REPORT

Boston Alternative Energy Facility

Without Prejudice Habitats Regulations Assessment Derogation Case: Compensation Measures

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Table of Contents

Table of Tables

Table of Figures

1 Introduction

1.1 Purpose and Scope

1.1.1 This report sets out potential compensatory measures that could be used for the Boston Alternative Energy Facility (herein 'the Facility') on behalf of Alternative Use Boston Projects Limited ('the Applicant'). The Facility is proposed within an area (the Principal Application Area) outlined for industrial development close to Boston in Lincolnshire.

1.1.2 This assessment of potential compensatory options provides information in support of Stage 4 (part 2) of the without prejudice Habitat Regulations Assessment (HRA) process for the Facility and identifies 'potential compensation measures' to provide additional or enhanced habitat for birds should this be required. Further assessment of additional data and the requirement for compensation for Special Area of Conservation (SAC) features (specifically harbour seal) has been undertaken (reported within the Addendum to Environmental Statement Chapter 17 and Appendix 17.1 - Marine Mammals (Marine Mammals Addendum) (document reference 9.14, REP1-027) and no compensation measures are identified in this respect as it is anticipated that the mitigation measures identified would reduce any effects that could occur to a level that would not result in a significant residual impact.

1.1.3 This report is provided in the context of The Conservation of Habitats and Species Regulations 2017 (as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019) (the Habitat Regulations). Other documents which comprise the Applicant's Shadow HRA process are as follows:

- Stage 1: Screening/Likely Significant Effect (LSE) assessment is provided within Appendix 17.1 Habitats Regulations Assessment (document reference 6.4.18, APP-111);
- Stage 2: Appropriate Assessment is provided in Appendix 17.1 Habitats Regulations Assessment (document reference 6.4.18, APP-111);
- Stage 3: Without Prejudice Habitats Regulations Assessment Derogation Case: Assessment of Alternative Solutions (document reference 9.28);
- Stage 4: Without Prejudice Habitats Regulations Assessment Derogation Case: Imperative Reasons of Overriding Public Interest (IROPI) Case (document reference 9.29);
- Stage 5: Without Prejudice Habitats Regulations Assessment Derogation Case: Compensation Measures (document reference 9.30) (this document).

1.1.4 The Assessment of Alternative Solutions (document reference 9.28) sets out the context for the 'without prejudice' derogation case and provides details of the scheme and the process that has been followed.

1.1.5 The key issues that have been assessed within Appendix 17.1: the HRA (document reference 6.4.18, APP-111) and the ornithology addendum to the HRA (Ornithology Addendum) (document reference 9.13, REP1-026) include the loss of habitat at the Principal Application Area for roosting redshank and an increased level of disturbance, both at the mouth of The Haven and at the Application Site, due to vessel numbers using The Haven during construction and operation. This is discussed further below. The remainder of The Haven is not known to support populations of roosting birds but there is the potential for some birds to use this area. This is discussed in the Ornithology Addendum.

1.1.6 The HRA (document reference 6.4.18, APP-111) set out the Applicant's conclusion that an adverse effect on integrity (AEOI) on The Wash Special Protection Area (SPA) and Ramsar site and The Wash and North Norfolk Coast SAC can be excluded. Consequently, based on that conclusion, no further assessment under the Habitats Regulations (i.e. Stages 3 and 4) was undertaken. The information included within this report is therefore provided 'in-principle' and is made entirely without prejudice to the Applicant's position that there will be no AEOI as a result of the construction and operation of the proposed Facility, either alone or in-combination with other plans and projects.

1.1.7 However, Natural England (NE) (and other Interested Parties, including the Royal Society for the Protection of Birds (RSPB) and Lincolnshire Wildlife Trust (LWT)) have advised the Examining Authority (ExA) that (in their view) AEOI cannot be excluded, beyond all reasonable scientific doubt for The Wash SPA and Ramsar and The Wash and North Norfolk Coast SAC. The reasons for NE's position (as per their Relevant and Written Representation (RR-021) submitted on 18 June 2021 prior to HRA addendums (document references 9.13, REP1-026; 9.14, REP1-027 and 9.15, REP1-028) submitted at Deadline 1) are summarised as follows:

- The Wash SPA - redshank: NE consider that the proposed Facility location would potentially result in AEoI on Annex I redshank [note: redshank are Annex II, ruff are Annex I], which are a qualifying species of The Wash SPA, and would be impacted by the following risk pathways:
  - Loss of foraging habitat on site through modification
  - Loss of roost on site through modification or disturbance
  - Loss of foraging habitat along The Haven which may be degraded through boat wash along the channel.

- The Wash SPA – Assemblage: There are significant concerns regarding the feeding/ roosting area at the mouth of The Haven which is within The Wash SPA. Significant numbers of the SPA/ Ramsar bird assemblage are using this area at low tide including up to 28% of the black-tailed godwit. NE advise that there are the following risk pathways:
    - Repeated boat movements are likely to result in changes to bird use behaviours of this important area of The Wash.
    - NE also have further concerns regarding the usage of this area at High tide.
- NE note that the area in the Mouth of The Haven likely to be disturbed by the proposed works include:
    - golden plover and black-tailed godwit at over 20% of The Wash SPA total and over 2000 individuals; and
    - lapwing 7.5% and 1100 individuals.

  Therefore, NE consider this to be an important area of supporting habitat of The Wash SPA. NE advise that an AEOI can't be excluded beyond all reasonable scientific doubt.
- NE are concerned with potential impacts of additional vessel movements and anchorage on The Wash and North Norfolk Coast SAC harbour seal population. NE advise that there is a Likely Significant Effect from the proposals and if further options to avoid, reduce and mitigate the impacts to acceptable levels can't be found/adopted then an AEOI cannot be excluded beyond all reasonable scientific at this time.

1.1.8 The reason for RSPB's position (as per their Relevant Representation (RR-024) submitted on 18 June 2021 and Written Representation submitted on 19 October 2021 (REP1-060)), prior to HRA addendums (document references 9.13, REP1-026; 9.14, REP1-027 and 9.15, REP1-028) submitted at Deadline 1, was that insufficient information was presented to demonstrate beyond reasonable scientific doubt that there will be no AEOI on the interest features of The Wash SPA and Ramsar and The Wash and North Norfolk Coast SAC. RSPB's concerns are summarised as follows:

- Loss of habitat, direct and indirect impacts, on foraging SPA linked birds at the application site;
- Loss of SPA linked redshank roost and impact on foraging birds adjacent the application site (during construction and operation); and
- Impact on birds roosting and foraging at the mouth of The Haven; and
- Impacts on birds at the anchorage area in The Wash SPA.

1.1.9 The reason for LWT's position (as per their Relevant Representation (RR-011) submitted on 8 June 2021 and Written Representation submitted on 19 October 2021 (REP1-055), prior to HRA addendums (document references 9.13, REP1-026; 9.14, REP1-027 and 9.15, REP1-028) submitted at Deadline 1, was that insufficient information was presented to demonstrate beyond reasonable scientific doubt that there will be no AEOI on the interest features of The Wash SPA and Wash and North Norfolk Coast SAC. LWT's concerns are summarised as follows:

- Impacts of increased vessel movements during the operational phase at the Facility and at the mouth of The Haven on feeding and roosting redshank;
- Loss of intertidal mudflat and saltmarsh; and
- Impact to harbour seal due to piling and vessel movements.

1.1.10 The Applicant has engaged with Interested Parties and has considered comments raised in their Relevant Representations (see document reference 9.11, REP1-024) and Written Representations (see document reference 9.22, submitted at Deadline 2 of the Examination) but does not consider that any of the issues raised alter the position stated at the time of submission of the application.

1.1.11 Further information relating to the Interest Parties' concerns has since been provided in the Ornithology Addendum (document reference 9.13, REP1-026), Marine Mammal Addendum (document reference 9.14, REP1-027), the Chapter 17 Marine and Coastal Ecology and Appendix 17.1 Habitats Regulations Assessment Update (document reference 9.59, REP5-006) and the Report on Outstanding Deadline 2, 3 and 4 Submissions (document reference 9.63, REP5-008).

1.1.12 However, despite the additional information presented, there is the potential that the Interested Parties will continue to conclude that it is not possible to exclude AEOI. Notwithstanding the Applicant's position that there will be no AEOI of any designated site, **this document is therefore produced on a without prejudice basis in order to address part 2 of Stage 4 of the derogation process (to provide compensation for the AEOI) and provides a review of a range of potential measures that could be adopted to compensate for the potential effects on the birds using The Wash SPA and Ramsar.**

1.1.13 Additional updated information and mitigation measures for the potential effect on Harbour Seals, a feature of the Wash and North Norfolk Coast SAC have been provided within the HRA (document reference 6.4.18, APP-111), the Marine Mammals Addendum (document reference 9.14, REP1-027) and the Response to the Marine Management Organisation (MMO) and Natural England's queries

regarding Marine Mammals and Fish (document reference 9.49, REP4-014). There are no further compensation measures identified for this feature.

1.1.14 The Chapter 17 Marine and Coastal Ecology and Appendix 17.1 Habitats Regulations Assessment Update (document reference 9.59, REP5-006) provided further information following additional investigation on the potential connectivity of the Principal Application Site and the birds using the SPA and Ramsar site. The findings for this were that it is unlikely that there is a functional link between the habitats at the Application Site and the SPA and Ramsar sites. This was based on the requirement for functionally linked habitats for birds to: a) lie within reasonable flight distances; b) comprise suitable foraging/loafing/resting habitats; and, c) be large enough to realistically support 1% of a SPA /Ramsar population. For the 'without prejudice' derogation case, compensation habitat has however been provided based on the assumption that this is not accepted, and the Principal Application Site is considered to be functionally linked to the SPA and Ramsar site. The proposed net gain/compensation measures would provide habitat for any birds using the mouth of The Haven, the Application Site and the intervening area of The Haven.

1.1.15 It should be noted that if compensatory measures are not required, the Applicant is still committed to undertake measures to provide a biodiversity net gain for the project, despite net gain not being a legal or policy requirement for Nationally Significant Infrastructure Projects (NSIPs) at this time.

1.1.16 If compensatory measures are required because the Secretary of State (SoS) decides that there is an AEoI then they would be secured through the Development Consent Order (DCO) via the Ornithology Compensation Measures Schedule (submitted as a draft within the draft DCO submitted at Deadline 6 (document reference 2.1(3)).

1.2 The Proposed Facility

1.2.1 A full description of the Facility is provided within Section 1.3 of the Assessment of Alternative Solutions (document reference 9.28) and is not repeated here. A detailed description of the Facility is also provided within **Chapter 5 Project Description** of the Environment Statement (document reference 6.2.5, APP-043). The layout of the proposed Facility within the Principal Application Area is presented in **Figure 5.1** (document reference 6.3.2, APP-068).

1.2.2 The construction period for the whole development, including pre-construction enabling works and commissioning, is anticipated to be up to 55 months, as per the Indicative Construction Programme (document reference 9.18, REP1-031).

Construction activities would take place six days a week (Monday to Saturday) between 8am and 8pm (with an option of commencing work at 7am with a finish time of 7pm, in order to restrict working hours to 12 hours a day), with no bank holiday or public holiday working. There may be short periods of 24 hour working when concrete is being poured.

1.2.3 The Facility would be designed to operate for an expected period of at least 25 years, after which ongoing operation will be reviewed and if it is not appropriate to continue operation the plant will be decommissioned. The wharf structure, which is required in order to import refuse derived fuel (RDF) and import of clay or export materials (lightweight aggregate) from the Facility, would replace a section of the current primary flood defence bank (without impacting on the integrity of the bank) and would form a permanent structure. The flood defence would form a permanent structure that is not anticipated to be decommissioned, however the wharf deck would be decommissioned. The construction of the wharf would involve the removal of intertidal habitat comprising approximately 1 ha of saltmarsh and 1.5 ha of mudflat from within The Haven (but outside of the SPA, SAC and Ramsar site).

1.2.4 As discussed above, vessel movements have the potential for effects on the bird populations of The Wash SPA. Therefore, a brief description of the proposed vessel movements and the activities related to the wharf construction and operation is summarised below. For a detailed description of the full development see **Chapter 5 Project Description** of the ES (document reference 6.2.5, APP-043).

