HORIZON NUCLEAR POWER

WYLFA NEWYDD

ENERGY WORKING FOR BRITAIN

Wylfa Newydd Project

Position Paper on Compensation Measures

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Contents

List of Figures

List of Tables

1 Introduction

1.1 Background to the Study

1.1.1 Horizon Nuclear Power Wylfa Limited's (Horizon's) Shadow Habitats Regulations Assessment (HRA) for the Wylfa Newydd Project (the 'Project') concludes that an adverse effect on the integrity of the qualifying interest features of the Morwenoliaid Ynys Môn/Anglesey Terns Special Protection Area (SPA) (breeding Sandwich (*Sterna sandvicensis*), common (*Sterna hirundo*), roseate (*Sterna dougallii*)[1] or Arctic tern (*Sterna paradisaea*) would not arise. Horizon's view is that sufficient evidence exists from the scientific literature and the noise disturbance monitoring results for the tern colony over two years to support this conclusion without reasonable scientific doubt.

1.1.2 Natural Resources Wales (NRW), in its role as the Statutory Nature Conservation Body (SNCB) advising the Examining Authority (ExA) on the DCO determination and as SNCB for determination of the Marine Licence, has confirmed that it considers that an adverse effect on site integrity (AEoSI) cannot be excluded in respect of the Anglesey Terns SPA[2] due to potential disturbance to breeding terns at Cemlyn lagoon during the Project's construction phase. In this case, the Project could only proceed if 'no alternative solutions' and 'imperative reasons of overriding public interest', in line with the requirements of The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), are demonstrated and compensation can be provided.

1.1.3 Without prejudice to the ExA's final recommendation, through Further Written Question 2.5.10, Horizon has been asked to provide an update on the development of compensatory measures for the SPA. On a precautionary basis only, Horizon has undertaken a feasibility and concept design study to investigate the measures that would be required to deliver appropriate compensatory habitat to offset adverse effects on the breeding Sandwich, Arctic and common terns of the SPA (the 'Study'), should such adverse effects be envisaged.

1.2 Purpose of the note

1.2.1 This position paper outlines Horizon's proposed approach to the creation of Sandwich, Arctic and common tern nesting habitat and outlines the work completed to date.

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[1] Although a qualifying feature of the Morwenoliaid Ynys Môn/Anglesey Terns SPA, roseate terns no longer breed regularly within the SPA, with no records on the Seabird Monitoring Programme database of breeding by this species within the SPA since at least 2011 (Joint Nature Conservation Committee (JNCC) 2017. Seabird Monitoring Programme Database. [Online]. [Accessed: 29/01/18]. Available from: http://jncc.defra.gov.uk/smp/).

[2] And, consequently, the Dee Estuary SPA due to the connection between it and the Morwenoliaid Ynys Môn/Anglesey Terns SPA regarding passage Sandwich tern.

1.2.2 As set out above, on a precautionary basis, Horizon has undertaken studies to demonstrate to the competent authorities (the ExA and NRW) that the proposed compensatory measures are deliverable, ecologically feasible and fit for purpose. To this end, studies have been completed to identify potentially suitable compensation sites within and in close proximity to the Morwenoliaid Ynys Môn/Anglesey Terns SPA, located on Anglesey and the north Wales coastline.

1.2.3 Section 2 of this paper summarises the ecological studies completed to date and the consultation undertaken with stakeholders.

1.2.4 Section 3 outlines Horizon's proposed compensation package.

1.2.5 Section 4 sets out next steps.

2 Progress

2.1 Site selection

2.1.1 A large number of potential sites have been assessed. From these, the following four sites have been short-listed as suitable and deliverable locations for the provision of compensatory habitat:

1. Dulas Bay.
2. Glan y Môr and Morfa Madryn Reserves (treated as one site herein due to their proximity and functional links).
3. Abermenai Point.
4. 'Tern Island' (Inland Sea).

2.1.2 Throughout each stage of the study progressed to date consultation has been undertaken with NRW, in its role as the SNCB, and key non-governmental organisations, including the Royal Society for the Protection of Birds (RSPB), the National Trust (NT) and the North Wales Wildlife Trust (NWWT). This consultation is summarised below. [NRW agrees that these sites are, in principle, suitable for the provision of compensatory habitat.]

