Site and wider ditch / drainage network (discharging to the SPA / Ramsar site), it is considered that activities during the construction phase would be highly unlikely to result in adverse effects on the SPA / Ramsar site (e.g. through contaminated surface water run-off). In any event, mitigation measures will be in place to deal with any contamination issues during the construction phase. Such measures would include the provision of spill kits to machine operators, use of interceptors/bunds where appropriate and agreed safe storage protocols for any chemicals on site.

During the operational phase of development it is considered that potential effects would be limited to the following:

- Contamination of the local hydrological system (surface water run-off);*
- A change in water discharge rates into Pagham Harbour as a result of the drainage (storm water) strategy;*
- A change in water discharge rates into Pagham Harbour as a result of the foul water treatment strategy.*

Consideration has been given to potential toxic contamination of the hydrological system during the operational phase. Given the distances involved (as set out above in relation to the construction phase), and the mitigation incorporated into the scheme in relation to the surface water drainage strategy (see below), it is considered that there would not be any adverse effects on the integrity on the SPA / Ramsar site.

With regard to potential changes in water discharge rates into Pagham Harbour, both the surface water drainage (storm water) and foul water strategies are key.

An inappropriately designed surface water drainage strategy could, either directly or indirectly alter ground water run-off or infiltration rates, with the result that a greater 'load' is placed on the local drainage network.

The surface water drainage strategy will utilise a SuDS based system, with appropriately designed attenuation features. There will be no direct discharge of surface water into the local drainage network and natural infiltration levels would not be above the current 'green field' run off rate. The fine detail of the drainage strategy will be agreed with the Environment Agency, providing a further level of comfort to the decision taker on this matter.

It is considered that there would be no potential significant effect on the SPA / Ramsar site or the SSSI as a result of the surface water drainage strategy.

Regarding the treatment of foul and storm water, it is proposed that this will be discharged directly to Pagham Waste Water Treatment Works (WWTW). Waste water will either be pumped, or a gravity system may be employed depending on the results of further work to be undertaken at the detailed design stage. Southern Water have confirmed that the Pagham WWTW has sufficient capacity and that ('clean' water) discharge rates from the WWTW would not be adversely affected.

On the basis of the above, it is considered that the Development Proposals would not have a significant effect on the SPA / Ramsar site or SSSI as a result of hydrological impacts and no additional specific mitigation measures are considered necessary'.

EPR's Screening Conclusion

- 4.54 A potential issue with capacity at the Pagham WWTW was identified in the ALP HRA *Screening Report*. Although the applicant has had confirmation from the relevant water supplier (Southern Water) that there is sufficient capacity to accommodate this site and so avoid a LSE when considered alone, when other allocated residential schemes which also rely on this WWTW are taken into account in combination effects on Pagham Harbour could arise should capacity be exceeded.
- 4.55 NE advised that, subject to there being sufficient capacity in combination with other new developments, it is satisfied that there will be no LSE from water quality impacts.
- 4.56 The ALP includes a Policy to ensure wastewater treatment facilities and networks are upgraded in step with proposed development, making it clear that this responsibility falls to Southern Water and developers.
- 4.57 Southern Water has confirmed to ADC its approach to providing adequate capacity in terms of each planning application, although it requires compliance with a proposed planning condition to ensure relevant developments are delivered in phases which are in step with the upgrading programme for Pagham and Ford WWTWs.

- 4.58 Since there is a requirement for compliance with a planning condition which could be considered mitigation it is not possible to screen out a LSE at the screening stage when considering the proposed development in combination with other projects.
- 4.59 In summary, water pollution impacts arising from the proposed development will not trigger a LSE on the Pagham Harbour SPA/Ramsar alone, but there is potential for a LSE on the SPA/Ramsar in combination with other plans and projects. This is considered in detail in the AA in **Section 5**.

Screening Conclusion

- 4.60 The screening of the project is summarised in **Table 4.1** below.

Table 4.1: Summary of HRA Screening

Receptor	Unmitigated Impact	LSE alone	LSE in-combination	AA required
Pagham Harbour SPA/Ramsar (qualifying features)	Disturbance of birds	No	Yes	Yes
	Effects on supporting habitat	Yes	Yes	Yes
	Water pollution	No	Yes	Yes

- 4.61 As it is presently not acceptable to take mitigation and avoidance measures into account at the Screening stage of the HRA, the proposal could result in a LSE on the internationally important features of the International Sites in combination with other plans or projects. As a consequence, the proposal must be subject to an 'Appropriate Assessment' (Stage 2 of the HRA). This is presented in **Section 5**.

5. APPROPRIATE ASSESSMENT

Introduction

- 5.1 This section presents the Appropriate Assessment. It makes reference to: the ALP HRA Stage 3 report - *Appropriate Assessment*; to the HRA information provided by the applicant's ecologist; and to consultation responses from NE. This information is reviewed to determine whether there will be an adverse effect on the integrity of the International Site.

Local Plan HRA

- 5.2 The ALP HRA *Appropriate Assessment* report (UEEC, 2017a) sets out details of the qualifying features, conservation objectives, condition status, populations trends and threats to site integrity for Pagham Harbour SPA/Ramsar site.
- 5.3 For each threat it then considers the impact pathways, and impacts, mitigation and adverse effects on site integrity. The information relevant to the threats being considered for this planning application are set out below.

Impact Pathways: Disturbance

Introduction

- 5.4 The ALP HRA *Appropriate Assessment* report (UEEC, 2017a) considers the impact pathway of alone and in combination effects of disturbance on Pagham Harbour SPA/Ramsar.
- 5.5 Population growth associated with residential development brings with it the prospect of additional visitor pressure on European sites. There is potential for adverse effects on International Sites, in particular those designated for an internationally important bird assemblage, as at Pagham Harbour.
- 5.6 Impacts associated with disturbance of birds from recreation can lead to behavioural or physiological responses, with possible effects on survival and breeding success due to reduced feeding time and additional flights. Disturbance can be caused by a variety of activities, including walkers, dogs, boats, bait diggers, and the distance and scale will influence the response.
- 5.7 Pagham Harbour SPA/Ramsar is important for supporting both overwintering birds (waders and wildfowl) and breeding birds (terns) and disturbance impacts differ for these groups. Wintering birds are vulnerable to interruption to foraging and roosting, breeding birds to predation or trampling of nests.

Visitor Surveys

- 5.8 Two visitor surveys have been carried out at Pagham Harbour (in 2006 and 2012) to obtain site baseline data on recreation behaviour. The analysis of postcode data, using a method agreed with Natural England, aimed to establish the distance travelled by visitors to Pagham Harbour SPA/Ramsar. The result was the majority of visitors travelled from within 5km to reach the site.

- 5.9 A 5km avoidance and mitigation zone around Pagham Harbour SPA/Ramsar was therefore adopted.

Proposed Residential Allocations within 5km of Pagham Harbour

- 5.10 The ALP allocates at least 4,180 dwellings within 5km of Pagham Harbour SPA/Ramsar (including 800 dwellings at Pagham North). In the absence of avoidance and /or mitigation measures, this level of residential development is likely to increase the number of regular visitors to the SPA/Ramsar. The resultant increase in disturbance from people and dogs is likely to adversely affect populations of breeding terns (by reducing breeding success) and overwintering Brent goose, black-tailed godwit, ruff and pintail (by reducing winter survival rates), thereby undermining the integrity of the SPA/Ramsar.

In Combination Effects

- 5.11 The ALP HRA (UEEC, 2017a) identified those plans and projects which are likely to act in combination with the ALP by contributing to disturbance impacts. Each plan and project will need to avoid or mitigate its respective contribution.

Impact Avoidance and Mitigation

- 5.12 The ALP HRA describes how avoidance and mitigation measures were incorporated into Local Plan policy ENV DM2 (see **Section 3** of this report). This policy requires new development resulting in a net increase in dwellings within 5km of Pagham Harbour SPA/Ramsar to make financial contributions towards a Strategic Access Management and Monitoring (SAMM) package and provide for accessible natural greenspace on site.
- 5.13 An interim strategic framework and tariff based system for collecting contributions to the SAMM package was agreed between ADC, CDC, NE and RSPB in 2015. The tariff was set at £1,275 per additional dwelling and funds projects within the following areas:
- Wardening and visitor management;
 - Dog projects, including provision of information e.g. codes of conduct;
 - Interpretation and signage; and
 - Monitoring.
- 5.14 The Proposed Modifications to the ALP required adjustment of wardening time from 0.5 to 1.5 full-time equivalent. However, in view of the increase in house numbers the tariff reduced per net additional dwelling.

Impact Pathways: Water Pollution

Introduction

- 5.15 The ALP HRA *Appropriate Assessment* report (UEEC, 2017a) considers the impact pathway of direct and in combination effects of water pollution on Pagham Harbour SPA/Ramsar.
- 5.16 Southern Water is the water company with responsibility for waste water treatment in Arun district. The ability of Waste Water Treatment Works to receive foul water is limited both by

conveyance infrastructure capacity and technological capability to treat waste water to the quality standard required for safe release into aquatic and marine environments. Nutrient enrichment and in particular nitrogen pollution can arise from wastewater treatment required in support of planned development. The Environment agency has identified the effects of nutrient enrichment in the form of dense macroalgal mats occurring in the intertidal zone, which increase biological oxygen demand and reduces dissolved oxygen content. This in turn reduces the diversity and abundance of intertidal invertebrates (wader prey) and the productivity of sea-grass beds (Brent Goose forage).