1.2.5 The Application Site also includes a habitat mitigation area which involves relocation of the rocks used by roosting redshank and other bird species from one area of the existing roosting site (that would be lost) to another (that remains and would be far enough from the wharf area to avoid disturbance from vessels berthing). It also involves measures to restore scrapes (areas of shallow water and bare ground that provide feeding and roosting sites for waterbirds) within the existing saltmarsh and potentially to create a small number (up to 3) of additional scrapes to provide additional wader foraging and roosting habitat. In this way it is predicted that the wider habitat will continue to be able to support the same numbers of redshank as in baseline conditions. The survey data has shown that the Principal Application Site is not used by redshank for breeding.

Construction

Delivery of Raw Materials

1.2.6 Delivery of raw materials to the Principal Application Site would be via both vessel and road. The first phase of the wharf construction will be undertaken to allow a proportion of the raw materials to be delivered by ship rather than transportation by local roads. It is estimated that it will take approximately six months to construct the first section of the wharf to allow raw materials to be received by ship. The subsequent section of the wharf will take a further 12 months (approximately) to complete.

1.2.7 It is anticipated that there will be approximately 89 vessel shipments of raw materials during the construction period.

Wharf

1.2.8 The wharf facility would include a berthing pocket to allow ships to safely dock without restricting the navigable channel within The Haven. The berthing pocket would be constructed by dredging and excavation of the mudflats and land carried out by land-based equipment, although some floating plant may be required to complete the excavation of the berthing pocket towards the edge of the main channel, due to the distance from the proposed location of the quay wall (approximately 50 m). The dredging activity is managed to mitigate any impacts on overwintering birds through a seasonal restriction.

1.2.9 The deck structure of the wharf would be constructed by first driving the piles for the berthing face and then constructing the suspended deck. Piling is also restricted to avoid periods where the site is used by overwintering birds.

1.2.10 Protection required to prevent scour of the dredged slope beneath the wharf would need to be completed prior to placing the concrete deck. This slope protection would be placed after the piles have been driven and before the deck is formed, as this allows easy access to the area using cranes, and or excavators to place the scour protection mattress. Scour protection will be required at both ends of the wharf, as shown on **Figure 5.1** of the Environmental Statement (document reference 6.3.2, APP-068). Depending on river currents it may or may not be necessary to provide scour protection to the river embankment at either end of the wharf, therefore this would avoid the loss of habitat and is clearly the preferred solution which would be prioritised under any detailed engineering design. However, if scour protection is absolutely necessary detailed design will include consideration of the following options, with the key design principle being minimisation of habitat loss:

- Articulated precast concrete mattress;

- Grout injected fabric mattress; and
- Individual stone/rock armour

Operation

Export and Import of materials by vessel to the Facility

1.2.11 The Facility would receive approximately 1,200,000 tonnes of RDF per year.

1.2.12 The RDF feedstock would be delivered by vessel to the Facility sealed in plastic-wrapped bales.

1.2.13 There will be up to 480 vessels per year to deliver the RDF assuming each vessel has a 2,500 tonne payload, however, this will be directed by the market forces and the shipping fleet operator(s).

1.2.14 The proposed wharf would enable delivery to the facility of RDF feedstock, sediment and clay (both of which can be used as binder material in the Light-Weight Aggregate plant), and the export of lightweight aggregate.

1.2.15 Cargo vessels that will use the berths at the proposed wharf will navigate up The Haven over high tide and leave over the next available high tide. It is anticipated that vessels will be turned at the Port of Boston, either at the 'Knuckle' point turning circle outside of the Wet Dock, or within the Wet Dock. The vessels could be turned on arrival or departure, taking account of advice from the Port of Boston Harbour Master.

1.2.16 The berths at the proposed wharf are designed to allow vessels to sit on the bed of the river at low tide whilst waiting for the next high tide because there is insufficient water depth at low tide to float (i.e. NAABSA, 'Not Always Afloat But Safe Aground', berths). The berthing pocket will have a gravel/chalk bed (or similar) forming a level surface for the vessels when resting on the bed at low tide.

1.2.17 The outbound quantity of aggregate is dependent upon the composition of the RDF (in particular the ash content). For a design reference point, it is anticipated that 100 ships per year, on average, bearing approximately 3,000 tonnes of aggregate per load would be required to export this material from the Facility. This is equivalent to approximately two ships per week, on average.

1.2.18 In total approximately 580 cargo vessels per year, or up to 12 per week, would be required by the fully operational Facility. Under the worst-case scenario, project-related vessels would transit The Haven on 100% of available high tides per year.

1.2.19 The proposed increase in cargo vessel numbers should be considered in the context of the number of current and historical vessel movements. This has varied considerably over the last 26 years between approximately 800 and 400 vessels

per year, as shown in **Figure 1-1**.The Port has been operational since before the SPA was designated, certainly back to 1918 when there were higher numbers of vessels (approximately 1000) visiting per year (Port of Boston, pers com.).

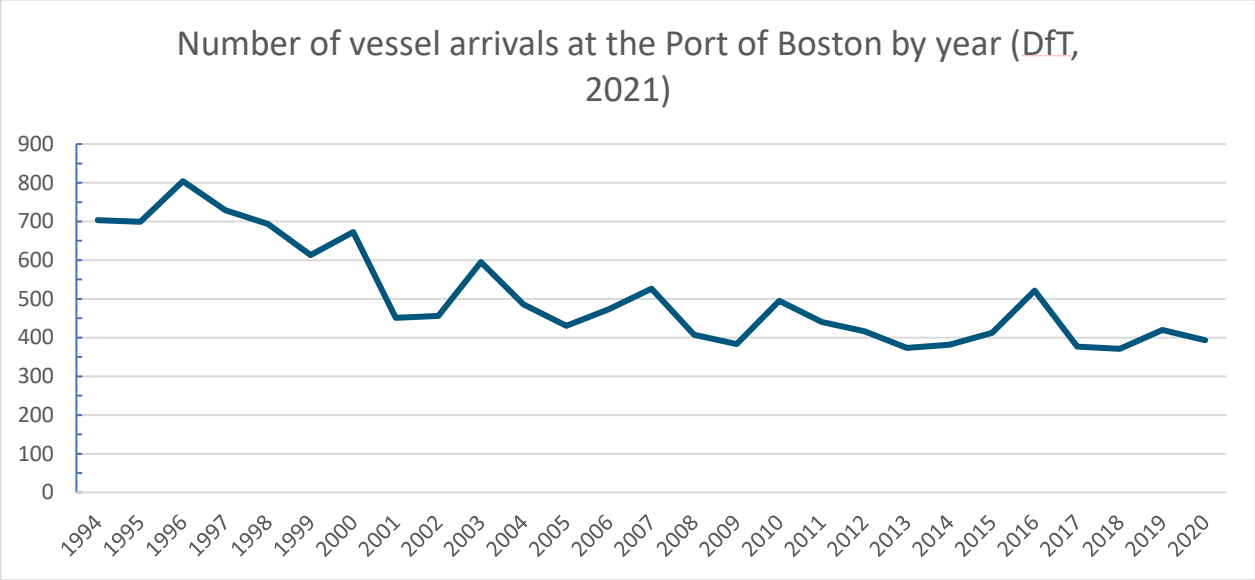


Figure 1-1 Cargo vessel numbers arriving at the Port of Boston between 1994 and 2020

1.3 Consultation

1.3.1 This Compensatory Measures Report presents an outline of each measure together with next steps required to progress each measure which will need to be undertaken through consultation with landowners, NE, the RSPB, LWT and the Environment Agency, amongst others.

1.3.2 Discussions were held with the RSPB and NE on 13th October 2020 to determine the potential for opportunities for habitat gain within the RSPB reserves near the mouth of The Haven (Freiston Shore reserve and Frampton Marshes reserve). These discussions focussed on the Applicant's desire for the project to achieve a net gain for biodiversity. Potential opportunities for habitat management were identified at the time, although not confirmed. However, later (September 2021) the RSPB informed the Applicant that these opportunities no longer existed as they had alternative funding for the proposed projects to create additional lagoons for birds within the RSPB reserves around the mouth of The Haven.

1.3.3 Discussions have also been held with Natural England in relation to the potential for management measures to create new roosting sites within the designated sites themselves. Natural England have advised that as this initiative would affect habitat within The Wash and North Norfolk Coast Special Area of Conservation it would not be acceptable. Sites for compensation are therefore being sought outside of the designated sites and outside of the RSPB reserves.

1.3.4 Furthermore, on review of the ES and HRA, RSPB and NE reached a conclusion that (in their opinion) AEOI could not be excluded for The Wash SPA and Ramsar site. As a consequence of that position, opportunities for providing compensatory measures have been sought (on a without prejudice basis) and these are identified within this report. Given that the Applicant is awaiting a decision on the proposed Facility, the land for the net gain and/or 'without prejudice' compensation measures is not secured as yet but two sites are securable in principle. However, the site selection and land acquisition is ongoing as is consultation with relevant land owners/managers to ensure that the options are capable of implementation – see **Section 4**.

1.3.5 Initial consultation has been held with local landowners and farmers with regard to the options for potential compensatory measures with a positive initial response received.

1.3.6 Initial consultation was held with Her Majesty's Prison (HMP) North Sea Camp, Boston, which was initially positive in terms of the potential to find sites for habitat works. However, on further consideration and following on from a site visit and further consultation, this has not been taken forward due to there not being sufficient space to create suitable habitat without affecting too much grazing land. In addition, the use of the area already by certain species of waterbirds means that there was potential for impact on these species.

2 Guidance on Compensation

2.1.1 Should the SoS conclude that, following Appropriate Assessment, an AEOI on a site(s) forming part of the national site network cannot be excluded, that there are no alternative solutions and that there are Imperative Reasons of Over-riding Public Interest (IROPI), Regulation 68 of The Conservation of Habitats and Species Regulations 2017 requires that 'the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.'

2.1.2 Guidance produced by Department for Environment, Food and Rural Affairs (Defra) (2021) and the European Commission (2012 and 2018) explain that for SPAs, the overall coherence of the Protected Sites Network can be maintained by:

- compensation that fulfils the same purposes that motivated the site's designation;
- compensation that fulfils the same function along the same migration path; and
- the compensation site(s) are accessible with certainty by the birds usually occurring on the site affected by the project.

2.1.3 Draft guidance from Defra (2021) also provides overarching principles for compensatory measures that should:

- Link to the conservation objectives for the site or feature and address the specific damage caused by the permitted activity;
- Focus on providing the same ecological function for the species or habitat that the activity is damaging OR, where this is not technically possible, provide functions and properties that are comparable to those that originally justified designation;
- Not negatively impact on any other sites or features;
- Ensure the overall coherence of designated sites and the integrity of the Marine Protected Area (MPA) network; and
- Be able to be monitored to demonstrate that they have delivered effective and sustainable compensation for the impact of the project. The monitoring and management strategy must require further action to be taken if the compensation is not successful.

2.1.4 The measures below link to the conservation objectives in that they provide habitat for the birds that could potentially require additional roosting habitat in order to maintain their distribution and abundance within the protected site (and any functionally connected habitat) following increased levels of disturbance by

additional vessels using The Haven. It is recognised from the Supplementary Advice provided for The Wash SPA (updated on Natural England's website in March 2021) that the site as a whole has targets to "reduce the frequency, duration and/or intensity of disturbance affecting roosting and/or foraging species of birds so that they are not significantly disturbed". There are no specific sites or activities detailed and it is expected that this relates to a variety of activities. The works proposed as compensation/net gain measures would help to reduce potential for significant effects occurring within the area of The Haven. Potential sites for compensation/net gain have been considered to ensure that they provide the same ecological function (roosting, foraging and bathing) for the species that would be affected and are not adversely affecting any other sites or features. In providing these additional habitats for birds close to the SPA boundary this should ensure that any potential impacts are reduced in scale to ensure the integrity of the SPA and Ramsar site. The sites would be monitored to show that they have been effective in providing suitable compensation for the birds and an adaptive management strategy would be in place in case there was a need for further work.

