



ecosupport

Land East of Fathoms
Reach, Hayling Island

Shadow HRA Assessment

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Report	Shadow HRA Assessment
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1.0 INTRODUCTION

1.1 Background

Taylor Wimpey Southern Counties commissioned Ecosupport Ltd to conduct a Shadow Habitats Regulations Assessment of the Land East of Fathom's Reach, PO11 ORR, to inform an application for the proposed residential development of 51 dwellings with associated access and infrastructure.

This document has been produced to provide assessment of the presence of any potential significant impacts upon Chichester and Langstone Harbours SPA and Solent and Dorset Coast SPA, as well as SPA-supporting sites identified within the Solent Waders and Brent Goose Strategy (Whitfield, 2020). At the closest point to the site, Chichester and Langstone Harbours SPA also overlaps with Solent Maritime SAC and Langstone Harbour SSSI, while Dorset Coast SPA overlaps with Sinah Common SSSI. Although it is a European-designated site, Solent Maritime SAC has been excluded from this shadow HRA as it is not expected to be impacted by the development and has not been identified as a concern in pre-application advice.

The proposals lie within the vicinity of an SPA-supporting site, which supports European designated sites, which relates to the Conservation of Habitats and Species Regulations 2017, transposed into new UK legislation upon the UK's exit from the European Union with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Hampshire County Council (HCC) represents the Competent Authority, responsible for ensuring that the proposals will not cause any adverse impacts to the integrity of the site. Assessment for potential impacts upon European sites is undertaken via the Habitats Regulations Assessment (HRA) process.

This document aims to inform the Screening Assessment that HCC will undertake to determine whether the HRA should progress to the Appropriate Assessment (AA) stage in relation to Chichester and Langstone Harbours SPA, Solent & Dorset Coast SPA and their supporting sites, as part of the determination of the overall viability of the proposals, and therefore represents a Shadow HRA.

This document should be read in conjunction with the corresponding application forms, documents and plans which accompany the application.

1.2 Aim

The aim of this document is to assess, insofar as is practicable and possible, whether there exist any potential implications of the proposals with regards to the requirements of the Habitats Regulations, by identifying and, where present, evaluating the significance of, any likely impacts upon the integrity of Chichester and Langstone Harbours SPA, Solent & Dorset Coast SPA and/or their supporting sites.

1.3 Designated Sites

1.3.1 Chichester and Langstone Harbours SPA

Chichester and Langstone Harbours covers an area of two large estuarine basins, with an area of 5810.95 hectares. The site contains numerous coastal habitats including extensive intertidal mudflats and sandflats with areas of seagrass beds (over 300ha of seagrass beds), saltmarsh, shallow coastal waters, coastal lagoons, coastal grazing marsh and shingle ridges and islands. In addition, it includes important assemblages of overwintering and breeding bird species.

The site is also designated as a Ramsar. There are three criteria for its selection as a Ramsar site:

- Criterion 1 – Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spit and sand dunes.
- Criterion 5 – Assemblages of international importance, with peak counts in winter of 76,480 waterfowl (5-year peak mean 1998/99 – 2002/03)
- Criterion 6 – Species / populations of international importance, including Ringed Plover (*Charadrius hiaticula*), Black-tailed Godwit (*Limosa limosa islandica*) and Common Redshank (*Tringa tetanus tetanus*) in spring / autumn as well as Dark-bellied Brent Goose (*Branta bernicla bernicla*), Common Shelduck (*Tadorna tadorna*), Grey Plover (*Pluvialis squatarola*) and Dunlin (*Calidris alpina alpina*) in winter

1.3.2 Solent & Dorset Coast SPA

The Solent & Dorset Coast SPA is a relatively new SPA, classified in January 2020 following consultation. It covers a large area of 88,980.55ha, spanning from Worbarrow Bay in Dorset to Bognor Regis in West Sussex. It overlaps with several other designated sites including Solent & Southampton Water SPA but was created for internationally important populations of three species of terns, Sandwich Tern (*Sterna sandvicensis*), Common Tern (*Sterna hirundo*) and Little Tern (*Sternula albifrons*), because the site represents more than 1% of the Great Britain breeding populations of these species.