Evidence of Current or Future Impacts

- 5.17 Pagham WWTW discharges to Pagham Rife which subsequently flows into Pagham Harbour SPA/Ramsar. This is only a small part of the overall source of inputs.
- 5.18 Borderline issues with water quality are currently identified by the Environment Agency who monitor Pagham Harbour under the Water Framework Directive.
- 5.19 With planned residential developments in the Pagham WWTW catchment exceeding estimated headroom by 779 dwellings over the Local Plan period, it is not possible to rule out the risk of a significant deterioration in water quality and increased macroalgal growth. This would threaten the winter survival rates of Brent Goose, Black-tailed Godwit, Ruff and Pintail by reducing food availability, thereby undermining the integrity of Pagham Harbour SPA/Ramsar.
- 5.20 Southern Water is the statutory sewerage undertaker and has an obligation to find solutions and provide infrastructure to serve new development, and were consulted on the HRA. In the absence of plans to upgrade the treatment infrastructure at Pagham WWTW, the HRA author's recommended that ALP policies are amended to require flows from residential development which exceed the available headroom to be transferred to an alternative discharge location.

Impact Pathways: Impact on Supporting Habitat

Introduction

- 5.21 The Local Plan HRA Appropriate Assessment report (UEEC, 2017a) considers the impact pathway of direct, indirect and in combination effects on Pagham Harbour SPA/Ramsar from loss or degradation of supporting habitats.
- 5.22 Dark-bellied Brent Geese utilise grasslands and arable fields within 5km of the coast, especially later in the season when intertidal vegetation has declined. Sites can be disturbed by users.
- 5.23 In south Hampshire, a heavily urbanised landscape, a *Solent Waders and Brent Goose Strategy* was established, classifying sites known to be of particular importance to the species outside of European site boundaries, so that the sites may be protected from development and appropriately managed.
- 5.24 Loss of supporting habitats to development, unless mitigated, could reduce the overall extent of habitats which support the Brent Goose population within the SPA/Ramsar. Residential

development may be of greater concern where it is of a scale or location which could increase disturbance to adjacent areas of supporting habitat, thereby reducing the suitability of undeveloped land for Brent Goose as well.

Evidence of current or future impacts

- 5.25 The potential for a negative effect on Brent Geese numbers is lower at Pagham Harbour than in south Hampshire. Given the largely rural nature of the district's landscape, where sites are lost to development it is likely that alternative sites would continue to be available.
- 5.26 The greater risk for adverse effects is expected to be via losses of frequently used feeding habitat close to the designated site.

Pagham South

- 5.27 At the time of the HRA report (UEEC, 2017a), there were no records of Brent Goose for the allocation land but 1-2,000 have been recorded at adjacent fields on various dates [NB. See subsequent reports PELP 33a and 33b].
- 5.28 At a strategic level of plan-making and assessment, it is concluded that development at Pagham South is unlikely to result in a direct loss of supporting habitat, and would therefore not threaten the integrity of the SPA/Ramsar. However, any planning application for the site should be supported by adequate overwintering bird surveys for Brent Geese and other qualifying species, continuing over at least one season, together with an assessment of site suitability for foraging waterbirds. The survey should include the adjacent fields. Site suitability assessment should include cropping regime and how frequently the crops favoured by Brent Geese are planted in the rotation (particularly winter wheat, sources of disturbance and openness of the site).
- 5.29 An impact assessment should then be undertaken to ascertain whether the proposal would result in adverse effects through loss of, or displacement from, supporting habitats within and adjacent to the allocation, to enable a suitable mitigation strategy to be devised if necessary. Mitigation could include adjustments to the form, scale and layout of development and/or enhancement of alternative areas of supporting habitat nearby (e.g. through a conservation land management agreement or sacrificial crop set aside). This recommended approach to survey, impact assessment and mitigation is intended to be a cancellation measures designed to neutralise the potential for adverse effects from the ALP and has now been incorporated within the policy H SP2a at the Proposed Modifications stage.

Local Plan HRA: Impact Assessment

- 5.30 The ALP HRA *Appropriate Assessment* report (UEEC, 2017a) describes the impact assessment process, using the conservation objectives and ecological data for each European site and considering the impact pathways, in light of the ALP (Proposed Modifications) incorporated mitigation measures.

Disturbance

- 5.31 The source of the potential disturbance impact is derived from ALP policies H SP1: Spatial Development Strategy and H SP2a: Strategic Site Allocations.

- 5.32 The assessment of impacts on the Pagham Harbour SPA/Ramsar conservation objectives are set out in a table at para 6.3.1 of the ALP HRA report. A summary follows:

The extent and distribution of the habitats of the qualifying features

- 5.33 The increase in disturbance triggered by the ALP is unlikely to alter the extent and distribution of the habitats of the breeding and overwintering bird populations.

The structure and function of the habitats of the qualifying features

- 5.34 Increased disturbance does have the potential to alter the structure and function of the habitats of the breeding and overwintering bird populations...The impact is very likely to act in combination with other plans and projects...The risk of adverse effects on integrity is high...Counteracting measures devised in consultation with Natural England have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact (i.e. Policy ENV DM2).

The supporting processes on which the habitats of the qualifying features rely

- 5.35 Increased disturbance is unlikely to significantly undermine the supporting processes on which the habitats of the Pagham Harbour SPA/Ramsar bird populations rely.

The population of each of the qualifying features

- 5.36 The breeding tern population could potentially be reduced via increased predation of eggs, trampling and thermal stress, leading to reduced breeding success as a result of increased disturbance...Impact likely to be high and very likely to act in combination with other plans and projects. Overwintering bird populations could potentially be reduced due to a fall in winter survival rates as a result of increased disturbance...Magnitude likely to be significant and very likely to act in combination with other plans and projects. Counteracting measures have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact (i.e. Policy ENV DM2).

The distribution of the qualifying features within the site

- 5.37 The distribution of birds' populations is likely to be altered as birds are displaced in response to increased disturbance...The impact is very likely to act in combination with other plans and projects. Counteracting measures have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact (i.e. Policy ENV DM2).

Impacts on Supporting Habitat

- 5.38 In terms of the ALP, the source of the potential impact from loss of supporting habitat is derived from ALP policies H SP1: Spatial Development Strategy and H SP2a: Strategic Site Allocations. The ALP HRA includes the following statements.

The extent and distribution of the habitats of the qualifying features

- 5.39 The ALP has the potential to alter the extent and distribution of the habitats (functionally connected land) of the Pagham Harbour SPA/Ramsar overwintering bird populations. The impact could be direct and permanent as a result of built development within 5km of the site, this distance being the known foraging range of dark-bellied Brent goose which is the principal species of concern. The impact could also be indirect, temporary and reversible due to changes in the recreational use of land within 5km of the site as a result of developments on adjacent land. The impact could act in combination with other plans and projects.

5.40 Impacts are not predicted for the breeding tern populations of the SPA. Non-breeding ruff, pintail and black-tailed godwit are known to occasionally use habitats such as wet grassland, farmland and stubble (Snow & Perrins, 1998), and sometimes travel significant distances to reach them (e.g. up to c.20km for ruff) but have a stronger affinity for wetland features. Impacts on these species are theoretically possible but likely to be less significant than for Brent goose.

5.41 The magnitude of the impact is potentially large if the strategic sites are shown to regularly support Brent geese: Pagham South, Pagham North and West of Bersted account for 219.9ha of potentially suitable habitat, while adjacent areas could also be indirectly affected.

5.42 However, counteracting measures were devised in consultation with Natural England, have been incorporated into the plan, and are considered likely to effectively cancel the impact.

The structure and function of the habitats of the qualifying features

5.43 The ALP has the potential to alter the structure and function of the habitats (functionally connected land) of the Pagham Harbour SPA/Ramsar overwintering bird populations, for the reasons stated above.

5.44 However, counteracting measures have been incorporated into the plan, and are considered likely to effectively cancel the impact

The supporting processes on which the habitats of the qualifying features rely

5.45 The ALP is unlikely to affect the supporting processes on which the habitats (functionally connected land) of the Pagham Harbour SPA/Ramsar overwintering bird populations rely.

The population of each of the qualifying features

5.46 The Pagham Harbour SPA/Ramsar overwintering bird populations could potentially be reduced through a fall in winter survival rates as a result of adverse effects on functionally connected land. However, counteracting measures have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact.

The distribution of the qualifying features within the site

5.47 The ALP is unlikely to alter the distribution of the Pagham Harbour SPA/Ramsar overwintering bird populations within the site.

Water Pollution

5.48 In terms of the ALP, the source of the potential water pollution impact is derived from ALP policies H SP1: Spatial Development Strategy and H SP2a: Strategic Site Allocations. The ALP HRA includes the following statements.

The extent and distribution of the habitats of the qualifying features

5.49 The ALP is unlikely to alter the extent and distribution of the habitats of the breeding and overwintering bird populations as a result of increased disturbance.

The structure and function of the habitats of the qualifying features

5.50 The ALP has the potential to alter the structure and function of the habitats of the breeding and overwintering bird populations as a result of water pollution. Strategic allocations at Pagham South and Pagham North collectively exceed the available headroom in sewerage

treatment capacity at Pagham WWTW by 604 dwellings, when considered in combination with other plans and projects the exceedance rises to 779 dwellings.

- 5.51 Increased demand for sewerage connections to Pagham WWTW could result in nutrient enrichment within the SPA/Ramsar leading to dense macroalgal mats in the intertidal zone; these increase biological oxygen demand, and reduce dissolved oxygen content, the diversity and abundance of intertidal invertebrates (wader prey) and the productivity of sea-grass beds (Brent goose forage).
- 5.52 The magnitude of the impact is likely to be relatively minor given that Pagham WWTW contributes around 6% of the total nitrogen load; Sidlesham STW contributes 19%, 50% is from offshore waters and the remainder from riverine diffuse sources. However, the risk of adverse effects on integrity cannot be ruled out on the basis of objective information.
- 5.53 Impacts are not predicted for the breeding tern populations of the SPA.
- 5.54 However, counteracting measures were devised in consultation with Natural England, have been incorporated into the plan, and are considered likely to effectively cancel the impact.