2.1.5 It is however recognised that it may not always be possible to compensate with a 'like-for-like' habitat or to compensate within the same designated site. As outlined above, following discussion with Natural England, it has been concluded that it is not possible to provide habitat within the same designated sites.

2.1.6 It is also recognised that compensation should not be used to address issues that are causing designated habitats or species to be in an unfavourable condition. This is the responsibility of the UK Government.

2.1.7 Ideally, compensation should be in place prior to the predicted effect taking place.

2.1.8 The latest guidance by Defra (Defra 2021) also discusses the requirements of compensation to fully offset the damage which will or could be caused to the site. This states that a developer should work with the relevant statutory nature conservation body to identify, design and secure suitable compensatory measures and that the proposer will be expected to pay for the compensatory measures. The compensatory measures themselves must not have a negative effect on the national network of protected sites as a whole, despite the negative effects of the proposal on an individual site. Compensatory measures can include creating or restoring the same or very similar habitat on areas of little or no conservation value: within the same site - if it exists; or at a suitable location outside the site.

2.1.9 NE has also provided a 'check list for compensation sites' (in note form: no reference). This provides a check list of the aspects of the compensation that need

to be described in detail when submitting applications and has advised that this information is required to provide decision makers with confidence that the measures put forward will be effective and appropriate.

3 Requirement for Compensation in case of AEOI

3.1 Compensation requirement

3.1.1 In the event that the Secretary of State determines that AEOI cannot be excluded, then it is expected (based on the comments received to date from NE, RSPB and LWT) that this would be due to at least one of the following potential reasons (as outlined in **Section 1.1** above):

- Loss of wader roosting habitat at the Principal Application Site.
- Vessel disturbance of waterbirds at the Principal Application Site.
- Vessel disturbance of waterbirds at the mouth of The Haven.
- Vessel disturbance of waterbirds along the middle stretches of The Haven.

3.2 Loss of roosting habitat at the Principal Application Area

3.2.1 The loss of roosting and foraging habitat at the Principal Application Site constitutes a narrow band of saltmarsh and mudflat comprising approximately 1 ha of saltmarsh loss and 1.5 ha of mudflat. The loss of habitat occurs about 3 km from the SPA boundary and as outlined above in Section 1.18 it is not considered likely that the redshank roosting and foraging at the Principal Application Site are actually part of the SPA population. However, for the purposes of this 'without prejudice' compensation report, a worst-case scenario has been assumed, that they are connected. The concern for the SPA redshank populations is that numbers within the SPA may be affected by the loss of this area of roosting and foraging habitat.

3.2.2 The key habitat used for roosting within this area are not the areas that would be lost but are those located immediately downstream of the Principal Application Site. This adjacent area has consistently been surveyed (as reported in the Ornithology Addendum (document reference 9.13, REP1-026)) showing higher numbers of roosting birds and comprises a much wider area of saltmarsh. However, some of the birds using this wider roosting area do use the habitat in the Principal Application Site (for foraging or as an alternative roost site). The habitat most often used for roosting by the redshank are the artificial habitat (rocks) that have been placed to seaward of the saltmarsh, within the intertidal mudflat area. The foraging areas used in the Principal Application Site are generally within the intertidal mudflat zones and the scrapes within adjacent areas of saltmarsh.

3.2.3 The surveys undertaken of the habitats within and adjacent to the Principal Application Site show that numbers of redshank fluctuate in this area quite considerably but do support relatively high numbers (exceeding 1% of the SPA

population numbers (>43 birds) on a regular basis). If the area of habitat loss is considered on its own (reported during surveys as 'Area A') it has only supported such numbers on two occasions during the surveys (17 surveys (11 at high tide) as reported in the Ornithology Addendum).

3.2.4 It was concluded in the HRA (document reference 6.4.18, APP-111) that mudflat and saltmarsh habitat loss within the Principal Application Site would not constitute an AEOI for The Wash SPA and Ramsar site.

3.2.5 Within the ES, proposals were put forward to mitigate the loss of the area that provides roosting and foraging habitats for waders, but in particular, for redshank, by undertaking works to enhance the habitat within a 'Habitat Mitigation Area'. This is situated in the area (reported during surveys as 'Area B') adjacent to the Principal Application Area (see **Figure 17.9** (document reference 6.3.25, APP-091)), which is located at least 250 m away from the closest edge of the wharf (see **Figure 17.8** (document reference 6.3.25, APP-091)), to improve the roosting and foraging habitat. This will involve the creation of up to 3 small shallow pools (10-15 cm deep) in the existing marshy habitat, with potential for re-profiling the edges of existing pools and low-profile banks if this provides a benefit (dependent on discussions with NE and RSPB) and, increasing the volume of 'roosting' rocks in the upper intertidal area through the use of the rocks that would be removed during the construction works in the Principal Application Site. Further information on the Habitat Mitigation Area is provided within the Outline Landscape and Ecological Mitigation Strategy (OLEMS) (document reference 7.4(2), REP7-037). It is considered that this measure would provide sufficient habitat for the number of redshank using this site.

3.2.6 However, should it be determined that there is an AEOI then the HMA would provide compensation and no further compensation is considered to be necessary for roosting habitat loss at the Principal Application Site.

3.3 Vessel Disturbance at the Principal Application Site

3.3.1 During the construction and operation of the Facility there will be increased disturbance due to activities occurring at the Application Site. This will include increased vessel movements and activities associated with loading and unloading of the wharves, as well as the operation of the Facility. It is expected that the increase in vessel movements during operation (maximum numbers of vessels per year) would be up to two large vessel movements per high water tide period. This is against a baseline of between approximately 400 (2020 figures) and 800 (recorded in 1996) vessels per year between 1994 and 2020 (as shown in **Figure 1-1** and discussed in detail in the Chapter 17 Marine and Coastal Ecology and

Appendix 17.1 - HRA – Ornithology Addendum (document reference 9.13, REP01-026) paragraphs 4.3.15 - 4.3.17, which would equate to between 1 and 3 large vessel movements per tide on average.

3.3.2 The Facility is within an area that includes existing industry and areas planned for industrial use but will obviously increase the level of activity close to the roosting habitats within The Haven compared with the baseline situation. The area that is closest to the Habitat Mitigation Area is the aggregate wharf which is only predicted to be used by two vessels a week. Disturbance will therefore be relatively infrequent in this adjacent area once construction is completed. The operation of the Facility should be relatively constant and as such is not expected to disturb the birds using the area. Waders habituate to constant operations relatively well as can be seen by the number of waders that roost and forage in close proximity to port areas. In addition, the Habitat Mitigation Area has been designed to provide the additional habitat approximately 250m from the boundary of the Facility. This distance is expected to be sufficient to reduce disturbance levels to an acceptable limit and is in line with the threshold distances for redshank as defined in the Waterbird Disturbance and Mitigation Toolkit[1]. This is detailed further in the Deadline 4 submission by the Applicant 'Noise Modelling and Mapping Relating to Bird Disturbance at the Principal Application Site' (document reference 9.50, REP4-015).

3.3.3 However, should a determination be made that there is an AEOI then the options for compensation will be required.

3.4 Vessel Transit through The Haven

3.4.1 For the construction and operational phases, vessels will be transiting through The Haven around the high-water period and also within The Wash in the deeper channels for a greater duration of the tidal cycle. The highest vessel numbers would occur during the operational phase. The increase over baseline level for the operational phase is therefore considered below, as a worst-case scenario.

3.4.2 Given that the total number of commercial vessels using The Haven is currently (2020 figures) in the order of 420 per year through The Haven, an increase of 580 vessels during the operational phase of the proposed Facility is considered to be relatively high. The vessels that will be using The Haven during the operational phase are similar in size to the commercial vessels currently using The Haven. Currently, large vessels transit on average once per day but anecdotal evidence from the Boston Harbour Master indicates that there are approximately 20-25 % of days per year when large vessels do not transit The Haven (although this varies

[1] *https://www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/.*

on a year-by-year basis) and also days when more than one large vessel transits, as seen during the behavioural monitoring of birds at the mouth of The Haven. It is generally the larger vessels, or smaller vessels going at speed, that cause the disturbance to birds.

3.4.3 The HRA (document reference 6.4.18, APP-111) concluded no AEOI of The Wash SPA (either alone or in-combination with other plans and projects). What is clear from the survey data reported in the HRA and the Ornithology Addendum, is that there is already a level of disturbance during the baseline scenario that causes the majority of the SPA bird species to fly to alternative roosts during the high tide period when either large vessels or pilot vessels enter or leave The Haven. The increase of between 75 and 80% of days of disturbance to potentially 100% of days of disturbance is not expected to have an AEOI as there are clearly alternative roost sites that the birds are using when the large vessels transit The Haven. There are some species however that will return to the original roost site close to The Haven vessel transit area and would therefore be disturbed again during subsequent vessel movements. These are the birds that could most likely be affected by increased numbers of vessels.

3.4.4 The species that were considered to be most at risk of repeated disturbance (as detailed in the Ornithology Addendum Appendix A1) are:

- Golden plover (not a qualifying SPA species in its own right but part of the SPA waterbird assemblage feature);
- Lapwing (not a named SPA species but part of the SPA assemblage);
- Black-tailed godwit;
- Dark-bellied brent goose;
- Oystercatcher;
- Turnstone; and
- Redshank.

3.4.5 If it was determined that additional vessel disturbance would lead to an AEOI then these would be the key species that would be considered for compensation.

3.4.6 Common tern was a potential species for screening but was not regularly observed. Additional investigation was undertaken for the Chapter 17 Marine and Coastal Ecology and Appendix 17.1 Habitats Regulations Assessment Update (document reference 9.59, REP5-006) as it was reported during the Hearing on the 24th November 2021, by RSPB, that common terns do breed within the RSPB reserves and if disturbed at their breeding sites this could have serious consequences. The individuals that were observed during the disturbance surveys were loafing birds from local colonies. Common tern are known to forage

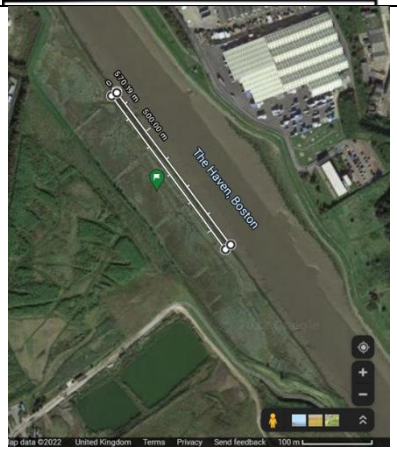
for long distances, up to 18km in some instances (Woodward et al, 2019). It is not likely that common tern would be disturbed at the breeding location as this is situated too far away from the vessels.

3.4.7 The SPA species that were counted in the WeBS sectors are expected to be the main populations using this area. Interested Parties have voiced concern that some of the SPA birds also use other areas along The Haven as well as at the Principal Application Site. Winter surveys at high and low water have shown that SPA feature species are present at high water (when cargo vessels are moving) only in low numbers (in context of The Wash SPA populations) on the intervening length of The Haven between the Principal Application Site and the Mouth of The Haven (MOTH) site, and that vessel-based disturbance to these birds (e.g. redshank, turnstone) does not act upon significant numbers. Up to 173 dark-bellied brent geese were recorded aggregating on saltmarsh beside The Haven, and up to 58 redshank have been recorded on a lagoon set back from The Haven (both at high water), however none of the birds were disturbed by vessels. Birds observed to be disturbed were species within the assemblage feature, broadly similar to those at the Principal Application Site: specifically ruff (up to 15 present) and a mixed aggregation of gulls (up to approximately 150 present). However, as a percentage of the most recent SPA citation estimate of individuals in the SPA assemblage (400,367 at citation update in Dec 2015) the disturbance is not significant (as it is a fraction of 1% of the citation assemblage). Higher diversity and numbers of SPA species (predominantly due to aggregations of dark-bellied brent geese) were recorded on this stretch at low water when project vessels will not be transiting. Based on the evidence from winter 2021/22 surveys, an AEoI from project (vessel) activity is not suggested for any SPA features, or the non-breeding waterbird assemblage, on the intervening section of The Haven.