2.2 Ecological feasibility

2.2.1 To select the shortlisted sites, Horizon has completed a literature review on breeding ecology, habitat creation and management techniques for terns (Royal HaskoningDHV, 2017[3]) and undertaken a two-stage feasibility / site selection exercise (Royal HaskoningDHV, 2018a[4], 2018b[5]). Stage 1 defined the study area utilising the mean maximum foraging range for each species, as classified by Thaxter *et al*. (2012[6]), and undertook constraints mapping to identify a long list of potential breeding tern compensation sites.

2.2.2 A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis then enabled the subsequent refinement of the long list to establish the site short list outlined above.

2.2.3 During Stage 2 of this work, a detailed ecological, physical and socio-economic baseline was compiled for the short-listed sites (see Section 3).

2.2.4 The ecological baseline comprises desk-based information from NRW's online map browser (Lle) Cofnod protected species search, the Seabird Monitoring Programme (SMP) and Wetland Bird Survey (WeBS). A site-

[3] Royal HaskoningDHV (2017) Literature Review: Sandwich tern potential compensation measures. For Horizon Nuclear Power. June 2017.

[4] Royal HaskoningDHV (2018a). Wylfa Newydd - Anglesey Terns SPA: Habitat Compensation: Constraints Assessment and Site Selection Study - Stage 1.2 Report. For Horizon Nuclear Power. April 2018.

[5] Royal HaskoningDHV (2018b). Wylfa Newydd - Anglesey Terns SPA: Habitat Compensation: Baseline Environment and Concept Design for Short-listed Habitat Creation Sites – Stage 2 Report. For Horizon Nuclear Power. September 2018

[6] Thaxter C.B., Lascelles B., Sugar K., Cook A.S.C.P., Roos S., Bolton M., Langston R.H.W. and Burton N.H.K. (2012). Seabird Foraging Ranges as a Preliminary Tool for Identifying Candidate Marine Protected Areas. Biological Conservation 156: 53-61.

familiarisation visit was undertaken in May 2018 and an extended Phase 1 survey was undertaken in August 2018 for each site.

2.2.5 The physical baseline was established using open source LiDAR data and a desk-based assessment of coastal processes, to discount low-lying land and identify wave and tidal constraints. An overview of the relevant Shoreline Management Plan (Royal Haskoning, 2011a[7], 2011b[8]) proposals was also prepared for each site. Envirocheck reports facilitated an assessment of historical coastal mapping, geological site sensitivities and potential contamination sources.

2.2.6 The socio-economic baseline was informed by a search of historic environment records utilising the Cadw online portal, Archwilio. A review of the Isle of Anglesey County Council (IACC), Conwy County Borough Council (CCBC) and Gwynedd Council (GC) online planning portals, the joint Local Development Plan (LDP) for Anglesey and Gwynedd 2011-2026 (IACC, 2017) and the Conwy Local Development Plan 2007-2022 (CCBC, 2013) was also undertaken in order to assess the potential for any future developments to pose a disturbance threat to any introduced tern colony.

2.2.7 From this process concept designs were developed for the shortlisted sites.

2.3 Peer review

2.3.1 The Stage 1 and 2 outputs from the compensation study (Royal HaskoningDHV, 2018b) were reviewed by Bureau Waardenburg B.V. (BW), an independent ecological research and advice consultancy. BW undertake specialist bird research and, to date, have led scientific research on tern breeding behaviour and nesting habitat creation, particularly with regards to Sandwich tern.

2.3.2 BW provided the following comments on the habitat compensation concept designs:

> *"The selection criteria for potential sites of interest are suitable for the species concerned and we cannot at this time find any key considerations that are missing. This is a comprehensive report. The process for selecting and reviewing sites is logical for the species concerned as are the management measures."*

2.4 Consultation

2.4.1 As set out above, throughout the various stages of the study, discussions with NRW and other relevant stakeholders have been undertaken. A summary of the consultation undertaken to date is presented in Table 2-1. Information gathered throughout these meetings or discussions is

[7] Royal Haskoning (2011a). SMP 2 West Wales – Policy Development Coastal Area F PDZ16. November 2011.