The supporting processes on which the habitats of the qualifying features rely

- 5.55 The ALP is unlikely to significantly undermine the supporting processes on which the habitats of the Pagham Harbour SPA/Ramsar overwintering bird populations rely, for the reasons stated above.
- 5.56 However, counteracting measures have been incorporated into the plan and are considered likely to effectively cancel the impact.

The population of each of the qualifying features

- 5.57 The Pagham Harbour SPA/Ramsar overwintering bird populations could potentially be reduced due to a fall in winter survival rates as a result of decreased food availability. Counteracting measures have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact.

The distribution of the qualifying features within the site

- 5.58 The ALP could potentially alter the distribution of overwintering bird populations within the site as they search more widely for available food sources. Counteracting measures have been incorporated in the ALP and are considered likely to effectively avoid and mitigate the impact.

Local Plan HRA: Determining Adverse Effects on Integrity

- 5.59 The Local Plan HRA (2017) considers each aspect contributing to site integrity based on Natural England guidance from 2004.

Has the Appropriate Assessment shown:	Y/N
That the area of habitats of qualifying features will not be reduced?	Yes
That there will be no direct effect on the populations of the species for which the site was designated or classified?	Yes
That there will be no indirect effects on the populations of species for which the site was designated or classified due to loss or degradation of their habitat (quantity/quality)?	Yes

Has the Appropriate Assessment shown:	Y/N
That there will be no changes to the composition of the habitats for which the site was designated (e.g. reduction in species structure, abundance or diversity that comprises the habitat over time)?	Yes
That there will be no interruption or degradation of the physical, chemical or biological processes that support habitats and species for which the site was designated or classified?	Yes

- 5.60 It concludes, having considered each aspect contributing to site integrity with respect to Pagham Harbour SPA/Ramsar that there will be no adverse effects on the integrity of Pagham Harbour SPA/Ramsar, and the Arun Local Plan can be considered compliant with the Habitats Regulations in this respect. However, since the People over Wind finding, further information has been supplied by the Applicant to support this conclusion.

Applicant's Impact Avoidance and Mitigation Strategy

Introduction

- 5.61 This section sets out the impact avoidance and mitigation measures proposed by the Applicant to ensure that the proposals will not give rise to an adverse effect on integrity of Pagham Harbour SPA/Ramsar.

Mitigation measures for recreational impacts to Pagham Harbour SPA/Ramsar birds

- 5.62 The Applicant's ecologist proposes the following avoidance and mitigation measures in their HRA report (Ecology Solutions, 2018).
- Recreation disturbance impacts – Open space provision. Payment of a strategic access management and monitoring (SAMM) tariff and provision of suitable greenspace within the development.
 - Effects on (potential loss of) supporting habitats for Brent Geese. Screen planting on site boundary to alleviate potential impacts of visual disturbance.

Open space provision

- 5.63 The Applicant's ecologist (Ecology Solutions, 2018) sets out details of the proposed open space provision as follows:

'Informal open space is to be provided throughout the Application Site, in the immediate vicinity of the new properties. A total provision of approximately 5.36ha of open space and landscape planting is proposed, not including small pockets and strips of grassland. These areas will have permanent public access. In addition, the Development Proposals include 0.74ha of formal sports provision (MUGA and other pitches) and 1ha of land for use by the Scouts.

Within the 5.36ha of open space, there is a need to deliver equipped children's play areas and the proposed provision totals 0.15ha, leaving around 5.2ha of open space will be available for informal recreation activities. Of this 5.2ha, 3.29ha will be open

semi-natural greenspace comprising wildflower grassland and tree / shrub planting. The open space provision is well in excess of that which is required in line with the relevant Supplementary Planning Document. Further detail on open space provision is provided within the Landscape and Visual Impact Assessment submitted as part of the planning application and this should be read in conjunction with this document.

The proposed open space has a clear flow through the proposed development, providing good opportunities for a variety of circular walks, both in terms of length and habitats present. Away from formal play areas, dogs will be allowed to run off the lead, which is an important consideration in relation to replicating (insofar as possible) coastal walk experiences for dog walkers.

It should be noted that the proposed open space provision links with the ANOG delivered through the consented planning application associated with land to the north of Summer Lane, Pagham. This functional link is of significance on the basis that the extent of quality informal open space for recreation (including dog walking) in this part of Pagham will be greatly increased. Whilst both the ANOG and the open space provision proposed for this application individually mitigate any perceived effects associated with increased recreational pressure on the SPA/Ramsar site when each proposal is considered in isolation (and 'alone', under the Habitats Regulations) taken together the two areas are of even greater value to the local community.

Following from the above, it is important to note that there is a lack of good quality open space for informal recreation in the local area. The provision will therefore be of benefit not just to new residents associated with the Development Proposals, but also existing residents in the local area. On this basis the proposals will, at least to some extent, contribute to reducing existing pressures on the SPA/Ramsar site.

The open space will be subject to a suitable management regime to maintain an informal and safe environment for users. It will be managed in perpetuity and secured by way of a section 106 planning agreement. It is considered that the detail of any required management plan could be agreed by way of a suitably worded planning condition attached to any planning permission, or form part of a Reserved Matters application.

In addition, to encourage use of the onsite open space provision and deter additional visits to the SPA/Ramsar site, signage and homeowner welcome packs will be provided emphasising the sensitivities of Pagham Harbour and promoting the recreational opportunities available elsewhere (e.g. within the Application Site itself).

The open space will be available to new residents ahead of first occupation, thus before a potential adverse effect on the SPA / Ramsar site could occur.

6As stated above, the intention is to create a significant area of open space which offers opportunities for recreation (including dog walking) which will be easily accessible to the new residents associated with the Development Proposals. It is accepted that the proposals will not deliver an experience akin to that found at the coast, and some new residents would be likely to visit the SPA / Ramsar site on occasion. It is expected however, that the open space provision will reduce the

overall number of potential visits to the SPA / Ramsar site (and SSSI) by offering an easily accessible area for regular (e.g. daily / routine) dog walks by new residents.

The above measures are commended to the local planning authority as representing a suitable package of measures which will alleviate both existing and potential increased recreation at the SPA / Ramsar site. It is however noted that Natural England considers that even in instances where open space is provided for new residents, increased visitor pressure is still likely to result, when considering residential development proposals in combination with other plans / projects. On this basis, consideration has been given to the requirement for further mitigation / avoidance measures, such that when the Development Proposals are considered both alone and in combination, the conclusion of 'no adverse effect on integrity' can be safely reached. This additional mitigation is discussed below'.

NE's Response on Mitigation measures for recreational disturbance to SPA birds

'As set out in NE's response dated 13 February 2017, the application will add to recreational pressure on the Pagham Harbour SPA/Ramsar site, in combination with other housing developments, and therefore mitigation measures are required. The following measures should be secured:

Financial contribution to the Pagham Harbour Strategic Access Management and Monitoring (SAMM) project.

A landscaping plan setting out how the 3.92ha of semi-natural greenspace to be provided as part of the development will be managed...

Signage and homeowner information packs... should be agreed with the SAMM Project steering group to ensure consistent messages are given.'

EPR's View

- 5.64 The avoidance and mitigation strategy relied upon by the Applicant is considered to be robust to meet the tests set by consideration under Appropriate Assessment.
- 5.65 The ALP Policy ENV DM2 is established policy following agreement by ADC, CDC, NE and RSPB in 2015 and was tested at the subsequent Local Plan EiP and can be delivered.
- 5.66 Other strategic impact avoidance and mitigation schemes which collect a financial contribution to pay for implementing mitigation and monitoring measures have been tried and tested successfully at other International Sites, for example the Thames Basin Heaths, Dorset Heaths and Solent Coast.
- 5.67 The applicant's ecologist states that in perpetuity management of the open green space will be secured in a Section 106 Agreement, and managed in accordance with a management plan to be secured by planning condition (see **Section 6**).

NE's Response on Mitigation measures to minimise disturbance to brent geese foraging in adjacent fields

- 5.68 The Brent Goose Mitigation Plan (BGMP) includes full details of the following measures:

- 5.69 Planting on western boundary and fencing at edge of open space. Details to be agreed and delivery required in advance of works.
- 5.70 No closing of footpaths or other restrictions to access to the harbour, rather promoting responsible access through SAMM Project wardening.

EPR's View

- 5.71 The measures in the BGMP were developed by the applicant's ecologist with recommendations made on early drafts by the RSPB and Natural England. They are judged as being suitably robust as part of a package of measures (see below).

Mitigation measures for reduction in area of supporting Habitat

- 5.72 Although the Applicant has argued that the use of habitat on the application site by Dark-bellied Brent Geese is not significant and therefore is not considered to be 'supporting habitat', they are committed to delivering biodiversity gains, increasing the proposed enhancement package to provide greater comfort in relation to any 'perceived' residual impacts on Dark-bellied Brent Geese.
- 5.73 The measures are:
- Enhancing the western boundary by screening with dense tree planting to reduce visual disturbance.
 - Fencing will be included on the western and southern boundaries to prevent dogs accessing land to the south and west when run off their leads.
 - Footpaths which link to the SPA/Ramsar site will not be closed but will not be promoted in signage or literature for new residents, rather new on-site open space will be promoted, especially for dog walkers.
 - Brent Goose Mitigation Plan (December 2017) - A bespoke package of mitigation / enhancement measures delivering suitable habitat for foraging Brent Geese for the long term has been developed with support from Natural England (letter dated 13 December 2017).