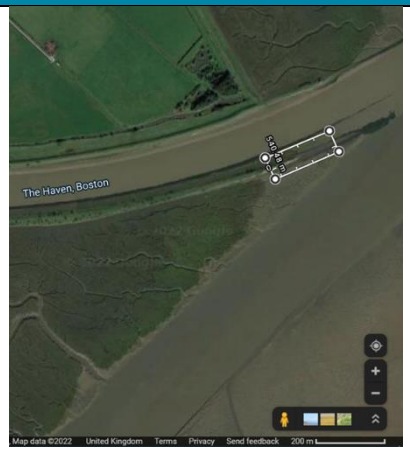
3.4.8 The without prejudice impacts, and estimated geographic areas, species and numbers of individuals which would require compensation, in principle, are summarised for sequential sections of The Haven in **Table 3-1**.

3.4.9 Additional searches are still being undertaken to determine if other sites are available within the primary search criteria. In addition, if the sites listed below in **Table 3-1** are not considered to be suitable then further searches would also be carried out to extend the areas of search in line with the criteria provided in **Section 3.5.5**. Further detail on the site selection and land acquisition process is set out in **Section 4** below.

Table 3-1 Summary of without prejudice impacts and affected areas and numbers of birds.

In principle impact	Activity affected	Key species/no. suggested affected	Estimated area affected (ha)	Basis of estimated area	Map image
Habitat loss (saltmarsh and mudflat) to wharf construction at Principal Application Site	Roosting and foraging outside the SPA	The Wash SPA* Redshank (20-45, rarely 100+) and ruff (up to 32) and other The Wash SPA* assemblage species recorded in bird survey Area A	1.2	Area of wharf construction as in Application	
Vessel disturbance at Principal Application Site	Roosting and foraging outside the SPA during high water. The inclusion of this area assumes that the SoS concludes that the Habitat Mitigation Area is not successful.	The Wash SPA* redshank (up to 165), The Wash SPA* assemblage ruff (up to 24), non-significant numbers of other SPA* species - 10 bar-tailed godwit, 3 black-tailed godwit, 8 curlew, 8 dunlin, 4 grey plover, 3 oystercatcher, 1 turnstone. A peak of 175 high tide roosting waders. (Data from counts undertaken at the site over a 2-year period)	0.25	Area containing all variations on precise high tide wader roost location in Bird Survey Area B	

In principle impact	Activity affected	Key species/no. suggested affected	Estimated area affected (ha)	Basis of estimated area	Map image
Vessel disturbance on The Haven downstream from the Habitat Mitigation Area to the SPA boundary at Hobhole Drain	None	Disturbance has not been recorded at wader high tide roosts or to the waterbird species present in >1% Wash population numbers (58 redshank, 2 gadwall)	0		
Vessel disturbance on The Haven from the SPA boundary at Hobhole Drain to fields at HMP North Sea Camp	None	Wader high tide roosts not recorded here. Disturbance has not been recorded to the waterbird species present in >1% Wash population numbers (173 dark-bellied brent geese, 2 gadwall)	0		

In principle impact	Activity affected	Key species/no. suggested affected	Estimated area affected (ha)	Basis of estimated area	Map image
Vessel disturbance at the mouth of The Haven	High tide roosting and foraging	Up to 7000 The Wash SPA feature/assemblage waterbirds (data from surveys of disturbance at the main roost site in the mouth of The Haven).	1.4	Roosting site, Frampton North 27 WeBS sector	

* Assumes functional link between population at the location and the population of The Wash SPA.

3.5 Options for Compensation Measures

3.5.1 Measures for compensation to address the potential AEOI are provided on an 'in principle' without prejudice basis. However, as good practice, the Applicant has committed to provide some of these measures regardless of the decision, in order to provide a biodiversity net gain for the project.

3.5.2 Should a determination of AEOI be reached it is likely to require compensation for disturbance caused to SPA populations for waterbirds. This would be delivered in the form of a network of additional roosting sites. Non-breeding waders living on estuaries require roost sites where they congregate and rest during the high tide period when their intertidal feeding grounds (mud flats) are covered by water. The choice and availability of roost site is important as it affects individuals' fitness (a bird's chances of survival and successful reproduction). To maximise fitness, roost sites should be relatively close to feeding grounds, safe from predators and not excessively exposed to the inclement conditions such as strong winds and waves.

3.5.3 Sites have been sought that would meet the objectives of providing additional habitat for birds displaced by vessel disturbance and habitat loss outlined above, and habitat requirements for the key bird species. The options for developing a network of sites that would provide habitat for waterbirds that could be affected by disturbance from vessels using The Haven, ranging from adjacent to the Haven to 1 km distant from The Haven, have been investigated more fully with regard to their potential to meet the required objectives as set out in Paragraph 3.5.4. The location of the proposed Facility in relation to the SPA and the RSPB reserves is shown on **Figure 3-1**. Contact has been made with the owners/managers of the sites in all cases to ensure that the options are securable.

3.5.4 The conservation objectives supplementary conservation advice guidance produced by NE (Natural England 2021a) contains targets and information that has relevance to the potential compensation measures. Two targets of relevance that apply to all The Wash SPA qualifying interest wader species are:

- "Maintain a vegetation structure of key roost sites dominated by bare ground or a short sparsely-vegetated sward;" and
- "Maintain the area of open and unobstructed terrain around roosting and feeding sites."

3.5.5 Compensation sites for disturbance impacts should meet the following general criteria:

- Contain short sward grassland and an area of shallow water such as a lagoon or scrape (potentially with a small island within the lagoon);
- Of sufficient size and suitable landscaping and design to be able to be capable of attracting and accommodating waterbirds (in the order of thousands) for roosting, foraging, loafing and bathing. The estimated minimum size requirement is 15 hectares (ha) based on the size of the roosting site which lies within The Haven area, both above the high-water mark and within the boundary of the designated sites and covers approximately 15 ha. It is recognised that if sites are only available at locations further away, that the size of the feature and/or the condition and status would need to increase in order to provide greater functionality in order to provide adequate compensation;
- Open in nature;
- Not close to trees or shrubs (i.e., vegetation that provides cover sites for predators);
- Away from areas frequented by walkers with dogs;
- Away from areas there would be other forms of noise disturbance (i.e., bird scarers/high level of vehicular disturbance);
- Not already providing a conservation benefit to birds or other species that would be adversely affected if the site is enhanced for bird use by the required species; and
- For compensation of the mouth of The Haven vessel disturbance, compensation roost sites should be close to the existing mouth of The Haven roost site, preferably within 1km and ideally within 500m (refer to section 4 which discusses the location (in context of the SPA location) of sites in more detail).

3.5.6 Species that could require compensation habitat if a determination of AEOI is concluded include the following (a description is given for the numbers using the mouth of The Haven site and if known, their habitat preferences in the area in order to try and determine the potential need for compensation). It should be recognised however, that the habitat to be created would provide suitable habitat for the majority of the species that use the coastal areas for roosting and foraging. There is also potential that the sites could provide breeding habitat for other species and although breeding activity is not expected to be affected this would provide a net gain from the site development:

- Brent geese - The WeBS count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that a peak count in this area was 2,100 birds and the average count when present was 881 birds.

Brent geese can roost on a wide range of sites, including open water, saltmarsh and agricultural fields. Disturbance to brent geese was evident even from the faster travelling smaller pilot vessels but once disturbed the brent geese flew to alternative sites. There are a number of alternative roost sites close to the mouth of The Haven but if an AEOI is decided then provision of further alternative roost sites should be found within approximately 1km of the mouth of The Haven. Brent geese generally make use of agricultural land around the edges of estuaries for roosting and feeding, mainly using the estuary for bathing and loafing.

- Black-tailed godwit – The WeBS count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that a peak count in this area was 2,021 birds and the average count when present was 484 birds. Based on the counts for individual Wetland Bird Survey (WeBS) sectors (as reported in the HRA and Ornithology Addendum) the black-tailed godwit seem to favour rocky substrate but is also observed further inshore on other WeBS sectors. This species is known to readily take to roosting at suitably located artificial lagoon and island type roost sites with short sward grassland available for foraging, including those created at bird reserves in The Wash.
- Oystercatcher - The WeBS count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that a peak count in this area was 4,150 birds (20% of the Wash population) and the average count when present in more than negligible numbers was 890 birds (4% of the Wash population). Oystercatchers are quite adaptable birds and in recent years have been seen to move further inland from traditional coasts and estuaries and feed in wet grassland, pastures and agricultural fields. They would benefit from a roosting island within a waterbody.
- Redshank – The WeBS count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that the peak count was 250 birds and the average count when present was 84 birds, corresponding to 5% and 2% respectively of the Wash 5-year mean peak population. Redshank were observed roosting on rocks on the upper intertidal area. They also roost in areas behind the seawall where they require shallow water habitats for foraging with an open view to watch for predators. Short-damp grassland provides a good roosting and foraging site for redshank.
- Turnstone - The WeBS count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that the peak count was 237 birds and the average count when present was 45 birds, corresponding to 29% and 6% respectively of the Wash 5-year mean peak population. Turnstone would favour a rocky substrate for a roost site and are therefore likely to be roosting on the artificial rocky revetment around the mouth of The Haven.

- Lapwing and golden plover – Neither of these species are SPA qualifying species in their own right but they do make up the SPA non-breeding waterbird assemblage. The count data for the mouth of The Haven defined area (as used in the Ornithology Addendum) showed that when present in more than negligible numbers, the average and peak numbers of lapwing was 496 and 1,480 birds respectively, corresponding to approximately 4% and 13% respectively of the Wash population. The average and peak numbers of golden plover is 675 and 2,800 birds, corresponding to approximately 5% and 22% respectively of the Wash population. However, both species use the mouth of The Haven site relatively infrequently; lapwing are only present in more than negligible numbers on 47% of high tides, and golden plover on only 20%. Short-grazed open pasture provides a good habitat for lapwing and golden plover.

3.5.7 **Table 3-1** shows the birds and related habitat that require compensation, but it is recognised that creating a compensation site for intertidal-roosting birds is difficult if it aims to create like-for-like habitat. There is no location outside of the designated sites that could create such habitat in the local area and Natural England would not allow habitat creation within the designated sites. Compensation sites have been sought that would therefore provide habitat for the required numbers of birds if they were roosting in habitat outside the intertidal habitat of The Haven (more distant from their low tide food sources). The requirement is therefore to create brackish or freshwater off-Haven sites that could support up to 175 high-tide roosting birds from the Principal Application Site, and 7000 birds from the MOTH, during high water. When considering the average numbers of birds using the MOTH WeBS sectors for the qualifying species that showed significant disturbance (as discussed in **paragraph 3.5.5** above), this more than covers the cumulative average number (**3555 birds**) (the roost at the MOTH has been surveyed to host a minimum of 100-200 waterbirds and routinely 2000-3000 waterbirds). 7000 birds is an approximation of the peak count of waterbirds recorded at the MOTH (6980, Changes In Waterbird Behaviour survey, survey of 19 Dec 2019, 10:19). On this survey the assemblage was composed of 2000 black-tailed godwit, 220 redshank, 100 dunlin, 50 oystercatcher, 500 knot, 3000 golden plover, 1100 lapwing, and 10 cormorant. Not all of these birds were displaced but the Applicant proceeds with the worst-case assumption that all birds are ultimately displaced and require alternative habitat provision. The Applicant considers the peak count to be the evidenced capacity of the roost but that the assemblage varies and could comprise any of the following species, up to their respective peak counts (recorded across Changes In Waterbird Behaviour and winter surveys of the MOTH), **totalling 7000 individuals overall**: 10 bar-tailed godwit, 2000 black-tailed godwit, 10 common tern, 55 curlew, 1150 dark-bellied