[8] Royal Haskoning (2011b). West of Wales Shoreline Management Plan 2 – Policy Development Coastal Area G. November 2011.

incorporated and referenced within the report and informed the site selection process.

Table 2-1 Summary of consultation undertaken as part of the study

Consultee	Details
NRW	• Initial meeting on compensation opportunities in July 2017 • Comments on the Stage 1 Report in February 2018 • Site selection workshop in March 2018 • Visits to each site, undertaken in May 2018 • Stage 1 Consultation meeting in June 2018 • Stage 2 Consultation meeting in September 2018 • Comments on the Stage 2 Report in October 2018 • Stage 3 Consultation meeting in November 2018 • Abermenai Point site selection teleconference call in December 2018
RSPB	• Site visit (Conwy Reserve) in May 2018 • Stage 1 Consultation meeting in June 2018 • Stage 2 Consultation meeting in October 2018
NWWT	• Stage 1 Consultation meeting in June 2018 • Stage 2 Consultation meeting in October 2018
National Trust	• Stage 1 Consultation meeting in June 2018 • Stage 2 Consultation meeting in October 2018
IACC	• Consultation meeting in June 2018 • Consultation meeting in September 2018 • Planning meeting in October 2018
CCBC	• Land acquisition and ecological consultation meeting in October 2018
GC	• Land acquisition and ecological consultation meeting in October 2018

3 Proposed approach to compensation

3.1 The 'compensation package'

3.1.1 Regarding the 'compensation package', Horizon's view is that (if compensation is required) one successful site from the short list above would be sufficient to compensate for any disturbance effects that occur on the Cemlyn lagoon tern colony during the construction phase of the Project. The presence of an alternative breeding site (to the lagoon) attractive to Sandwich, common and Arctic terns, of (at least) the size of the breeding islands at Cemlyn lagoon (0.46ha), should accommodate any terns affected by the Project.

3.1.2 However, due to the risk of the terns not using a selected, preferred habitat compensation site (for any unforeseen reason), Horizon recognise that at least two sites should be developed and – to this end – all four locations are currently being investigated further.

3.1.3 It is Horizon's understanding from the consultation undertaken to date that NRW believes that, to minimise the risk of inter-species or intra-species competition, two sites should be progressed for each of the three tern species of interest (such a requirement could be met by two sites in total, if both sites have the potential to accommodate all three species, but may require more than two sites to be progressed; for example, two multi-species sites and one site for common and Arctic tern).

3.1.4 Progressing all four short-listed sites considered within this Study at this stage allows for the possibility that one or more sites may not be available to Horizon prior to site-establishment or may not be selected as a breeding site by the terns. From the meeting held in November 2018, it is understood that NRW is of the view that, if possible, all available sites should be implemented to allow for uncertainty in the degree of success of the sites (i.e. use by breeding terns); however, NRW is not advocating that four sites are a requirement of an effective compensation package.

3.1.5 The four sites listed in Table 3.1 have been selected based on the fact that their physical and ecological attributes align to those required by breeding Sandwich, Arctic and common tern.

3.1.6 Figure 3-1 to Figure 3-9 illustrate the outline designs proposed and provide indicative visualisations of the proposals for Dulas Bay, the Glan y Môr and Morfa Madryn Reserves, Abermenai Point and the 'Tern Island' respectively.

Table 3-1 Potential compensation sites for Sandwich, common and Arctic term breeding in Cemlyn lagoon

Site name	Species that would be supported
Dulas Bay	Sandwich, Arctic and common tern
Glan y Môr Elias and Morfa Madryn Reserves	Sandwich, Arctic and common tern
Abermenai Point	Sandwich, Arctic and common tern
'Tern Island' (Inland Sea)	Arctic and common tern

3.2 Habitat creation techniques

3.2.1 The sites that have been short-listed are areas already containing some suitable habitat for common, Arctic and Sandwich tern nesting and, consequently, most would require only minor habitat management. This would include the deposit of suitable nest-building substrate (sand, shingle and/or cockle shells) and planting or maintenance of shelter-providing vegetation, such as dune grassland species. Tern decoys and tape lures (playback of recordings of terns, where possible using a recording of the Cemlyn colony for 'local dialect') would be used to encourage tern nesting.