NE's Response on Mitigation measures to provide alternative foraging habitat for brent geese

'As set out in Natural England's letter dated 13 February 2017, brent geese forage within, and on land near to, Pagham Harbour SPA/Ramsar site. Where significant numbers of geese regularly forage on land outside the SPA/Ramsar site, this land may be considered functionally linked by providing supporting habitat necessary for the maintenance of the population. Its loss should, therefore, be considered under the Habitats Regulations. At that time, Natural England's view was that the size and location of the fields that make up the application site meant that brent geese may use them when they are planted with a suitable crop. However, as surveys and data searches did not reveal any use and given the availability of alternative foraging habitat, we were satisfied that the loss of the application site was not likely to have a significant effect on brent geese.'

Subsequent to this, however, Sussex Ornithological Society (SOS) and Pagham and Aldwick Greenfields Action Movement (PAGAM) submitted records and anecdotal information on the bird use of the application site and surrounding fields. This information called into question whether the application site was ‘regularly’ used by foraging geese or not. Natural England, therefore, informally recommended Arun DC review the conclusion of the Habitats Regulations Assessment for the Local Plan Main Modifications (which include the application site), which was done in a Technical Note to the Examination in Public, dated September 2017. Given the apparent extent of the local residents’ observations, the Technical Note made recommendations regarding assessment, and potential mitigation, at the planning application stage.

Following these recommendations, the applicant sought Natural England’s advice on precautionary mitigation and avoidance measures in relation to brent goose foraging habitat. My letter setting out the principles for creation of suitable alternative habitat (dated 23 November 2017) is appended to the BGMP.

The measures to replace, on a precautionary basis, the area of potential brent goose foraging habitat lost to the proposals, are set out in paragraph 2.4 of the BGMP. These broad measures follow the principles I set out in my letter dated 23 November 2017’.

Location of the replacement habitat:

Natural England’s view is that the location of the proposed mitigation land (shown at Plan ECO1 of the BGMP) is acceptable as it is closer to the SPA than the application site. It therefore, offers an advantage over the application site for foraging, as geese will expend less energy flying to the mitigation land from their roost site. A further advantage over the application site is that the mitigation land is not crossed by any footpaths, therefore is not susceptible to disturbance.

Area of replacement habitat:

The BGMP provides details of the crop rotation, which have been used to calculate the area of the application site that could potentially be used by brent geese. This calculation follows my advice that a like-for-like area of habitat is not necessary if the application site is not permanently available to foraging geese, and gives a maximum requirement of 18.7ha (paragraph 2.23). The BGMP goes on to state that this will be provided through approximately 5ha of permanent habitat managed for brent geese, and a total of 18.5ha where bird scaring to reduce crop damage will no longer occur (shown on Plan ECO1). As this will be secured in perpetuity, Natural England’s view is that this represents an improvement over the current situation.

Habitat management:

The combination of permanent winter cereal/clover cropping, and permanent wet grassland creation described in paragraphs 3.5 – 3.10, follows the advice set out in my letter of 23 November 2017. The land that has recently been left fallow is currently made up of rank vegetation with a high proportion of rushes and reeds. Whilst the frequently flooded part of the site has value for passage and wintering

waders and wildfowl, and possibly breeding lapwing, the grassland is not suitable for brent geese. Therefore, the proposed grassland management regime, and creation of permanent scrapes, represents a benefit for brent geese, without compromising the interest for waders and other wildfowl. However, Natural England will comment on the detailed Management Plan for the site, when it is consulted on at reserved matters stage.

Permanently planting winter wheat/clover in the western part of the field will represent an improvement over the current situation for brent geese, as described in paragraph 3.10 of the BGMP. However, there would be further improvement if the eastern part of the field were planted with winter cereals more often. The Habitat Management Plan should include an agreed cropping regime for the fields outside the permanent habitat creation area, but within the area of cessation of bird scaring activities.

Sight lines for brent geese:

Some scrub clearance is proposed on the boundaries of the habitat creation area. In principle, this could open up sight lines for brent geese and increase the likelihood that they will use the habitat created. However, Natural England has some concerns over the impacts of this on wider biodiversity interests. Therefore, as described in paragraph 3.15 of the BGMP, we would welcome further discussion over this point as the detailed Management Plan is developed.

Cessation of bird scaring:

The cessation of bird scaring measures over the area described in Plan ECO1 is essential for the successful implementation of the measures described above, and would be an improvement over the current situation. However, this would not be the case if crops favoured by brent geese are planted less often than currently. Therefore, the Habitat Management Plan should include a commitment to planting winter cereals at an appropriate frequency in the rotation.

Approach to consenting

I understand from discussions with Sussex Ornithological Society that they and the RSPB are planning brent geese surveys to create usage maps. This may lead to a strategic approach to mitigation, and identification of alternative brent goose reserves, which would have to be agreed by Arun and Chichester District Councils. Therefore, the approach set out in paragraph 2.6 of the BGMP is welcomed – namely that in the future, the applicant may, in agreement with Arun DC, make financial contributions to any strategic mitigation package, in lieu of the measures set out in the BGMP.

Timing of works

The provision of the mitigation measures set out in paragraphs 4.3 to 4.6 of the BGMP in advance of commencement of development is welcomed, and compliant with the Habitats Regulations, as it ensures that the mitigation habitat will be available before the loss occurs.

'In conclusion, Natural England's view is that, in principle, the package of measures described above and set out in the BGMP are sufficient to avoid a likely significant effect on the SPA from loss of brent goose foraging habitat and should be secured in perpetuity (in this case 80 years, as this is the definition used by the SAMM Project). However, the detail should be set out in a Habitat Management Plan to be agreed at the reserved matters stage'.

- 5.74 Natural England has subsequently sought a commitment to no net loss of foraging habitat for Brent Geese due to the development, and this will be secured through a planning condition (see **Section 6** - Delivery Mechanisms). The amount of land and details of its management will therefore be based on the details already agreed in the BGMP, but will be worked up further and agreed as part of the Pagham Harbour SPA Enhancement Land management and maintenance plan required to discharge the condition.

EPR's View

- 5.75 It is apparent that the applicant has taken account of the information gathered from the locals about their sightings of Brent Geese in the local area, since the applicant acknowledges that Brent Geese do use the land, hence their commitment to offering mitigation on land nearer to Pagham Harbour. No further information is considered necessary. The amount of land being offered has been calculated based on the area of the application site, the amount of land with suitable crops in recent years, plus an additional area to be treated sensitively (no bird scarers) (see paragraph 2.11 of the BGMP). The applicant is proposing to manage the land for Brent Geese in perpetuity. Natural England were consulted and accepted the proposals, despite requests from SOS and RSPB to bring a greater area of land under management.
- 5.76 The amount of land being provided is considered to be sufficient since it is to be managed specifically for Brent Geese, with management guaranteed in perpetuity, is close to the Harbour, and is away from the built environment. Hence, there can be high confidence that Brent Geese will utilise it on a regular basis to the extent that this will become 'functionally-linked supporting habitat for Brent Geese' in the long-term. This is in contrast to them having to rely on commercially grown cereal crops which may or may not be grown in any amount if at all in the future.
- 5.77 EPR's view is that, as there is no proposal to remove land from the SPA, ECJ ruling C-164/17 is not relevant to this application. The measures offered by the applicant to permanently improve the capacity of an area of land outside the SPA to provide foraging opportunities are considered to be mitigation for the effect on geese of removing occasional foraging opportunities which arise incidentally from the agricultural management of land outside the SPA.
- 5.78 A commitment to providing and managing the Pagham Harbour SPA Enhancement Land was already made via the S106 Agreement, but this commitment has been expanded to ensure no net loss of foraging habitat by the planning condition referred to above and set out in **Section 6**.

Water Pollution

EPR's View

- 5.79 Reliance on Southern Water has been tested through the EiP of the ALP and it is reasonable to rely on them to deliver effective mitigation.
- 5.80 In order to avoid water pollution effects, ADC will require any planning permission to be conditional on the following:
- Occupation of the development is to be phased and implemented to align with the delivery by Southern Water of any sewerage network reinforcement required to ensure that adequate waste water network capacity is available to adequately drain the development.
- 5.81 Reliance on a SuDS strategy that is agreed with the Environment Agency means there can be confidence in it being effective mitigation in order to avoid surface water pollution effects. ADC will require any planning permission to be conditional on submitting for approval a detailed SuDS strategy, which should include elements to address both water quality and volume of run-off.

HRA of Planning Application: Determining Adverse Effects on Integrity

- 5.82 Applying the approach in the ALP HRA AA for Pagham Harbour SPA/Ramsar:

Has the Appropriate Assessment shown:	Y/N
That the area of habitats of qualifying features will not be reduced?	Yes
That there will be no direct effect on the populations of the species for which the site was designated or classified?	Yes
That there will be no indirect effects on the populations of species for which the site was designated or classified due to loss or degradation of their habitat (quantity/quality)?	Yes
That there will be no changes to the composition of the habitats for which the site was designated (e.g. reduction in species structure, abundance or diversity that comprises the habitat over time)?	Yes
That there will be no interruption or degradation of the physical, chemical or biological processes that support habitats and species for which the site was designated or classified?	Yes

EPR's Conclusion

- 5.83 As a consequence, the proposed mitigation measures are considered to be suitable and ADC can be confident that they will avoid or mitigate an adverse effect on the integrity of Pagham Harbour SPA/Ramsar site, alone and in-combination with other plans and projects.

6. DELIVERY MECHANISMS

Introduction

- 6.1 This section sets out the mechanisms for securing the delivery of the mitigation measures described in Section 3, such that ADC can be assured that the development will not give rise to LSE on Pagham Harbour SPA/Ramsar.