brent goose, 1100 dunlin, 5 grey plover, 500 knot, 2108 oystercatcher, 1 pintail, 220 redshank, 36 shelduck, 126 turnstone, 400 wigeon, 1 avocet, 34 black-headed gull, 3 common gull, 3 common sandpiper, 10 cormorant, 3000 golden plover, 1 great black-backed gull, 3 herring gull, 1100 lapwing, 55 mallard, 40 ringed plover, 8 sandwich tern, 54 teal and 1 whimbrel. The habitats to be created as compensation sites will in summary need to provide good quality habitat for roosting birds using the SPA at high tide (predominantly Scolopacidae), plus black-tailed godwit, lapwing, golden plover and brent goose associated with flexibility to use adjacent pastoral and arable habitats for roosting/loafing and foraging, plus duck species such as shelduck, wigeon and pintail, and common tern. The habitat created would readily provide for non-SPA feature species including mallard, cormorant and gulls. The Applicant is confident that they can secure one site (currently under agricultural production) of 19 hectares (ha) and one 7.5 ha site for conversion to appropriate habitat to support these species in these numbers. The capacity of wetlands at this scale to support thousands of waterbirds is evidenced by the success of the RSPB reserves to provide roosting habitat for SPA feature and assemblage species. Of 1664 dates in July to March (common non-breeding months) providing site counts for Frampton Marsh since 2015, the site count exceeded 3055 birds on 104 dates. Of 265 dates in July to March providing site counts for Freiston Shore since 2015, the site count exceeded 3555 birds on 16 dates, with a peak count of 14271 birds. The Freiston Shore peak counts for species cited above from the MOTH are typically around an order of magnitude larger than MOTH peak counts required to be supported by in-principle compensation habitat: 90 bar-tailed godwit, 3500 black-tailed godwit, 350 curlew, 3500 dark-bellied brent goose. 610 dunlin, 1000 grey plover, 400 knot, 3700 oystercatcher, 400 pintail, 1150 redshank, 700 shelduck, 192 turnstone, 6625 wigeon. The saline lagoon at Freiston is around 15 ha including its peripheral shoreline and dry islands and spits within its footprint. The shortlisted compensation areas are provisionally designed to include a largest lagoon of around 4 to 5 ha in a maximum wider area of 19 ha of continuous suitable open and/or wet habitat. The Applicant recognises that capacity of a site for waterbird assemblage size is not related in a linear manner to area of wetland. However, the above site counts suggest that if an area of equivalent continuous size (~19 ha) but with a reduced area of continuous lagoon (~4 ha) resulted in a 1/2 capacity for individual waterbirds (and 1/10 capacity for individual species' peak counts), the compensation wetlands could support the expected numbers of waterbirds from the Principal Application Site and the MOTH. The second site within less than 1 km would also provide extensive open habitat for waterbirds (in particular black-tailed godwit, lapwing, golden plover and wigeon).

3.5.8 The requirement for compensation depends on the determination of AEOI. If it is determined that the AEOI relates to the overall disturbance caused by any large vessel then it is possible that the baseline situation is also having a disturbance effect. The supplementary advice on The Wash SPA, in particular the Advice on Operations (Natural England 2021b), includes vessel disturbance as a pressure. Several SPA species are identified as sensitive, and the risk level is given as medium-high risk with a recommendation that the pressure is commonly induced by activity at a level that needs to be considered further as part of an assessment.

3.5.9 From the analysis undertaken for this project specifically as discussed fully in the Ornithology Addendum (document reference 9.13, REP1-026) and HRA Update (document reference 9.59, REP5-006) it seems that the additional number of vessels would affect the species that consistently return to the same roost locations which were lapwing and golden plover, both not being SPA species in their own right. However, the increased disturbance will clearly have some effect on these species. Where there were multiple disturbance events observed these species did eventually move to alternative roosting locations in the area.

3.5.10 Given that any disturbance to birds is undesirable the compensation measures outlined above have been investigated in order to provide additional habitat for birds that are displaced by vessel disturbance and habitat loss. There are clearly already alternative locations that birds use for roosting during high tide periods when larger vessels transit through The Haven. Provision of additional habitat would however potentially provide benefit if it was designed to have maximum appeal to key species.

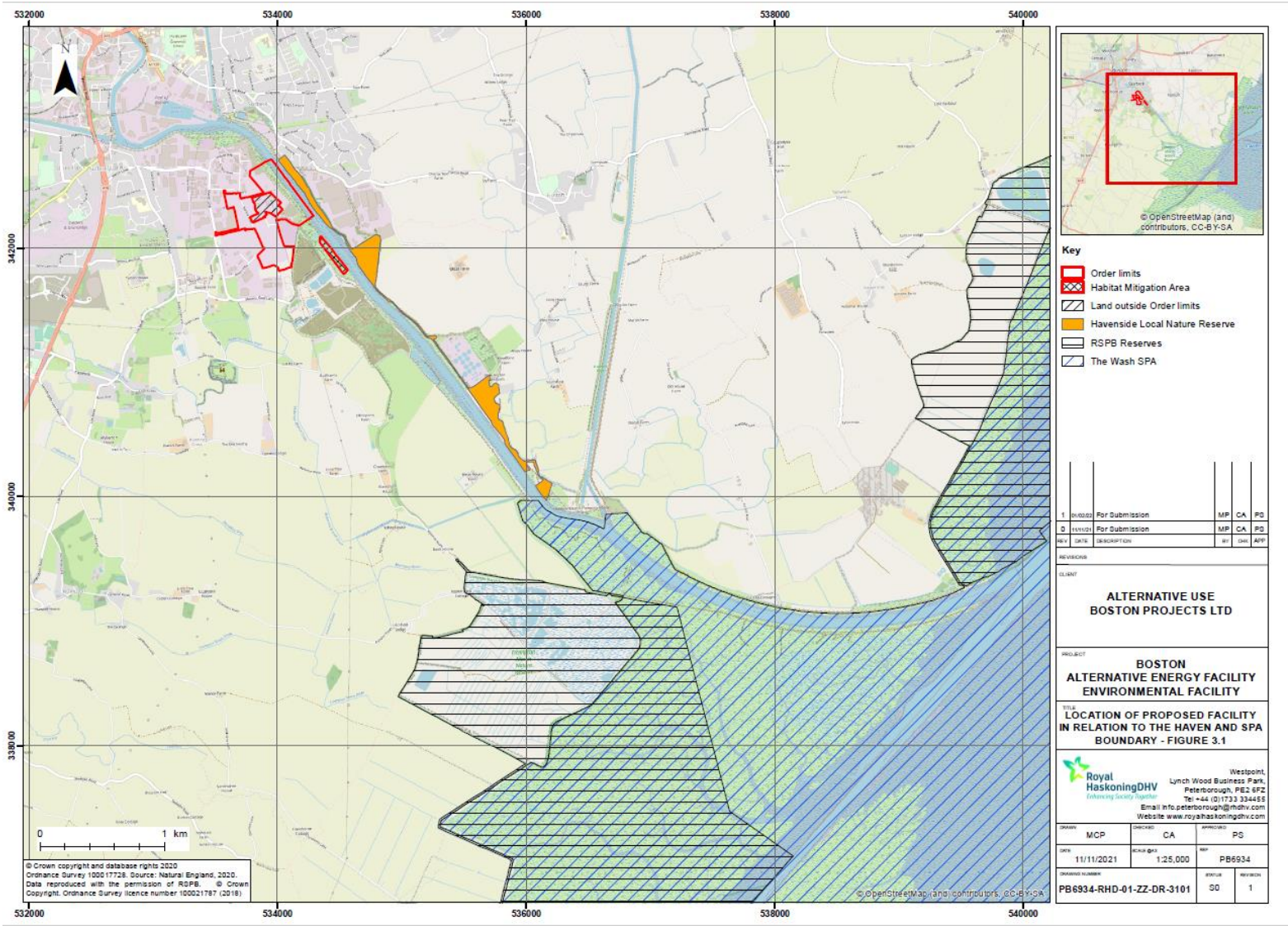
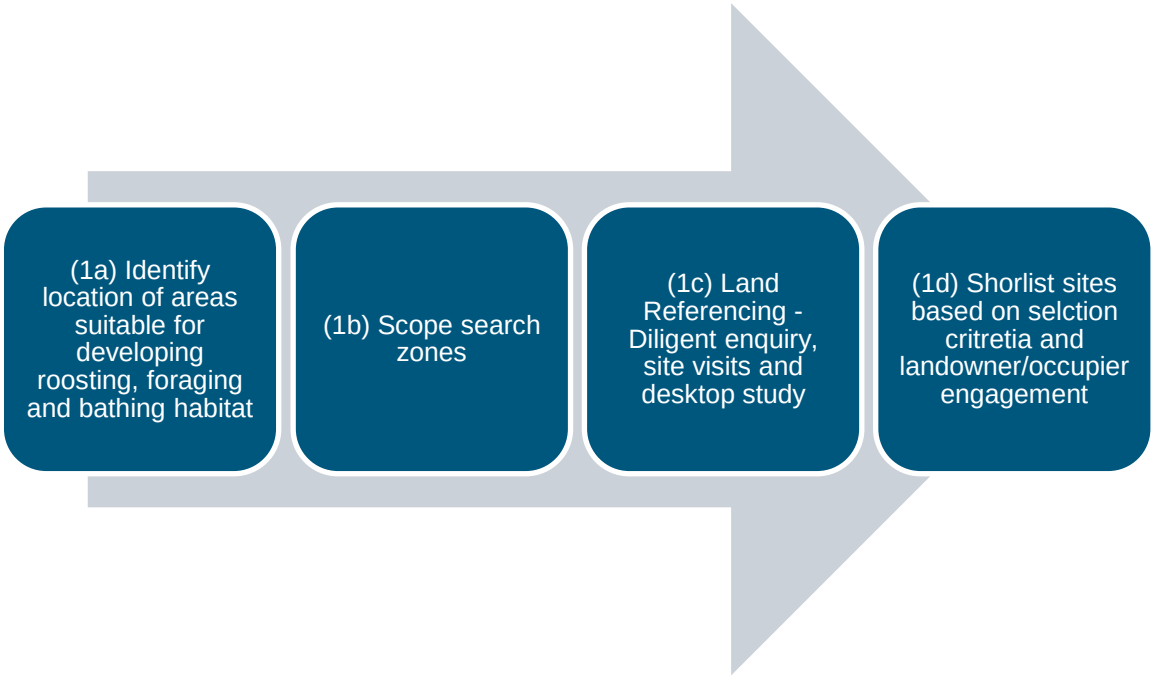


Figure 3-1 Location of Proposed Facility in relation to The Haven and SPA Boundary

4 Site Selection and Land Acquisition Process

4.1.1 In order to identify and acquire suitable sites for compensatory habitat, the Applicant has developed a two phased site selection and land acquisition strategy as outlined by **Figure 4-1**. The intention would be to secure either a single large area or a network of areas.

Phase One



Phase 2

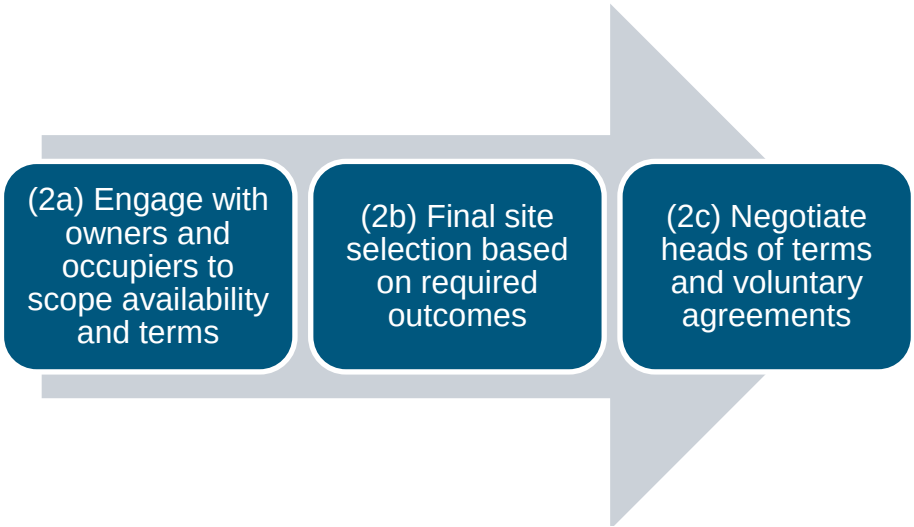


Figure 4-1 Phases of Boston Alternative Energy Facility's site selection and land acquisition strategy

4.2 Phase (1a) Identify location of areas suitable for the developing roosting habitat

Ecological Criteria

4.2.1 The first stage of the site selection process requires the establishment of key site ecological criteria for identifying sites suitable for developing successful compensatory habitat. These criteria are summarised in paragraph 3.5.5 above.