3.2.2 The key threat to the success of any tern nesting habitat creation would be its accessibility to mammalian predators. Therefore, electric fencing would be positioned around the areas above MHWS. The provision of wardening is also proposed, as an important measure in ensuring the creation of successful nesting habitat through deterring predation and anthropogenic disturbance pressures. Wardening would also assist in manging threats from avian predation.

3.2.3 Fortnightly visits to each site would be undertaken to assess the requirement for vegetation control and substrate replacement. At the end of each breeding season, the chick boxes, electric fencing and warden shelter would be removed from the sites. The vegetation and substrate deposit at the habitat compensation sites would be maintained between the end of each breeding season until the establishment period in mid-April.

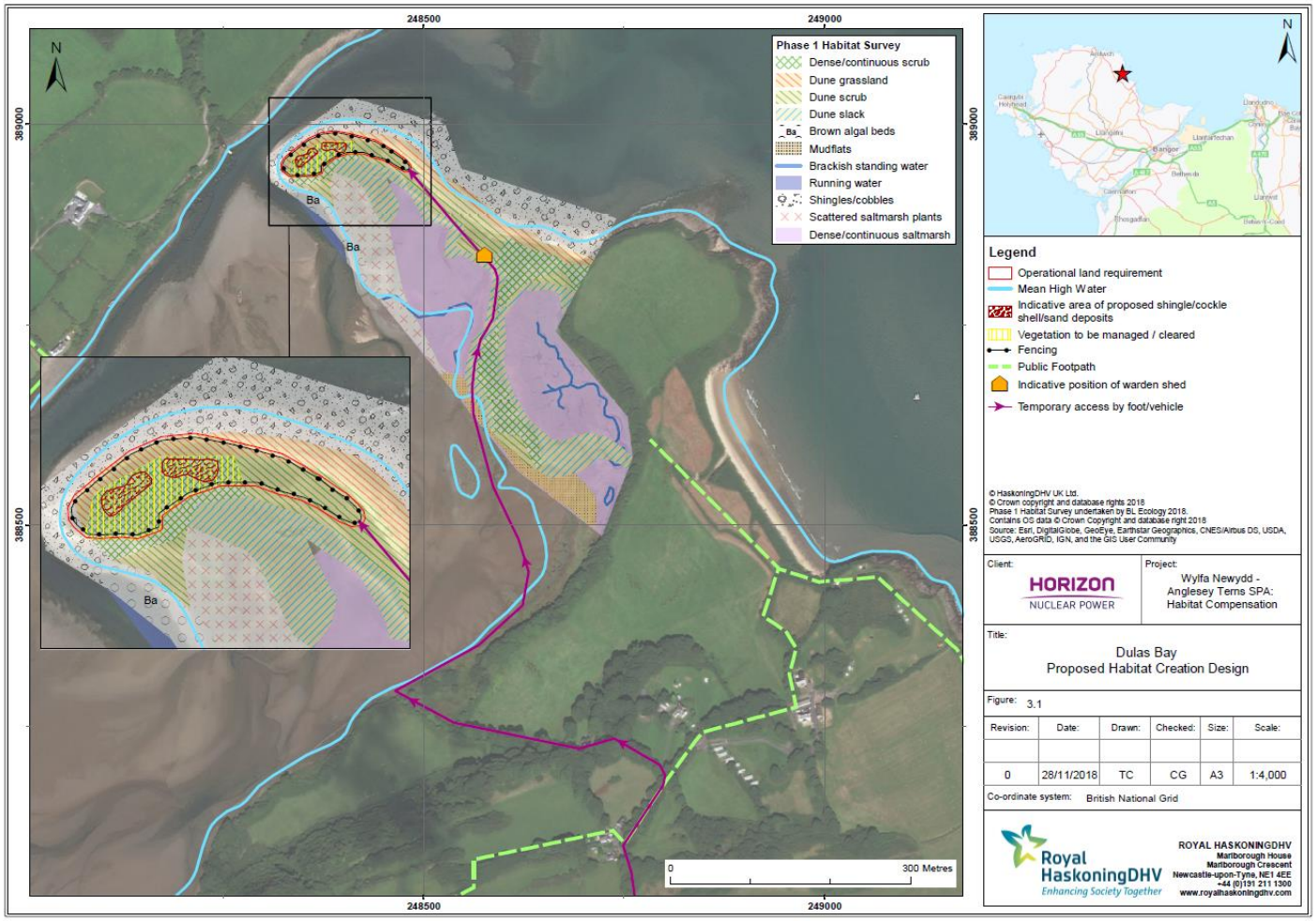

Figure 3-1 Dulas Bay Proposed Habitat Creation Design

Figure 3-2 **Indicative visualisation of habitat compensation at Dulas Bay (Above: Before. Below: After)**

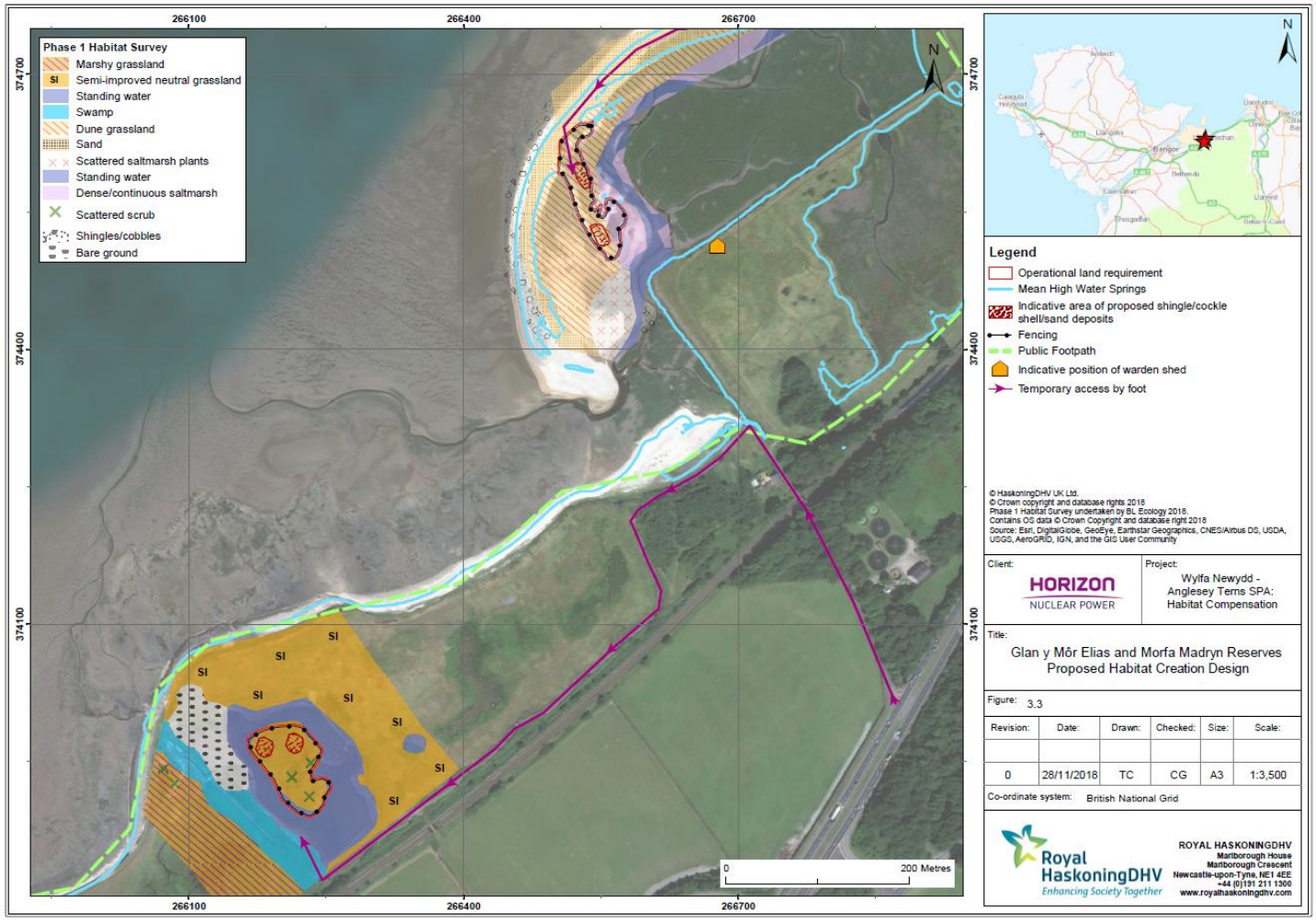

Figure 3-3 Glan y Môr Elias and Morfa Madryn Reserves Proposed Habitat Creation Design