Recreational Impacts

- 6.2 To mitigate adverse effects through recreational pressure on Pagham Harbour SPA/Ramsar in combination with other residential proposals in the area, NE advised that an appropriate contribution should be made to the strategic approach to access management at Pagham Harbour, and that an appropriate planning condition or obligation is attached to any planning permission to secure this measure.
- 6.3 ADC will require *Payment of a strategic access management and monitoring (SAMM) tariff and provision of suitable greenspace within the development*, to be secured through Section 106 and planning condition.
- 6.4 The applicant's ecologist HRA report (Ecology Solutions, 2018) has confirmed that:

'The open space will be subject to a suitable management regime to maintain an informal and safe environment for users. It will be managed in perpetuity and secured by way of a section 106 planning agreement. It is considered that the detail of any required management plan could be agreed by way of a suitably worded planning condition attached to any planning permission, or form part of a Reserved Matters application'.

- 6.5 Also, that:

'The Applicant is fully committed to the payment of a developer contribution towards a strategic level mitigation / avoidance strategy. The final sum payable would be secured by way of a section 106 agreement. In this way the Competent Authority can be assured (i.e. no doubt remains) that appropriate mitigation / avoidance measures will be delivered ahead of any potential significant effect arising in relation to the Development Proposals'.

Supporting Habitat

- 6.6 The Brent Goose Mitigation Plan (December 2017) sets out details of how the measures will be delivered and secured. It states:

'As agreed with Natural England, it is considered that it would be appropriate for Arun District Council to apply a Grampian Condition in relation to the Development Proposals in respect of impacts on Brent Geese. Such a condition would prevent commencement of development until such times as all matters of detail concerning Brent Geese mitigation have been fully agreed.

It is considered that it would be appropriate for Arun District Council to apply a planning condition in respect of the fine detail concerning the management of the

mitigation land. That fine detail would be agreed with Arun District Council and Natural England (as relevant) during the Reserved Matters stage of the application.

It is proposed that the measures described within this mitigation package will be the subject of a legal agreement (e.g. either a Section 106 obligation or Unilateral Undertaking), which will be agreed at the Reserved Matters stage, to cover a period of 80 years (in perpetuity) from the grant of planning permission. In determining the outline planning application, it is considered that the aforementioned Grampian Condition and conditioning of the management plan, gives sufficient comfort to the Competent Authority (in this instance Arun District Council) that no adverse effect on the integrity of the SPA / Ramsar site could arise.

Should a strategic approach to mitigation be adopted in the future, it may be that the Applicant wishes to agree with Arun District Council (and Natural England as necessary) that reliance can be placed upon that mechanism for mitigation in respect of the Development Proposals, in lieu of the measures described in this report. At this time, it is however proposed that the bespoke measures put forward in this report are to be secured (as appropriate) and delivered in perpetuity.

In the light of the precautionary mitigation measures proposed and also the mechanisms by which such measures can be secured long term, it is considered that Arun District Council (as Competent Authority) can be satisfied that the Development Proposals will not give rise to a significant effect on the SPA / Ramsar site when considered both alone and in combination with other plans and projects. A safe consent can therefore be granted'.

- 6.7 Natural England have agreed to the applicant's proposed wording for a planning condition necessary to ensure 'no net loss' of Brent Goose foraging habitat, as follows:

"No development shall commence until the applicant has submitted and the local planning authority (in consultation with Natural England) has approved the detailed management and maintenance scheme for the adjacent Pagham Harbour SPA Enhancement Land (as defined and referred to within the Agreement under s106 of the Town and Country Planning Act associated with the permission) which shall provide for:

(a) the delivery of habitat enhancements (including some areas of additional planting) for Brent Geese on said land so as to achieve no net loss of foraging habitat for Brent Geese due to the development proposals;

(b) the management of field boundary vegetation, associated with specific adjoining fields to enhance sight lines for Brent Geese, making this field matrix more suited to use by them; and

(c) cessation of bird scaring initiatives on said land;

said measures and scheme to substantially accord with the details set out in Chapter 4 of the Ecology Solutions Ltd "Brent Goose Mitigation Plan" December 2017 submitted in support of the application;"

Water Pollution

- 6.8 In order to ensure avoidance of any potential water pollution effects from foul water or surface water, ADC will require any planning permission to be conditional on the following:
- Occupation of the development is to be phased and implemented to align with the delivery by Southern Water of any sewerage network reinforcement required to ensure that adequate waste water network capacity is available to adequately drain the development.
 - That a detailed SuDS strategy is submitted for approval, which should include elements to address both water quality and volume of run-off.

7. RESIDUAL IMPACTS AND CONCLUSIONS

Introduction

- 7.1 This section sets out a summary of the assessment presented in **Sections 4 to 6** of this document to identify any residual impacts. A conclusion is then drawn in the context of the HRA process.

Assessment Summary and Residual Impacts

- 7.2 **Table 7.1** provides a summary of this process.

Table 7.1: Summary of the Assessment and Residual Impacts

Receptor	Unmitigated Impact	Significance	Mitigation	Residual Impacts
Pagham Harbour SPA/ Ramsar (qualifying features)	Disturbance of birds	LSE in combination	SAMM contribution. Onsite 'suitable greenspace' provision	None
	Effects on supporting habitat	(Potential) LSE alone/in combination	Package of enhancement measures	None
	Water pollution	LSE in combination	Comply with planning conditions	None

- 7.3 The applicant has taken account of the recent ECJ ruling with its requirement for mitigation measures to be considered only as part of AA rather than at the screening stage of the HRA, and the AA information presented in **Sections 5** and **6** should be regarded as being suitably robust to conclude no adverse effect on the integrity of Pagham Harbour SPA/Ramsar.

Conclusions

- 7.4 ADC can conclude that, providing the avoidance and mitigation measures described in **Section 5** and **6** are successfully agreed, secured and implemented, the proposals will accord with the impact avoidance and mitigation strategy set out in the Arun Local Plan Policy ENV DM2 and so there will be no adverse effect on the integrity of Pagham Harbour SPA/Ramsar. The development therefore passes the HRA screening and AA tests and can proceed.

8. REFERENCES

Arun District Council (2018) Arun Local Plan. Adopted 18 July 2018.

Ecology Solutions (2016) Land South of Summer Lane, Pagham: Report to Inform a Habitats Regulations Assessment.

Ecology Solutions (2018) Land South of Summer Lane, Pagham: Information to enable a Habitats Regulations Assessment of the impacts on the Pagham Harbour SPA/Ramsar site pursuant to Regulation 63 of the Conservation of Habitats and Species Regulations 2017. (June 2018).

Department for Communities and Local Government (DCLG) (2012) *National Planning Policy Framework*. DCLG London.

Environment Agency (2013) Adur & Ouse Abstraction Licensing Strategy.

European Commission (2000a) *Communication from the Commission on the Precautionary Principle*.

European Commission (2000b) *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*.

European Commission (2001) *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites*

Natural England (2017) PELP33b. Natural England Response to Inspector's Interim Findings.

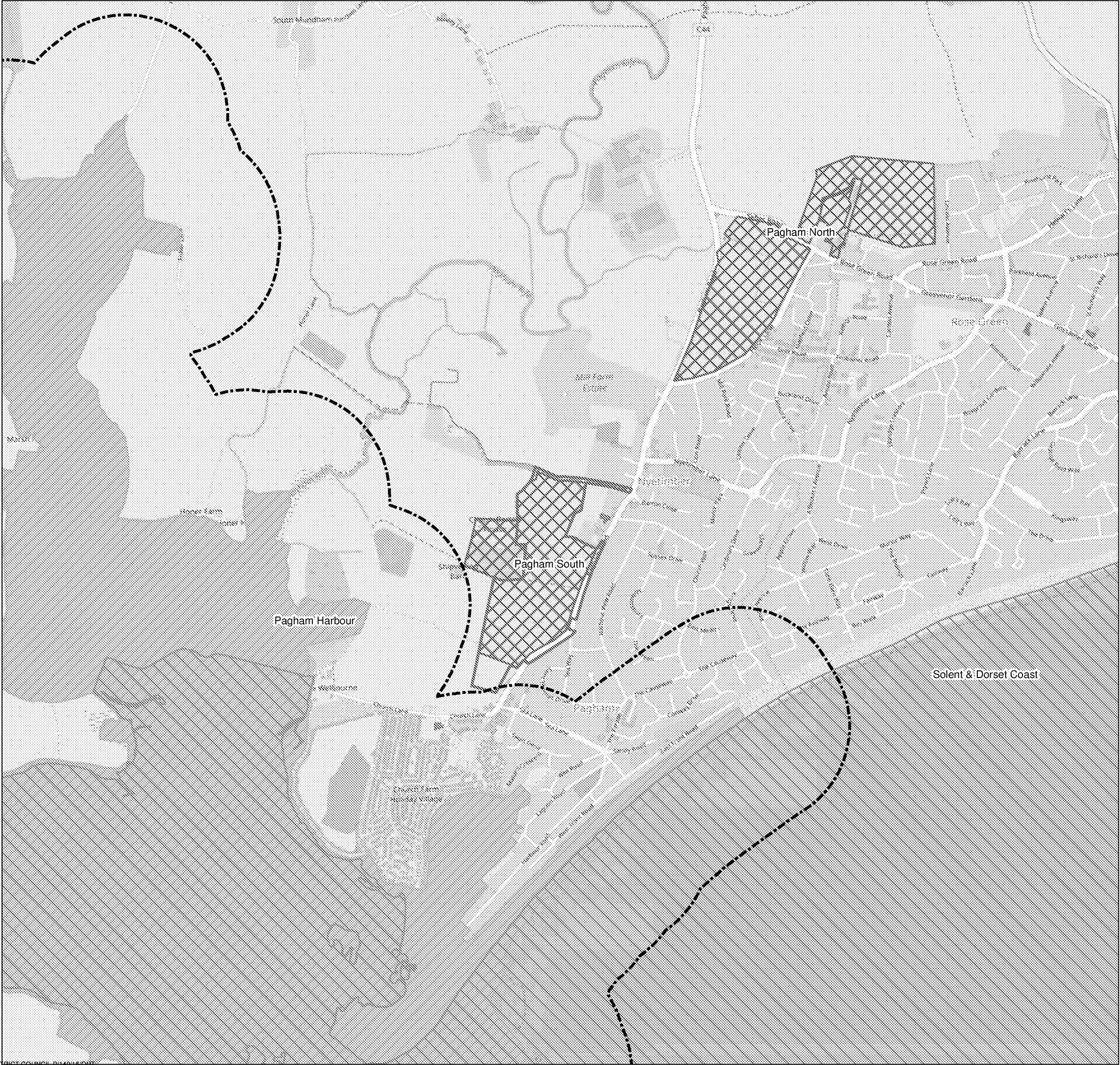
The Planning Inspectorate (2018) Report on the Examination of the Arun Local Plan. PINS/C3810/429/1. (4 July 2018).