Identify Search Zones

4.2.2 The second stage is to identify the appropriate search zones. Three search zones have been identified, which are listed below in order of priority:

- The initial search zone is a 1km wide band, landwards, running (following the Mean High Water line) from the mouth of The Haven, as well as along The Haven (1 km either side of it).
- A secondary search zone would be established if a sufficient number of suitable sites could not be identified within the initial search zone. This would lengthen the 1km wide band to follow the Mean High Water Mark around the entirety of The Wash in order to provide suitable habitat for the key waterbirds (as discussed in **Section 3.5.5** above) within a reasonable flight distance.
- A third search zone would be used if sufficient habitat is not available within the previous two zones. This would be extended to include within (where restoration works are required) and adjacent to (where sites could be created to expand the habitats available) national conservation network sites which would help populations of the key species that could be affected as discussed above in **Section 3.5.5**.
- The search area for ornithology compensation sites is shown in **Figure 4-2**.

4.3 Phase (1b) Scope search zones

4.3.1 In order to undertake the scoping exercise, the Applicant is utilising and will continue to utilise a range of methods to identify sites within the search zones that meet the ecological criteria. This includes:

- Discussing land parcel availability with local landowners known to the Applicant;
- Engaging a land agent to undertake a systematic search of available land within the search zones; and
- Engaging with various land/habitat banking organisations in relation to their land holdings.

4.4 Phase 1(c): Land Referencing - Diligent enquiry, site visits and desktop study

4.4.1 Diligent enquiry has also been (and will continue to be) ongoing, using:

- Desktop investigations – to identify suitable geographical features and accessible areas free from development and other constraints;
- Preliminary site visits by public access; and
- Land Registry enquiries for information on the scale of ownership in possible location which would be suitable for development.

4.5 Phase 1(d): Shortlisting sites

4.5.1 As a part of the detailed site selection process diligent enquiry is being undertaken (and will continue to be undertaken) with the aim of enabling the Applicant to contact and consult with relevant landowners and occupiers to arrive at a shortlist of suitable sites. The purpose of this engagement will be to:

- Establish the availability and suitability of the land forming part of their holding;
- Engage on the design of the land and the creation of rights and restrictive covenants for the protection of the area;
- Discuss commercial terms and land value; and
- Identify if any practical barriers are present, or if additional/complex measures are needed to develop to habitat and ensure it is effective, identified through local knowledge.

4.5.2 The Applicant would only seek to progress with sites that are suitable not only according to the site selection criteria outlined in paragraph 3.5.4 above but also taking into account any relevant "on the ground" information provided by landowners and occupiers which might give rise to concerns about the potential viability of a site in question. For example, individual landowners may have a view on which particular areas of their estate might be suitable or knowledge about the potential presence of predators.

4.5.3 It is also possible that through this engagement process additional land may be identified as suitable or potentially viable for establishing compensatory habitat. It is important to recognise that the overall site selection and land acquisition process, directed in the first instance by desktop investigation, will be an iterative process that is focused on the desired outcome of providing effective compensation.

4.5.4 The initial scoping exercise has resulted in two sites moving through to the short-listing stage. They are described in paragraphs 4.7.2 and 4.7.3. The Applicant has made contact with the landowners to commence initial commercial discussions, while procedures are in place to identify other locations that may become available to ensure that the best available sites are considered.

4.5.5 At a UK wide level, the Applicant has ongoing and constructive dialogues with a range of large-scale land holders and land banking organisations regarding their land holdings.

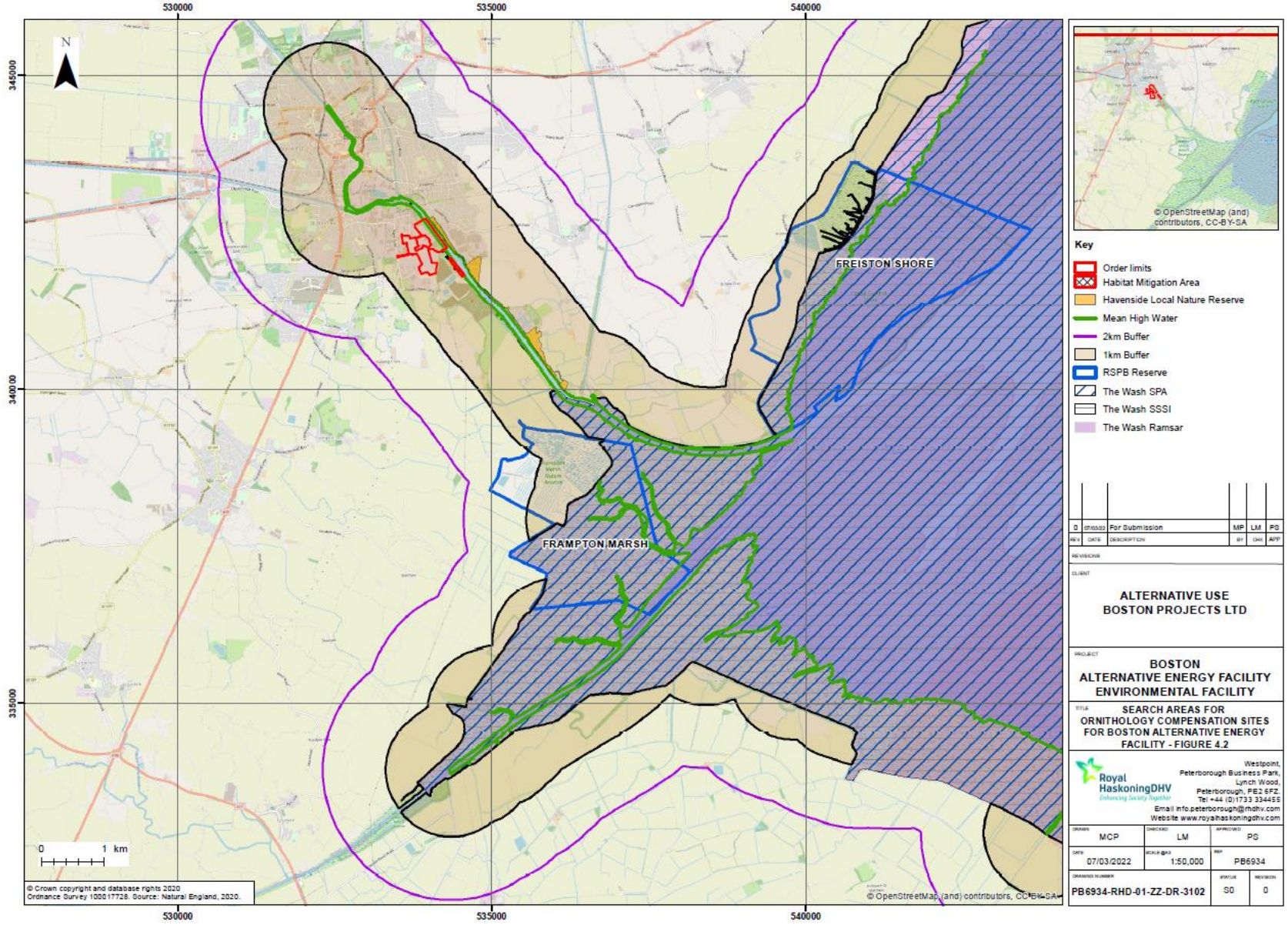


Figure 4-2 Search areas for ornithology compensation sites for Boston Alternative Energy Facility

4.6 Phase 2: The next steps for land acquisition

4.6.1 The Applicant will continue to progress the site selection process and will continue to shortlist sites. Discussions with landowners have commenced and are at an advanced stage. The next stage will be to conclude detailed discussions and to negotiate commercial agreements. In advance of final purchase due diligence on the sites will be undertaken to ensure they are free from any restrictions for development or subject to historical land uses or archaeology that may preclude development. The shortlist of sites within the search zones may evolve over time, as discussions progress with stakeholders such as statutory nature conservations bodies, interested parties, Local Planning Authorities (LPAs) and local groups, as further local knowledge and information comes to light.

Securing land rights

4.6.2 The Applicant intends to secure voluntary agreements with landowners to purchase a freehold title or long leasehold interest for any land required for the creation of compensatory habitat, together with associated rights. It is the Applicant's intention to enter multiple option agreements, if considered appropriate in order to ensure maximum flexibility in determining the final site(s).

4.6.3 The detailed terms of such agreements will be determined by the outcome of commercial negotiations between the parties in question. Generally, the Applicant will be seeking:

- An initial option agreement that grants the Applicant exclusivity over a specified area of land for a set period with the ability to call on the land transactions to permit the development of the compensatory habitat and maintenance of that habitat.
- Either the freehold purchase of land and/or the grant of a long leasehold interest.
- Rights of access and to permit initial habitat creation works and ongoing maintenance, repair and monitoring of the habitats.
- Restrictive covenants to protect the bird populations, including restrictions on development and disturbance on the adjoining land.
- Collaboration with landowners and occupiers in respect of whether predator deterrents/control measures are needed.

4.6.4 The Applicant will secure a term or option duration that secures the land for the operational lifetime of Facility and any decommissioning stage and will seek to secure the maximum flexibility to deliver the sites in a timely manner and for the duration required by the conditions of the DCO.

4.6.5 On the basis of progress to date, and the existing relationships the Applicant has with key landowners, the Applicant is confident that it will be able to secure all the land and rights required to establish suitable sites by entering into voluntary agreements.

4.6.6 The Applicant may also be able to work with the LPA using the latter's powers of acquisition under the Town and Country Planning Act 1990, but this is not currently the preferred route. The Applicant is completely committed to obtaining any land needed for compensation via voluntary agreements.

Securing any Consenting Rights

4.6.7 The Applicant does not consider it is likely that planning permission under the Town and Country Planning Act 1990 would be required as no structures are anticipated to be needed and it would not be considered a change of use of the land as the primary aims of the compensation land would be to develop or maintain short sward grassland and create an area of shallow water such as a lagoon or scrape (potentially with a small island within the lagoon).

4.6.8 If however, through detailed design it was determined a structure was required or it was considered to be a change of use, the Applicant would engage with the local planning authority to obtain such a planning permission and early screening will take place to confirm such matters.

4.6.9 If any works are proposed to occur in intertidal areas, the Applicant would engage with the Marine Management Organisation and if required obtain a Marine Licence.

4.6.10 If any offsite compensation measures trigger the need to obtain an environmental permit for a flood risk activity, the Applicant would apply to the Environment Agency for that permit and the impacts on flood defences would be assessed at that time. The same would apply to any other environmental permits required.

4.6.11 If there is a need for any water drainage or abstraction this would be discussed with the Internal Drainage Board to ensure that the quality and quantities did not have an adverse effect on other users or stakeholders.

4.6.12 The requisite consents will address any proposed decommissioning requirements, specifically the requirement to submit a decommissioning plan upon cessation of the Facility.

4.6.13 The Applicant has, with the help of its advisors, estimated that the consenting process could realistically be completed within a timeframe that enables the measures to be implemented sufficiently in advance of the impact occurring. See

Section 4.8 for further information regarding an indicative implementation timeline.

Funding

4.6.14 The Applicant has taken proactive steps to ensure that they are informed of the cost of the potential compensation and are factoring in any costs into its business plan. Consideration and budgetary provision has been made in relation to both purchase cost for any land requirements, and costs to deliver the required measures and to ensure such measures are maintained throughout the required lifetime of the Facility to the end of decommissioning. If the SoS determines the wharf site is a functionally linked habitat to the SPA, the measures to provide habitat for birds using the wharf site will be maintained following decommissioning of the wharf unless the intertidal habitat is reinstated to an acceptable condition to enable waterbirds to return to use this area for roosting.