Figure 3-4 Indicative visualisation of habitat compensation at Glan y Môr Reserve (Above: Before. Below: After)

Figure 3-5 Indicative visualisation of habitat compensation at Morfa Madryn Reserve (Above: Before. Below: After)

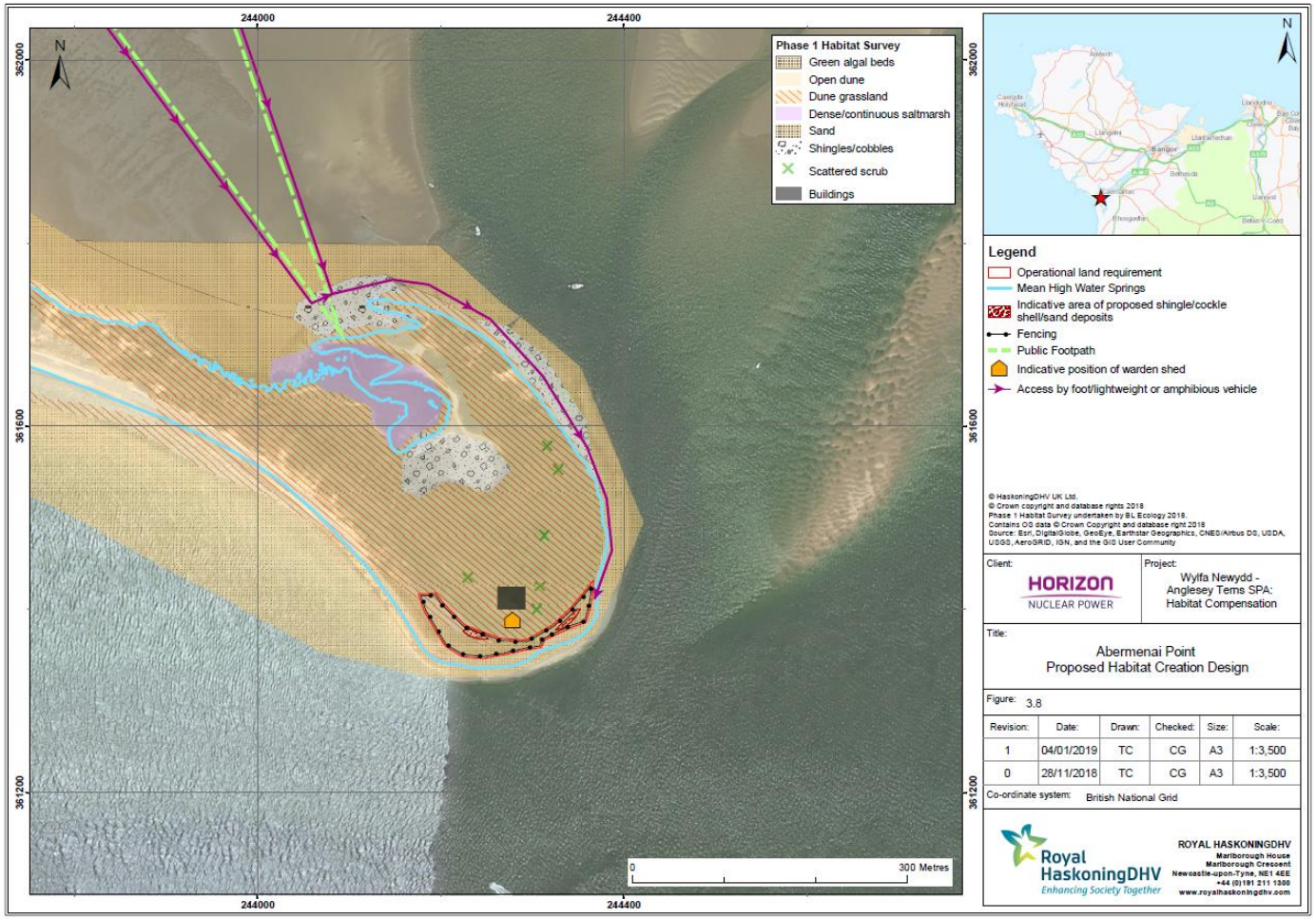

Figure 3-6 Abermenai Point Proposed Habitat Creation Design

Figure 3-7 **Indicative visualisation of habitat compensation at Abermenai Point (Above: Before. Below: After)**