Urban Edge Environmental Consulting (2016a) Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 1 Report: Baseline Data for Site Evaluations. April 2016. PELP31.

Urban Edge Environmental Consulting (2016b) Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 2 Report: Screening for Likely Significant Effects. June 2016. PELP32.

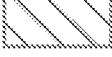
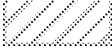
Urban Edge Environmental Consulting (2017a) Habitat Regulations Assessment for the Arun Local Plan: Supplementary Work. Stage 3 Report: Appropriate Assessment. February 2017. PELP33.

Urban Edge Environmental Consulting (2017b) Habitat Regulations Assessment for the Arun Local Plan. Analysis of new overwintering bird data and its implications for the conclusions of the HRA. September 2017. PELP33a.



MAP 1 Site Location

KEY

-  P/140/16/OUT
-  Strategic Housing Sites
-  Special Protection Areas
-  Pagham Harbour SPA 400m Buffer
-  Potential Marine SPA
-  Ramsar Sites

SCALE: 1:15,000 at A3

0 100 200 300 400 Metres



Ecological Planning & Research

CLIENT: Arun District Council

PROJECT: Pagham HRAs

DATE: July 2018

Y:\Pagham_HRAs\09Map1_P14016OUT_260718.mxd

Credits: © OpenStreetMap (and) contributors, CC-BY-SA

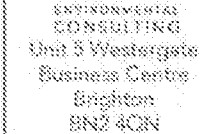
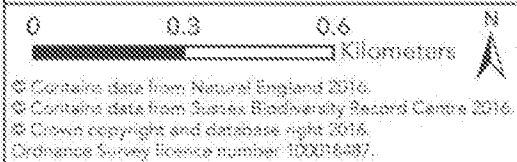
 Special Protection Areas
 Ramsar Sites
 Pagham Harbour SPA 400m buffer

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- 28-90
- 90-194
- 194-385
- 385-750
- 750-1400
- 1400-3500

70

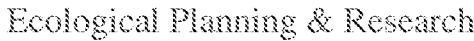
	1600
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1-999
1000+



Scale 1:10,000	Date Sep2017
Created by NP	Reviewed by NP
Drawing number 02-0104_AP NP_12000	

Figure 3: Extent of alternative land suitable for foraging Brent goose



MAP 2 Brent Geese Records and Potential Habitat Extent

CLIENT: Arun District Council

PROJECT: Pagham HRAs

DATE: July 2018

Appendix 1

Natural England Correspondence

Date: 13 February 2017
Our ref: 205497
Your ref: P/140/16/OUT



Claire Potts
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BN17 5LF

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Cheshire
CW1 6GJ

BY EMAIL ONLY

Planning.responses@arun.gov.uk

T 0300 060 3900

Dear Claire

Planning consultation: Outline application for access only - mixed use development comprising of up to 400 dwellings, a care home with up to 70 beds, a Local Centre comprising up to 2000sqm of A1/A2/A3/D1/sui generis floorspace, provision of land for a 1FE primary school (with sufficient space to ensure that it is expandable to 2FE), provision of land for a scout hut, safeguarding of land to help link the site to the Pagham Harbour Cycle Route & other community uses including public open space & allotments with some matters reserved.

Location: Land South of Summer Lane & West of Pagham Road Pagham

Thank you for your consultation on the above dated 06 January 2017 which was received by Natural England on the same date. Apologies for missing your deadline for consultation responses, but I hope the comments below will still prove useful.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Town and Country Planning (Development Management Procedure) (England) Order 2010
The Conservation of Habitats and Species Regulations 2010 (as amended)
The Wildlife and Countryside Act 1981 (as amended)¹

Internationally and nationally designated sites – no objection

The application site is in close proximity to a European designated site, and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is in close proximity to the Pagham Harbour Special Protection Area (SPA) which is a European site. The site is also listed as Pagham Harbour Ramsar site² and also notified at a national level as Pagham Harbour Site of Special Scientific Interest (SSSI). Please see the subsequent sections of this letter for our advice relating to SSSI features.

In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential

¹ This reply comprises our statutory consultation response under provisions of Article 20 of the Town and Country Planning (Development Management Procedure) (England) Order 2010, Regulation 61 (3) of the *Conservation of Habitats and Species Regulations 2010 (as amended)*, and Section 28(l) of the *Wildlife and Countryside Act 1981 (as amended)*.

² Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

impacts that a plan or project may have³. The Conservation objectives for each European site explain how the site should be restored and/or maintained and may be helpful in assessing what, if any, potential impacts a plan or project may have.

In advising your authority on the requirements relating to the Habitats Regulations Assessment, and to assist you in screening for the likelihood of significant effects, based upon the information provided, Natural England offers the following advice:

- The proposals are not necessary for the management of the European site;
- Subject to appropriate financial contributions being secured for strategic mitigation, the proposals are unlikely to have a significant effect on Pagham Harbour SPA/Ramsar, and can therefore be screened out from any requirement for further assessment

When recording your Habitats Regulations Assessment, we recommend you refer to the following information to justify your conclusions regarding the likelihood of significant effects:

Mitigation measures for recreational disturbance to SPA birds

Appropriate financial contributions should be made to the Pagham Harbour strategic access management and monitoring project. This strategic approach to mitigating recreational disturbance resulting from new residential development around Pagham Harbour takes the form of a package of measures comprising wardening in perpetuity to encourage responsible use of the harbour; a dog project including website and events; contribution to signage and interpretation; and monitoring.

Additional housing to meet the district's objectively assessed need is being considered through the Local Plan process, and is assessed in Arun District Council's Stage 2 Report: Screening for Likely Significant Effects document dated April 2016. The level of mitigation to address these increased housing numbers (including the housing proposed at the site south of Summer Lane), is currently being finalised. However, Natural England is satisfied that provided contributions are made to the new, scaled-up level of mitigation, a likely significant effect from increased recreational disturbance can be ruled out.

Natural England notes that 3.92ha of semi-natural greenspace is provided, with a walking route around the development. Our view is that green infrastructure measures on their own are insufficient to avoid a likely significant effect from recreational disturbance to Pagham Harbour SPA/Ramsar site. However, attractive greenspace within the development site, which allows dog owners to let their dogs off leads, may take some of the short daily dog walks away from the harbour. It would also allow the development to comply with policy ENV DM2 in the emerging Arun Local Plan, which requires measures on- and off- the SPA.

Natural England welcomes the commitment, in paragraph 6.10 of the Report to Inform an HRA, to provide signage on the application site and homeowner information packs, to encourage residents to use the recreation space on site and recognise the sensitivities of Pagham Harbour. We would be happy to help with wording of any information to be provided.

Potential loss of functionally linked habitat

Dark-bellied brent geese forage within, and on land near to, Pagham Harbour SPA/Ramsar site⁴. Where the geese regularly forage on land outside the SPA/Ramsar site, this land may be considered functionally linked to the SPA/Ramsar by providing supporting habitat. Its loss should, therefore, be considered in any in combination assessment of impacts under the Habitats Regulations.

The Report to Inform an HRA states that the application site could be used by brent geese on occasion, though surveys carried out in support of the application, and a data search for records

³ Requirements are set out within Regulations 61 and 62 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 61 and 62 are commonly referred to as the 'Habitats Regulations Assessment' process.

⁴ See Annex 1 for comments regarding the status of dark-bellied brent geese within Pagham Harbour SPA.

submitted to the Sussex Biological Records Centre, did not record any use by brent geese. The Report to Inform an HRA concludes that the fields to the west of the application site are more important for brent geese, and suggests mitigation in the form of planted screening to reduce visual disturbance which may arise from the application site.

Natural England's view is that the size of the fields within the application site, and their location within 500m of the SPA, means that brent geese may use them when they are planted with a suitable crop. However, as surveys have not recorded any use, and given the availability of alternative foraging habitat around the SPA, we are satisfied that the loss of the application site as foraging habitat is not likely to have a significant effect on brent geese, alone, or in combination with other housing developments currently going through the planning process. Furthermore, we welcome the mitigation measure, in the form of screening, proposed to minimise disturbance to geese foraging in adjacent fields.

Water quality

The Report to Inform an HRA submitted with this application states that there is no direct hydrological link between the application site and Pagham Harbour (paragraph 5.7.16), and that a Sustainable Urban Drainage System will address surface water run-off (paragraph 5.7.21). For these reasons, Natural England is satisfied that there will be no likely significant effect from hydrological impacts during construction, or from surface water run-off during operation.