4.6.15 The Applicant's consultants have assisted the Applicant in identifying the costs that may be required to construct and maintain such compensation and the Applicant has made provision so that funding will be available at the required time to ensure the establishment and success of such measures. Notably, this includes ensuring that compensatory measures are in place and available before the operational phase when the potential impacts that may require compensation would take effect. No issues in relation of funding of any required compensation are therefore present from the Applicant's standpoint, and such costs are considered to be financially feasible.

4.6.16 In relation to the mechanism to secure funds to deliver the compensation measures, the Applicant has explained in its submitted Funding Statement (document reference 3.2, APP-009) that funding for the capital cost of construction of the Proposed Development, will be secured following the grant of the DCO, and such funding will be sourced from a combination of commercial debt and additional equity. Once the funding has been secured a final investment decision will be taken to irrevocably commit the necessary funding for the project. Should funding be required for any habitat compensatory measures then those project costs will be taken into account in any final investment decision.

4.6.17 As set out in The Applicant's Response to the Examining Authority's Commentary on the Draft DCO (document reference 9.58) also submitted at Deadline 5, the Applicant proposes to secure any compensation (if required) via a schedule to the DCO. A draft of that schedule is included as Appendix 1 to that document and requires the compensation measures to be in place prior to the operation of the development. It has also been included on a without prejudice basis in the draft DCO submitted at Deadline 6 (document reference 2.1(3)). If considered

necessary, the Applicant would be content to enter into an appropriate security mechanism around the time of the implementation of the compensatory measures (if any) to provide reassurance that the measures will be retained and maintained during the operation of the facility.

4.6.18 In summary, the Applicant is confident that it is able to provide the required funding for the Facility, which would include funding to guarantee the success of any compensation measures required.

4.7 Initially Shortlisted Agricultural Fields alongside The Haven

4.7.1 Approaches to land owners of fields alongside, and within 1km of, The Haven have been made in order to secure an area, or a network of areas, that would be suitable for the birds listed above in this report to provide compensation sites if needed. Two sites have been identified that would provide compensation: one of them is situated adjacent to The Haven; and, one is approximately 1km from The Haven and approximately 650m from the RSPB Frampton Marsh reserve. Landowners are amenable (in principle) to renting out land parcels on a renewable long term (c. 30 years to include construction of the compensation features plus operation of the Facility itself.) lease with the Applicant amenable to entering in to arrangements for securing these sites once a DCO decision has been made.

4.7.2 The site that is adjacent to The Haven provides a suitable site for creating shallow, non-tidal, freshwater lagoons surrounded by short sward grassland, with islands within the lagoons for roosting by intertidal-feeding birds such as redshank and ruff. This site is approximately 1.2km from the boundary of The Wash SPA and 1.3km from the proposed Application Site. In this way it is a little over the target range of 1km but due to its size could attract and provide a suitable site for many of the waterbird species using both the Proposed Application Site and The Haven both outside and within the SPA. Field surveys to examine the site report that The Haven at this location has two small tidal lagoons (on the seaward side of the sea wall) which are used regularly by birds but are likely to have limited use as a high tide roost site due to proximity to the navigation route of large vessels. The site, on the landward side of the sea wall/coastal footpath, is large (approximately 19 ha) and could provide a suitable site with careful design and management to ensure that disturbance from the coastal footpath is minimised through existing, and potentially planted, low level shrub vegetation to break up the skyline. This would ensure that birds can roost far enough from The Haven to minimise disturbance from the vessel movements, whilst maintaining an open vista for birds that require this, such as redshank. This area is currently arable land with a relatively new drainage ditch within. The drainage ditch has been used to split the

field into two, with the south section currently grassland most likely for silage, and the north section arable.

4.7.3 The site that is further from The Haven is closer to the RSPB reserve at Frampton Marsh and would therefore have good connectivity for birds using this area. It is proposed that this site could provide suitable habitat in particular for lapwing and golden plover. This area is currently used for arable production and is approximately 7.3 ha. There are drainage ditches surrounding the site which indicate that the site is likely to be naturally a wetter area and it has no footpaths around the site. There are electricity pylons and wires running north-south within 100 m west of the site boundary so a buffer would be placed around such areas when designing the key areas to be used by birds. This site could be planted with short sward grassland maintained as foraging habitat with wetter areas of marshy grassland where the water table is naturally higher. There is also potential for providing scrapes and islands.

4.7.4 Both sites under consideration share similar soils/geology to the RSPB reserves (i.e. superficial deposits of alluvium underlain by clay, siltstone, mudstone and sandstone) and are flat in nature. Recent land use has been agricultural and from these perspectives they have the potential for creation of the proposed features.

4.7.5 **Table 4-1** outlines bird activities supported by habitat created. In addition to supporting roosting, bathing and high-tide foraging as priority routes to compensating waterbirds, the habitats are also capable of supporting breeding and low-tide foraging in a range of species, which would constitute net-gain for waterbirds.

Table 4-1 Summary of recommended features of candidate compensation sites, bird activities and species supported, and area or size ranges of each feature

Habitat feature	Bird activity supported and species	Suggested area/size range (ha and % of total site)
19 ha site		
Lagoon (depth 2-30 cm)	Roosting (redshank. bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Foraging (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Bathing (dark-bellied brent goose, waders, gulls)	≤ 4.5 ha (24%)

Habitat feature	Bird activity supported and species	Suggested area/size range (ha and % of total site)
Gravel island	Roosting (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Foraging (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, ruff, avocet, common sandpiper, ringed plover, gulls) Breeding (redshank, oystercatcher, avocet, little ringed plover, ringed plover, gulls)	Up to 33% of lagoon ≤ 1.5 ha (8%)
Earth island	Roosting (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Foraging (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, gulls, herons) Breeding (redshank, oystercatcher, lapwing, avocet, gulls)	Up to 33% of lagoon ≤ 1.5 ha (8%)
Semi-submerged wooden frame(s)	Roosting (redshank, cormorant, common tern, common sandpiper)	≥3 m perch length
Wet grassland	Roosting/loafing (black-tailed godwit, lapwing, golden plover, dark-bellied brent goose, gulls) Foraging (redshank, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, shelduck, wigeon, lapwing, golden plover, ruff, common sandpiper, mallard, teal, gulls, herons) Breeding (redshank, curlew, lapwing)	≥ 8 ha (42%)
Dry grassland	Roosting/loafing (black-tailed godwit, lapwing, golden plover, dark-bellied brent goose, gulls) Foraging (redshank, black-tailed godwit, curlew, oystercatcher, lapwing, golden plover, gulls) Breeding (redshank, curlew, lapwing)	≥ 2.5 ha (13%)
Winter wheat rotated with spring wheat and arable weeds	Winter wheat: Roosting (dark-bellied brent goose) Foraging (dark-bellied brent goose) Spring wheat/weeds: Breeding (lapwing, meadow pipit, yellow wagtail, skylark)	≤ 2.5 ha (13%)

Habitat feature	Bird activity supported and species	Suggested area/size range (ha and % of total site)
	Foraging (turtle dove)	
Fence with viewing blinds	(Limiting disturbance)	1.5 km (70% of boundary)
Boundary ditch planted with bramble and sedge vegetation	Foraging (passerines) Breeding (sedge warbler, reed bunting)	0.67 km (30% of boundary)
Tree removal	(Reduced skyline, increased site openness)	Where permitted
7.5 ha site		
Wet grassland	Roosting/loafing (black-tailed godwit, lapwing, golden plover, dark-bellied brent goose, gulls) Foraging (redshank, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, shelduck, wigeon, lapwing, golden plover, ruff, common sandpiper, mallard, teal, gulls, herons)	≤ 7 ha (93%)
Freshwater lagoon	Roosting/loafing (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Foraging (redshank, bar-tailed godwit, black-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, turnstone, shelduck, wigeon, pintail, lapwing, golden plover, ruff, avocet, common sandpiper, ringed plover, mallard, teal, cormorant, gulls, herons) Bathing (dark-bellied brent goose, waders, gulls)	< 1 ha (13%)
Dry grassland	Roosting/loafing (black-tailed godwit, lapwing, golden plover, dark-bellied brent goose, gulls) Foraging (redshank, black-tailed godwit, curlew, oystercatcher, lapwing, golden plover, gulls)	≤ 1.2 ha (16%)

4.8 Time scale for Compensation Sites

4.8.1 As outlined previously, the compensation sites would be in place prior to the negative effect on the protected site occurring to ensure use of the compensation site by any displaced birds. For the dredging and construction impacts to the habitat within the Principal Application Site the measures would need to be in place prior to any construction works on the intertidal habitat and for the compensation for disturbance at the mouth of The Haven the measures would need to be in place prior to the negative impact occurring, associated with an increase in vessel numbers. Following consultation with the RSPB regarding wetland habitat creation and their experience of carrying out this activity in the local area, it is acknowledged that two years is likely to be required between

completion of initial landscaping or engineering to raise water levels, and the sites beginning to fulfil their function as a habitat for the full suite of species that may require compensation. It is possible that in this period, the wetlands could undergo processes resulting in high levels of water nutrient concentrations as a result of residual fertiliser application from previous arable land use. This could result in associated algal blooms and overall lower suitability for some waterbird species, before entering a condition that would be more suitable to support them. Compensation wetland sites will therefore be landscaped and/or engineered at least two years before the negative impacts (i.e. AEOI) from disturbance caused by vessels occur. Within this timeline, some species' requirements can be met rapidly, e.g. dark-bellied brent geese will be attracted off-Haven to sown winter wheat in drier areas of compensation land.

4.8.2 The indicative timetable for implementation of compensation measures at both the Habitat Mitigation Area (if considered to be compensation) and for the proposals related to the wider agricultural fields are set out in **Figure 4-3**. The Applicant will follow this timetable whether measures are deemed to be mitigation, Biodiversity Net Gain or compensation so as to introduce benefits as early as practicable, and at least two years in advance of negative effects occurring in relation to disturbance.

Habitat Mitigation Area

4.8.3 No additional permits or surveys will be required in relation to work on this area due to these works being included within the DCO application and Environmental Statement. The Applicant can rapidly move to detailed design and a construction method statement (which will be consulted on). As set out in paragraph 3.2.5 (above) and paragraph 5.5.42 of the Project Description (document reference 6.2.5, APP-043) the works are relatively minor in scope and require a low tech approach to construction using a long reach excavator which may be brought to this site on a floating barge (to avoid impacts on the saltmarsh or effects on Public Rights of Way) and a small workforce using hand tools. Such work is of the type undertaken by conservation volunteers or small, specialist companies and would be overseen by an Ecological Clerk of Works (ECoW). The works are unlikely to take longer than a week (weather and tide dependant).

Wider Compensation Sites for Disturbance

4.8.4 Planning permission *may* be required for these locations and there is the potential for other permits (e.g. Protected species, Flood Risk Activity Permit, abstraction/discharge etc.). Baseline desk-based research and surveys will be

undertaken to assist with any applications and to understand the existing nature of the sites and also to inform the detailed design.

4.8.5 Conceptual design will commence once some of the survey results have been received. A 10 month design period has been allowed in full recognition of the potential complexities of water, habitat and species management that arises on projects of this type, noting the need to potentially manage water levels and the range of habitats set out **Table 4-1**. The Applicant will engage with the OEG through the process of developing the design for the compensation sites.

4.8.6 The programme is based on a worst case situation where planning permission is required. Following a period of determination of any planning applications and other permits the construction will take place from April 2024 to February 2025 (i.e. over 11 months).

4.8.7 Notwithstanding that commitment, compensation (if determined as being required by the Secretary of State) will need to be effective when the potential negative effect arises. For the purposes of the without prejudice compensation case, the Applicant has taken an extremely conservative view on this matter, applying the precautionary principle fully, and the following should be noted:

- Disturbance (leading to AEOI) is not predicted during the construction phase of the scheme where peak weekly vessel numbers will not exceed five (paragraph 18.7.51 of ES Chapter 18 Navigational Issues (document reference 6.2.3, APP-055). This equates to 260 vessels per year.