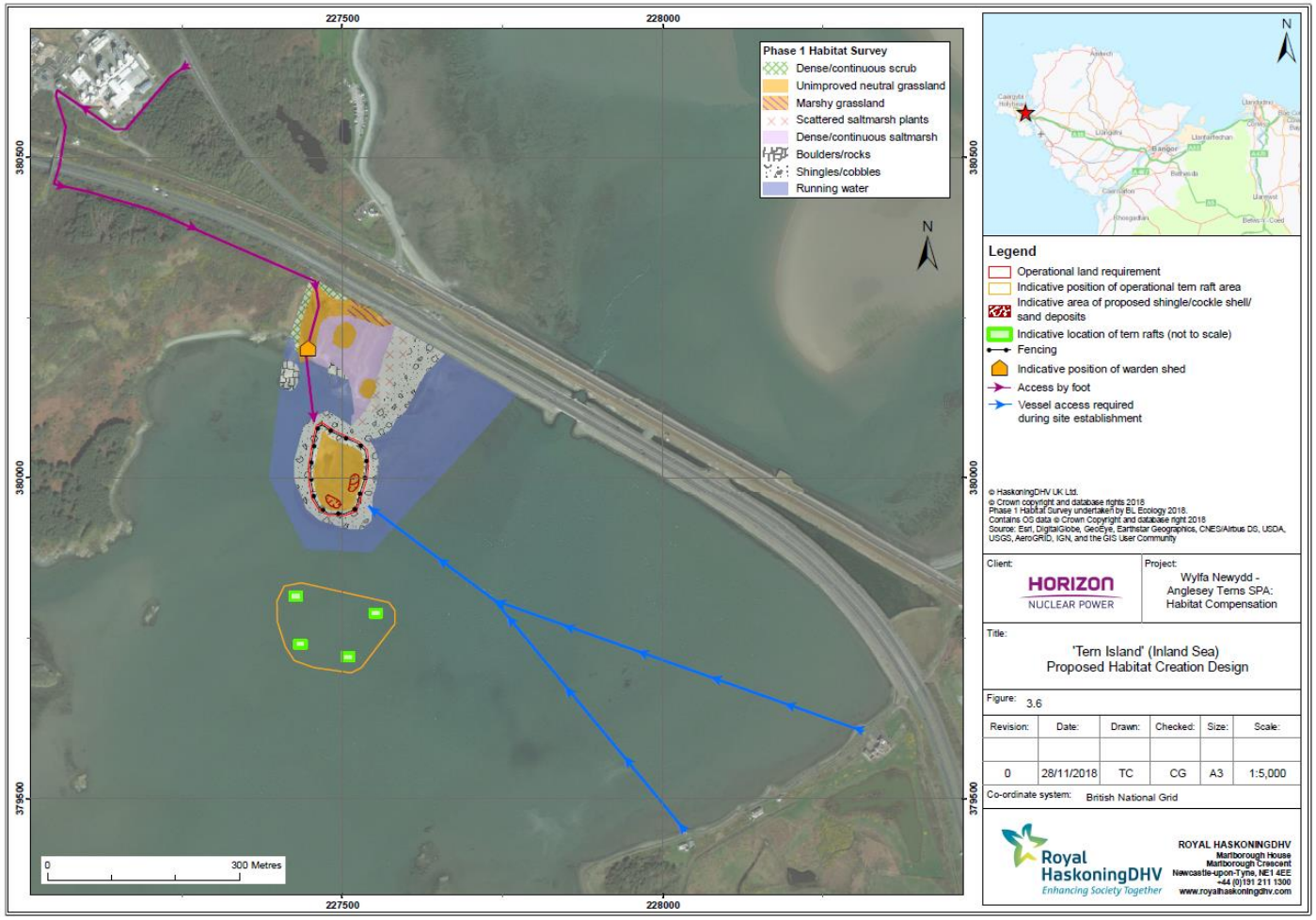

Figure 3-8 Tern Island (Inland Sea) Proposed Habitat Creation Design

Figure 3-9 Indicative visualisation of habitat compensation at 'Tern Island' (Above: Before. Below: After)

3.3 Site management

3.3.1 The presence of wardens at the sites would be key prior to the establishment period (e.g. to deter some other species, such as, laser hazing of gulls), and would continue to the point at which the terns depart (if breeding colonies are established).

3.3.2 A 24-hour wardening presence would be essential where there are significant numbers of terns and a significant risk of predation or other limiting factors. Due to the exclusion of ground predators by electric fencing, the risk of predation would be reduced. However, as a precautionary measure, wardens would be employed on a full-time basis.

3.3.3 If, after an appropriate settlement period to be agreed with NRW (e.g. mid-April to mid-June), one or more of the sites have not been occupied, then it would not be necessary to continue wardening at those sites for the remainder of that season.

3.3.4 The wardens would monitor the site usage by black-headed gull and tern species. The success of the various techniques (i.e. substrate deposit, vegetation cover, chick shelters, electric fencing, decoys, lures) would also be specifically recorded and may be adjusted within the operational land area when terns are not present, in response to any behavioural reactions by the colony.

3.3.5 Should the area favoured by terns lie within the vicinity of, but out with, the operational land identified, Horizon would not be required to acquire/have control over this land but would continue to maintain the habitat compensation site.

3.4 Site Implementation

3.4.1 Regarding when the sites would be established, this would be based on the earliest breeding season that an adverse effect could (potentially) occur, i.e. before main construction started or, potentially, before particular works within main construction started – depending on the location and programming of works.

3.4.2 On completion of construction of the Project (assuming that terns are still breeding at the Cemlyn lagoon colony and the SPA's conservation objectives are being met), any fencing, tern rafts and welfare facilities would be removed in an off-season, with only shingle and cockle shell deposits remaining.