Your authority's HRA *Stage 2 report: Screening for likely significant effects*, regarding the emerging Arun Local Plan, identifies that developments in this location have the potential to impact the water quality of Pagham Harbour SPA/Ramsar site. Pagham waste water treatment works (WwTW) serves the Pagham area, and discharges to Pagham Rife, which feeds into the SPA/Ramsar site. Paragraph 5.7.23 of the Report to Inform an HRA states that Southern Water have indicated that there is sufficient capacity at Pagham WwTW and that discharge rates would not be adversely affected. If there is sufficient capacity, in combination with the other new developments currently being considered through the planning process, then Natural England is satisfied that there will be no likely significant effect from water quality impacts.

SSSIs

Pagham Harbour SSSI is notified for both its breeding birds of wet grassland and aggregations of certain non-breeding birds. As the application site is arable farmland rather than wet grassland, it is not used by significant numbers of breeding birds of wet grassland. The wintering bird surveys carried out in 2014/15 recorded small numbers of lapwings and curlews using the application site. However, these species are not notified features of the SSSI. Therefore, the loss of the application site as foraging habitat for these species will not adversely affect the SSSI.

For these reasons, Natural England is satisfied that the proposed development being carried out in strict accordance with the details of the application, as submitted, and subject to the comments above, will not damage or destroy the interest features for which the Pagham Harbour SSSI has been notified. We therefore advise your authority that this SSSI does not represent a constraint in determining this application. Should the details change, Natural England draws your attention to Section 28(1) of the *Wildlife and Countryside Act 1981* (as amended), requiring your authority to re-consult Natural England

Protected Species

We have not assessed this application and associated documents for impacts on protected species.

Natural England has published Standing Advice on protected species. The Standing Advice includes a habitat decision tree which provides advice to planners on deciding if there is a 'reasonable likelihood' of protected species being present. It also provides detailed advice on the protected species most often affected by development, including flow charts for individual species to enable an assessment to be made of a protected species survey and mitigation strategy.

You should apply our Standing Advice to this application as it is a material consideration in the determination of applications in the same way as any individual response received from Natural England following consultation.

The Standing Advice should not be treated as giving any indication or providing any assurance in respect of European Protected Species (EPS) that the proposed developments are unlikely to affect the EPS present on the sites; nor should it be interpreted as meaning that Natural England has reached any views as to whether a licence may be granted.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Alison Giacomelli on 0208 225 7693. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

Yours sincerely

Alison Giacomelli
Sussex and Kent Area Team

Annex 1 – Status of dark-bellied brent geese within Pagham Harbour SPA

The Report to Inform an HRA submitted with the application states that dark bellied brent geese (and common tern) are no longer considered to be qualifying features of the SPA, following reviews of the SPA network published in 2001 and 2016. It goes on to state that in relation to the weight to be applied to the potential for impacts on the species, the report is mindful that it is no longer cited as a qualifying feature (paragraph 5.7.41).

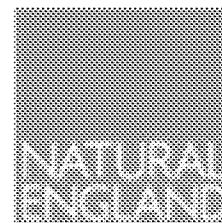
Natural England would like to clarify that the features set out in the citation for Pagham Harbour SPA, and its associated Conservation Objectives, provide the legal basis for the HRA of the application. That is to say, the designated features, against which impacts should be assessed, are common tern, little tern, ruff and dark-bellied brent goose.

In the mid-1990s, JNCC carried out a review of SPAs, published in 2001⁵, and at this time, brent geese had dipped below the qualifying threshold at Pagham Harbour. Since then, in the early 2000s, brent geese numbers at Pagham recovered to qualifying levels, until the last 5 year period available (2010/11 – 14/15), when numbers again slipped below qualifying levels.

The intention at the time was that the 2001 SPA Review would lead to updated citations, but this did not happen. Given the fact that the 2001 SPA Review was based on, by then out-of-date data, JNCC and partners agreed that a third SPA Review should be undertaken. The first phase of this was published at the end of 2016. This looked at each Annex 1 or migratory species and assessed whether the current SPA network protected 'enough' of the population to achieve favourable conservation status. The intention of the 2016 report was not to recommend where new sites should be situated (this will be for later phases), and the intention of the 3rd SPA Review is not to change the qualifying features of existing sites. Therefore, the lack of brent geese featuring against Pagham Harbour in the 2001 or 2016 reviews should not be taken as any intention to remove the species as a qualifying feature.

⁵ See <http://jncc.defra.gov.uk/page-7307>

Date: 18 August 2017
Our ref: 222111
Your ref: P/140/16/OUT



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BY EMAIL ONLY

Dear David

Planning consultation: Outline application for access only - mixed use development comprising of up to 400 dwellings, a care home with up to 70 beds, a Local Centre comprising up to 2000sqm of A1/A2/A3/D1/sui generis floorspace, provision of land for a 1FE primary school (with sufficient space to ensure that it is expandable to 2FE), provision of land for a scout hut, safeguarding of land to help link the site to the Pagham Harbour Cycle Route & other community uses including public open space & allotments with some matters reserved

Location: Land South of Summer Lane & West of Pagham Road Pagham

Thank you for your consultation on the further information and amended details in relation to the above application, dated 25 August 2017 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

SUMMARY OF NATURAL ENGLAND'S ADVICE

NO OBJECTION SUBJECT TO MITIGATION

Natural England's letter, dated 13 February 2017, stated that the proposal was unlikely to have a significant effect on Pagham Harbour Special Protection Area (SPA)/Ramsar site, provided that financial contributions were made to the strategic approach to mitigating recreational disturbance at Pagham Harbour. Our letter also stated that loss of foraging habitat is not likely to have a significant effect. Having reviewed the additional information in respect of foraging dark-bellied brent geese, this conclusion has not changed.

European sites – Pagham Harbour Special Protection Area

Natural England's letter, dated 13 February 2017, set out our views on the potential impacts of the proposal on Pagham Harbour SPA/Ramsar site. This letter does not repeat our conclusions in relation to recreational disturbance and water quality, as no new information has been presented regarding these issues. Instead, this letter focusses on the potential use of the application site by foraging dark-bellied brent geese.

As noted in our previous letter, the size of the fields within the application site, and their location within 500m of the SPA, mean that brent geese may feed there when they are planted with a

suitable crop. However, we concluded that as surveys commissioned by the applicant, and a historic data-search, had not recorded any use by brent geese, and given the availability of alternative foraging habitat around the SPA, the loss of the application site as foraging habitat was not likely to have a significant effect alone, or in combination.

Subsequent to this, an additional review of records from the Sussex Biodiversity Records Centre has been commissioned by Pagham Parish Council¹, and additional records have been submitted by Sussex Ornithological Society (SOS). These submissions state that brent geese use the application site for feeding. I, therefore, suggested, in an e-mail to you dated 1 August 2017, that this information be reviewed to check the validity of the previous conclusions.

As stated in Natural England's previous letter, where brent geese regularly forage on land outside the SPA/Ramsar site, this land may be considered functionally linked to the SPA/Ramsar by providing supporting habitat. Loss of functionally linked land should be considered in any in combination assessment of impacts under the Habitats Regulations. The key question, therefore, is whether the additional information suggests that brent geese regularly use the application site for foraging.

Having reviewed the historic bird records helpfully provided by the SOS, there is one record of a flock of 1500-2000 dark-bellied brent geese within the application site from 25/1/2004. This record may have been missed from the previous data searches undertaken as it was only recorded in the comments section against a record of a pale-bellied brent goose. Further brent geese sightings were recorded with a four-figure grid reference, but it is not possible to say whether these were present within the application site. The SOS also submitted a number of additional records sourced from local birders, which had not been previously submitted to the Biological Records Centre. Four of these records were for brent geese but none have grid references within the application site. However, one of these records may have the wrong grid reference attached as the comments state that the 2500 brent geese were seen on 20/1/16 in fields alongside the village hall, implying that this record is from the application site.

Whilst brent geese clearly use the application site, and occasionally in large numbers, Natural England's view is that there is insufficient evidence to suggest that brent geese regularly use the application site for foraging. Therefore, we maintain our view that, given the availability of alternative foraging habitat around the SPA, the loss of the application site is not likely to have a significant effect.

The data submitted suggests that fields to the west of the application site are more regularly used by brent geese. However, the fact that there are records from fields adjacent to the existing built up area, shows that geese will forage near to existing housing. This suggests that the screening proposed as part of the application is sufficient mitigation to minimise effects on geese using adjacent fields. The increase in housing will increase the recreational pressure, including on brent geese foraging habitat, however, this is addressed through contributions to the strategic approach to mitigating recreational disturbance.

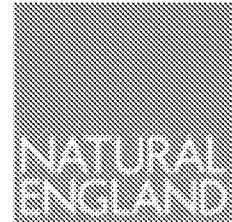
If you have any queries relating to the advice in this letter please contact me [REDACTED]

Yours sincerely

Alison Giacomelli
Sussex and Kent Area Team

¹ Report on Ecological Appraisals presented in support of applications for housing development at Pagham. Petra Billings Woodland Consultancy Ltd. March 2017

Date: 13 February 2018
Our ref: 237833
Your ref: P/140/16/OUT



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Location: Land South of Summer Lane & West of Pagham Road Pagham

Thank you for your consultation, dated 29 January 2018, on the Brent Goose Mitigation Plan (December 2017).