- There is disagreement between the Applicant and several Interested Parties that the 580 vessels per annum will cause an Adverse Effect on Integrity (AEoI) to the national network sites, with the Applicant maintaining that this level of disturbance does not cause AEOI.

- It is the commissioning phases where the vessel numbers start to increase, notably when ‘hot commissioning’ occurs (i.e. when the Energy from Waste lines start accepting some Refuse Derived Fuel (RDF)). Each of the three lines is commissioned separately and sequentially using a maximum of 16.5% of the operational maximum vessels per line (i.e. 0.165 x 480 RDF vessels/annum = 79 vessels/annum). Commissioning takes at least 6 months per line and is likely to take longer as issues arise that require remediation before operation.

- Seventy nine (79) vessels/year is significantly below both the maximum peak weekly construction vessel forecast and the operational maximum in vessels, as set out above. It is therefore considered conservative to have

the compensation sites for disturbance constructed/landscaped two years before the start of the hot commissioning for the second EfW line, where maximum vessel numbers may rise to 158/annum. **Figure 4-3** identifies that as worst-case (i.e. the earliest this could occur) being March 2027.

- Compensation for disturbance effects relate to the over-wintering birds and **Figure 4-3** shows a significant buffer built in to the compensation sites programme before October 2027.

4.8.8 Given the above points the Applicant is certain the compensation sites for disturbance which could lead to AEOI will be effective and functional by the time that such negative effects could occur.

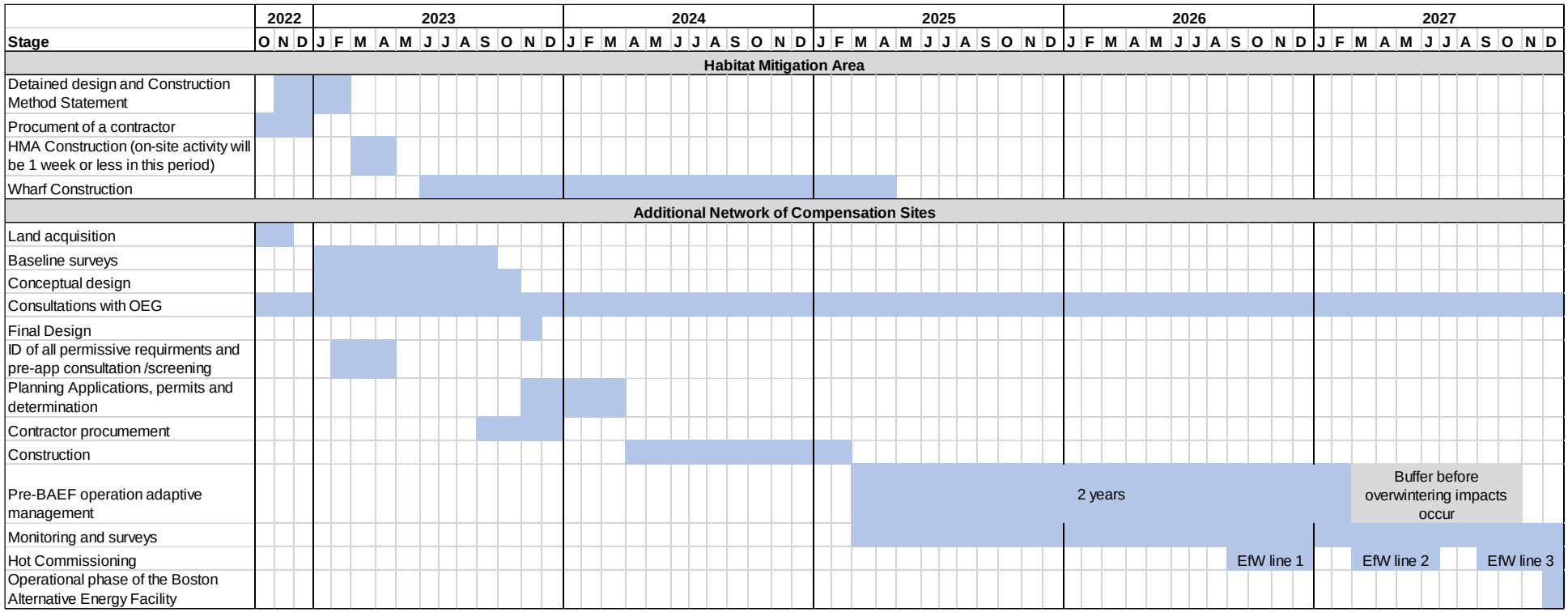


Figure 4-3 Indicative (worst-case) Implementation Programme

4.9 Ongoing maintenance of the compensation sites

4.9.1 The compensation sites will require ongoing maintenance and adaptive management to ensure that they are able to support the waterbirds for which the sites are designed throughout the duration of the operation of the Facility. This will include, as a necessity, monitoring of biotic and abiotic characteristics of the sites, and control of water level (potentially of water quality), vegetation growth and sward height, and stage of succession e.g., suppression of reed or scrub growth. The means by which to carry out the above necessary measures, such as confirmation of water sources and reserves, water abstraction licenses or design-in of any water control system, will be in-built to the design work and associated permissive regimes applied for. Due to the range of natural processes and events that can act on open habitat in a freshwater, estuarine or coastal setting, management will necessarily be adaptive and iterative with regular updates required to the short-term and long-term management plan. In acknowledgement that non-breeding waterbird features of The Wash SPA may be present in any calendar month, the suitability of compensation sites will be required to be maintained all year round. In addition, if compensation is required for the Facility in relation to habitat loss in the wharf site, then this would need to be maintained in perpetuity or until the original habitat is reinstated and functioning as a roost site for waterbirds in the same way as in the baseline situation.

4.10 Further steps for development of compensation options

4.10.1 In order to fully develop the compensation options further, steps are required that will be progressed in tandem with the site selection and land acquisition process. The Applicant proposes to establish an Ornithology Engagement Group (OEG) to provide an advisory role in the development of the compensation options. Feasibility studies and environmental appraisal will be undertaken to determine the works needed to create the habitats (i.e., water table level, drainage requirements and how this could potentially affect other users of the water in the system, existing uses of the land, potential for disturbance and/or predation impacts to affect the use of the areas by waterbirds) and therefore what management and ongoing maintenance is required. This will result in compensation plans being produced which set out the measures in detail and the delivery and monitoring mechanisms to ensure their success (to be developed as part of the Ornithology Compensation Implementation and Monitoring Plan (OCIMP)).

4.10.2 Through the discussion it may well evolve that additional options become available, and these will be included in the list for the evolving compensation

document. It is essential that compensation measures do not cause adverse environmental impacts in themselves. It is recognised that works near the intertidal areas might need to be undertaken outside of the overwintering periods to avoid disturbance. It is also recognised that other receptors also require consideration in this respect. Measures will also need to be assessed against the conservation objectives for the SPA and SAC. Sites that are currently used for arable land have been selected as they are least likely to have high levels of current ecological interest.

4.10.3 There is also a need to ensure that the habitats are maintained in the long term and that ongoing maintenance is built into any initiatives to ensure this. Monitoring of the success of the compensation sites is necessary and this should be instigated as adaptive monitoring and management to ensure that any issues during the early years can be resolved to ensure that the sites support the objectives for which they are designed. Monitoring and maintenance would be detailed in the OCIMP, secured as part of the DCO. This is discussed in more detail in **Section 5** below.

4.10.4 The NE 'check list' for compensatory measure submissions will be followed to develop the potential compensatory measures more fully for the OCIMP. In particular, the OCIMP will provide the following:

- What, where, when: clear and detailed statements regarding the locations and designs of the proposal.
- Why and how: ecological evidence to demonstrate compensation for the impacted site feature is deliverable in the proposed locations.
- Demonstration that deliverability is secured.
- Demonstration of the policy/legislative mechanism for delivering the compensation (where relevant).
- Set out clear aims and objectives of the compensation.
- Include proposals for adaptive management.
- Governance proposals for the post-consent phase (where relevant).
- Timescales for implementation including how these timescales relate to the ecological impacts from the development.
- Commitments to monitoring specified success criteria.
- Proposals for reporting on monitoring.
- Proposals for management of the compensation area to support the continued success of the compensation measures (where relevant).

5 Monitoring and Review Process for Compensation Sites

5.1.1 As stated in the draft without prejudice Ornithology Compensation Measures Schedule to the DCO (Schedule 11, document reference 2.1(3)), it is proposed to set up an Ornithology Engagement Group (OEG) to provide an advisory role for the development of the OCIMP. Following consultation with the OEG, the OCIMP would be submitted for approval by the Secretary of State (in consultation with Natural England).

5.1.2 The OCIMP would include the following information:

- details of location(s) where compensation measures will be delivered and the suitability of the site(s) to deliver the measures (including why the location is appropriate ecologically and likely to support successful compensation);
- details of landowner agreements demonstrating how the land will be bought or leased and assurances that the land management will deliver the ecology objectives of the OCIMP;
- details of designs of the compensation measures and how risks from avian or mammalian predation and unauthorised human access will be mitigated;
- an implementation timetable for delivery of the compensation measures that ensures all compensation measures are in place prior to the impact occurring ([habitat loss as a result of the construction of Work No. 4, the measures will be in place prior to any dredging and construction dredging or construction works on the intertidal habitat and] for the compensation for disturbance by the increased number of vessels, the measures will be in place for at least two years prior to the hot commissioning of line 2 of Work No. 1A.);
- details of the proposed ongoing monitoring and reporting on the effectiveness of the measures, including: survey methods; success criteria; adaptive management measures; timescales for the monitoring and monitoring reports to be delivered; and details of the factors used to trigger alternative compensation measures and/or adaptive management measures;
- details of any adaptive management measures;
- provision for annual reporting to the SoS, to include details of the use of each site by waterbirds (split into species accounts) to identify barriers to success and target the adaptive management measures. This would include the number of birds using the site; evidence of birds roosting, foraging and bathing around high tide periods and any evidence of continued disturbance from vessels and at the mouth of The Haven;
- details of the management and maintenance prescriptions and a maintenance schedule appropriate to the habits to be created at each compensation location; and

- minutes from all consultations with the OEG and copies of any written consultation responses from the OEG on matters relating to the development of the OCIMP.

5.1.3 The sites would be monitored to ensure their success against agreed objectives, to be set out and agreed as part of the OCIMP. The monitoring would be designed to meet the objectives of investigating the species abundance and distribution within the site and understanding the behaviour responses to any features or uses around the sites to ensure that the sites provide suitable compensatory habitat for any birds that may be displaced due to the increase in vessel movements. The surveys that have been undertaken so far have shown that there are already behavioural responses relating to the baseline movement of vessels. Given the latest supplementary advice provided by Natural England for the SPA (March 2021, discussed in Section 2) there could be potential for some collaboration on the monitoring and management measures proposed. Although the targets within the supplementary advice are for a much wider scale there are still opportunities at more site-specific levels. This would depend on the decision made in relation to AEoI. The surveys would be undertaken on neap and spring tides monthly through the year for at least the first two years. It is recognised that full usage of the sites is highly likely to take longer and the adaptive monitoring would be adjusted following initial results. The monitoring would include monitoring of bird numbers and distribution at the mouth of The Haven to determine any actual change in bird numbers and behavioural responses in this area. Annual reports of the monitoring results should be provided to the OEG, followed by discussion of any changes necessary as part of the adaptive management strategy under which the sites will be managed. The monitoring would be adaptive monitoring and as such would change as needed to ensure the objectives were being achieved.

5.1.4 Should the proposed compensation measures not be effective at providing habitat for any birds that may be displaced as a result of the increase in vessel numbers along The Haven and at the proposed Facility, then additional measures will be initiated through the adaptive management strategy which will be detailed within the OCIMP. This would enable further management within the sites if the habitats are not providing suitable areas for birds. There is a relatively high degree of confidence that the sites would provide suitable habitat and there are highly successful RSPB reserves that create similar habitats where experience can be gained from the process of developing the sites to suit the needs of the birds. The potential aspect that may require further management is with regard to the disturbance potential from people and dogs. This may require additional fencing or barriers to be placed to reduce disturbance levels.

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