4 Next Steps

4.1 Stage 3: Outline Design

4.1.1 In Stage 3 of this process suitable access routes will be investigated further for all sites and any works required to improve these for use during site set-up (including shingle deposit and fencing installation) will be defined. This will include specifications for materials and the quantities required. Horizon will also develop an indicative schedule of plant and working methods likely to be required for the works.

4.1.2 Stage 3 will define post-construction activities, including tern attraction techniques, monitoring proposals and wardening.

4.1.3 Further works will comprise detailed method statements and contractor procurement.

4.2 Consenting route

4.2.1 The proposed works at each shortlisted site are largely to be located above the level of Mean High Water Spring (MHWS) tides and are, therefore, potentially subject to the Town and Country Planning Act (TCPA) (1990). However, Horizon believes that the magnitude of the proposals are such that they would not constitute development, as defined in s.55 of the TCPA 1990 (as amended), and can be considered to be *de minimis*.

4.2.2 A marine licence may be required to install the floating tern nesting rafts at the Inland Sea site.

4.2.3 Overall, there are not anticipated to be any issues with obtaining any consents ultimately determined to be needed, given that all parties would be motivated to ensure the sufficient sites were prepared.

4.3 Interest in the land

4.3.1 Three of the shortlisted sites are owned by public bodies, who have indicated a willingness for the proposals to proceed, and one by a private landowner who has also indicated a willingness to proceed.

4.3.2 Should compensation sites be determined to be required, Horizon would consider the most efficient approach in the circumstances, which may include either funding the land owner to deliver the works required or Horizon taking an interest in the site and delivering the works.

4.4 Consultation

4.4.1 Consultation with NRW and the eNGOs would continue throughout the refinement of the habitat design proposals and management solutions.

4.4.2 Horizon would draw on best practice guidance as well as experience and advice from liaison with tern and habitat management specialists.