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

SUMMARY OF NATURAL ENGLAND'S ADVICE

NO OBJECTION - SUBJECT TO APPROPRIATE MITIGATION BEING SECURED

We consider that without appropriate mitigation the application could have a significant effect on Pagham Harbour Special Protection Area and Ramsar site

In order to mitigate these adverse effects and make the development acceptable, the following mitigation measures are required / or the following mitigation options should be secured:

- Appropriate financial contributions to the strategic approach to mitigating recreational disturbance;
- Alternative foraging habitat for dark-bellied brent geese (hereafter brent geese)
- Measures to minimise disturbance to brent geese foraging in fields adjacent to the application site.

We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures.

Further advice on mitigation

Mitigation measures for recreational disturbance to SPA birds

As set out in Natural England's response to this application, dated 13 February 2017, the application will add to recreational pressure on the Pagham Harbour SPA/Ramsar site, in combination with other housing developments, and therefore mitigation measures are required. The following measures should be secured:

- Financial contribution to the Pagham Harbour Strategic Access Management and Monitoring (SAMM) Project;
- A landscaping plan setting out how the 3.92ha of semi-natural greenspace to be provided as part of the development will be managed. The application documents indicate that the greenspace will include a walking route to encourage dog walkers to take their daily walks there instead of the SPA. As noted in our letter dated 13 February 2017, attractive greenspace incorporating a fenced area where dogs can safely be let off their leads would be helpful in reducing recreational pressure on the SPA, and details of this should be included in the landscaping plan.
- Signage and homeowner information packs are proposed in the and Brent Goose Mitigation Plan (BGMP), to encourage residents to use the on-site recreation space and inform them of the sensitivities of the Harbour and brent geese foraging. Details of the signage and information packs should be agreed at the reserved matters stage. Signage and information should be agreed with the SAMM Project steering group (made up of Arun and Chichester District Councils, Natural England and the RSPB). This is so that consistent messages are given on the application site and through the SAMM project.

Mitigation measures to minimise disturbance to brent geese foraging in adjacent fields

The Brent Goose Mitigation Plan (BGMP) sets out, at paragraphs 2.1 to 2.4, the strategy designed to mitigate any potential impacts on brent geese. This strategy includes measures to minimise disturbance to brent geese foraging in fields adjacent to the application site, and which were described in the applicant's Report to Inform an HRA, previously submitted. Dense new tree planting is proposed along the western boundary to avoid visual disturbance from people within the application site. As noted in Natural England's letter dated 18 August 2017, screening can be effective as brent geese are recorded in fields adjacent to existing housing. However, I have recommended to the applicant that the screening should be reinforced by fencing, which is particularly important along the parts of the boundary where there is no current hedgerow.

Open space is planned along the western boundary of the application site. This is welcomed as it will provide a recreational resource for people, as described above, and will also provide a buffer between the proposed housing and adjacent fields.

Paragraph 2.2 of the BGMP states that no footpaths, which link the application site to the SPA/Ramsar site, will be closed. Natural England confirms that it is not appropriate to try to deny access to the harbour to existing or new residents. Rather, the purpose of the SAMM Project is to encourage responsible access, principally through wardening¹. This has the flexibility to be targeted to areas where it is particularly needed, as agreed by the Steering Group. This could be the footpaths leading from the application site, and could include direct engagement with the residents of any new housing sites, for example by giving talks or guided walks. Therefore, messages about the importance of the Harbour and the brent geese on signage and homeowner packs (mentioned above) can be reinforced by the wardens employed by the SAMM Project.

¹ The first year's monitoring results from the Bird Aware Solent project (which has introduced the same measures as the Pagham SAMM Project will do) show encouraging results that the rangers are already reducing the numbers of birds disturbed by recreation. See First Year Results of Monitoring Bird Disturbance around the Solent in the presence/absence of Rangers, at:
<http://www.birdaware.org/CHttpHandler.ashx?id=28773&p=0>

The following measures should be secured to minimise visual disturbance to brent geese:

- Details of the screening and fencing should be set out and agreed in the landscaping plan at reserved matters stage.
- Tree and hedgerow planting along the western boundary should be carried out on commencement of works on site, so that it has the maximum time to mature before first occupation.

Mitigation measures to provide alternative foraging habitat for brent geese

As set out in Natural England's letter dated 13 February 2017, brent geese forage within, and on land near to, Pagham Harbour SPA/Ramsar site. Where significant numbers of geese regularly forage on land outside the SPA/Ramsar site, this land may be considered functionally linked by providing supporting habitat necessary for the maintenance of the population. Its loss should, therefore, be considered under the Habitats Regulations. At that time, Natural England's view was that the size and location of the fields that make up the application site meant that brent geese may use them when they are planted with a suitable crop. However, as surveys and data searches did not reveal any use and given the availability of alternative foraging habitat, we were satisfied that the loss of the application site was not likely to have a significant effect on brent geese.

Subsequent to this, however, Sussex Ornithological Society (SOS) and Pagham and Aldwick Greenfields Action Movement (PAGAM) submitted records and anecdotal information on the bird use of the application site and surrounding fields. This information called into question whether the application site was 'regularly' used by foraging geese or not. Natural England, therefore, informally recommended Arun DC review the conclusion of the Habitats Regulations Assessment for the Local Plan Main Modifications (which include the application site), which was done in a Technical Note to the Examination in Public, dated September 2017. Given the apparent extent of the local residents' observations, the Technical Note made recommendations regarding assessment, and potential mitigation, at the planning application stage.

Following these recommendations, the applicant sought Natural England's advice on precautionary mitigation and avoidance measures in relation to brent goose foraging habitat. My letter setting out the principles for creation of suitable alternative habitat (dated 23 November 2017) is appended to the BGMP.

The measures to replace, on a precautionary basis, the area of potential brent goose foraging habitat lost to the proposals, are set out in paragraph 2.4 of the BGMP. These broad measures follow the principles I set out in my letter dated 23 November 2017.

Location of the replacement habitat:

Natural England's view is that the location of the proposed mitigation land (shown at Plan ECO1 of the BGMP) is acceptable as it is closer to the SPA than the application site. It therefore, offers an advantage over the application site for foraging, as geese will expend less energy flying to the mitigation land from their roost site. A further advantage over the application site is that the mitigation land is not crossed by any footpaths, therefore is not susceptible to disturbance.

Area of replacement habitat:

The BGMP provides details of the crop rotation, which have been used to calculate the area of the application site that could potentially be used by brent geese. This calculation follows my advice that a like-for-like area of habitat is not necessary if the application site is not permanently available to foraging geese, and gives a maximum requirement of 18.7ha (paragraph 2.23). The BGMP goes on to state that this will be provided through approximately 5ha of permanent habitat managed for brent geese, and a total of 18.5ha where bird scaring to reduce crop damage will no longer occur (shown on Plan ECO1). As this will be secured in perpetuity, Natural England's view is that this represents an improvement over the current situation.

Habitat management:

The combination of permanent winter cereal/clover cropping, and permanent wet grassland creation

described in paragraphs 3.5 – 3.10, follows the advice set out in my letter of 23 November 2017. The land that has recently been left fallow is currently made up of rank vegetation with a high proportion of rushes and reeds. Whilst the frequently flooded part of the site has value for passage and wintering waders and wildfowl, and possibly breeding lapwing, the grassland is not suitable for brent geese. Therefore, the proposed grassland management regime, and creation of permanent scrapes, represents a benefit for brent geese, without compromising the interest for waders and other wildfowl. However, Natural England will comment on the detailed Management Plan for the site, when it is consulted on at reserved matters stage.

Permanently planting winter wheat/clover in the western part of the field will represent an improvement over the current situation for brent geese, as described in paragraph 3.10 of the BGMP. However, there would be further improvement if the eastern part of the field were planted with winter cereals more often. The Habitat Management Plan should include an agreed cropping regime for the fields outside the permanent habitat creation area, but within the area of cessation of bird scaring activities.

Sight lines for brent geese:

Some scrub clearance is proposed on the boundaries of the habitat creation area. In principle, this could open up sight lines for brent geese and increase the likelihood that they will use the habitat created. However, Natural England has some concerns over the impacts of this on wider biodiversity interests. Therefore, as described in paragraph 3.15 of the BGMP, we would welcome further discussion over this point as the detailed Management Plan is developed.

Cessation of bird scaring:

The cessation of bird scaring measures over the area described in Plan ECO1 is essential for the successful implementation of the measures described above, and would be an improvement over the current situation. However, this would not be the case if crops favoured by brent geese are planted less often than currently. Therefore, the Habitat Management Plan should include a commitment to planting winter cereals at an appropriate frequency in the rotation.

Approach to consenting

I understand from discussions with Sussex Ornithological Society that they and the RSPB are planning brent geese surveys to create usage maps. This may lead to a strategic approach to mitigation, and identification of alternative brent goose reserves, which would have to be agreed by Arun and Chichester District Councils. Therefore, the approach set out in paragraph 2.6 of the BGMP is welcomed – namely that in the future, the applicant may, in agreement with Arun DC, make financial contributions to any strategic mitigation package, in lieu of the measures set out in the BGMP.

Timing of works

The provision of the mitigation measures set out in paragraphs 4.3 to 4.6 of the BGMP in advance of commencement of development is welcomed, and compliant with the Habitats Regulations, as it ensures that the mitigation habitat will be available before the loss occurs.

In conclusion, Natural England's view is that, in principle, the package of measures described above and set out in the BGMP are sufficient to avoid a likely significant effect on the SPA from loss of brent goose foraging habitat and should be secured in perpetuity (in this case 80 years, as this is the definition used by the SAMM Project). However, the detail should be set out in a Habitat Management Plan to be agreed at the reserved matters stage.

If you have any queries relating to the advice in this letter please contact me on 0208 225 7693.

We would be pleased to provide advice on the discharge of planning conditions or obligations attached to any planning permission to address the issues above.

Should the proposal change, please consult us again.

Yours sincerely

Alison Giacomelli
Sussex and Kent Area Team