1.3.3 Other Designated Sites

Solent Maritime Special Area of Conservation (SAC) is designated due to it encompassing a major estuarine system on the south coast of England. Sediment habitats within the estuaries include extensive estuarine flats, often with intertidal areas supporting Eelgrass (*Zostera* spp.) and Green Algae, sand and shingle spits, and natural shoreline transitions. The mudflats range from low and variable salinity in the upper reaches of the estuaries to very sheltered almost fully marine muds in Chichester and Langstone Harbours. Unusual features include the presence of very rare sponges in the Yar estuary and a sandy 'reef' of the polychaete *Sabellaria spinulosa* on the steep eastern side of the entrance to Chichester Harbour. In addition, the site is notified for being the only site for Cord-grass (*Spartina* spp.). The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England. This habitat supports species such as Sea-purslane (*Atriplex portulacoides*), Common Sea-lavender (*Limonium vulgare*) and Thrift (*Armeria maritima*).

There are also two SSSI sites near the development. While these are not considered European-level designated sites, they overlap with some of the designated sites above.

Langstone Harbour SSSI comprises 2085.352ha and overlaps with Chichester and Langstone Harbours SPA. Its monitored features include: lowland neutral grassland (MG5), saline coastal lagoons, SM4-28 Saltmarsh habitat, vascular plant assemblage, and its invert. assemblage on M311 saltmarsh and transitional marsh, as well as aggregations of breeding birds (Common Tern, Little Tern and Sandwich Tern) and non-breeding birds including Bar-tailed Godwit (*Limosna lapponica*), Dark-bellied Brent Goose, Curlew (*Numenius arquata*), Dunlin (*Calidris alpina alpina*), Grey Plover (*Pluvialis squatarola*), Pintail (*Anas acuta*), Red-breasted Merganser (*Mergus serrator*), Redshank (*Tringa tetanus*), Ringed Plover, Sanderling (*Calidris alba*), Shelduck Shoveler (*Anas clypeata*), Teal (*Anas crecca*), Turnstone (*Arenaria interpres*) and Wigeon (*Anas penelope*).

Sinah Common SSSI comprises 242.9503ha and overlaps with Solent & Dorset Coast SPA . Its monitored features include: fixed dune grassland, lowland calcareous grassland (CG7), lowland dry acid grassland (U1b,c,d,f), lowland dry heath, population of Schedule 8 plant Chidding Pink (*Petrorhagia nanteuillii*), sand dune (SD1-6), SM4-28 saltmarsh and its vascular plant assemblage.

1.4 Conservation Objectives

Natural England has set out objectives for each European site in the UK. These define what constitutes the 'Favourable Conservation Status' of each feature that qualifies each site as a SAC or SPA and describes broad targets that should be met if the feature is to be judged as 'favourable'. The broad basis of the objectives is to avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species.

1.4.1 Chichester and Langstone Harbours SPA

The Conservation Objectives for Chichester and Langstone Harbours SPA is to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

The Qualifying Features include:

- *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding)
- *Tadorna tadorna*; Common shelduck (Non-breeding)
- *Anas penelope*; Eurasian wigeon (Non-breeding)
- *Anas crecca*; Eurasian teal (Non-breeding)
- *Anas acuta*; Northern pintail (Non-breeding)

- *Anas clypeata*; Northern shoveler (Non-breeding)
- *Mergus serrator*; Red-breasted merganser (Non-breeding)
- *Charadrius hiaticula*; Ringed plover (Non-breeding)
- *Pluvialis squatarola*; Grey plover (Non-breeding)
- *Calidris alba*; Sanderling (Non-breeding)
- *Calidris albina albina*; Dunlin (Non-breeding)
- *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
- *Numenius arquata*; Eurasian curlew (Non-breeding)
- *Tringa tetanus*; Common redshank (Non-breeding)
- *Arenaria interpres*; Ruddy turnstone (Non-breeding)
- *Sterna sandvicensis*; Sandwich tern (Breeding)
- *Sterna hirundo*; Common tern (Breeding)
- *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

1.4.2 Solent & Dorset Coast SPA

The Conservation Objectives for Solent & Dorset Coast SPA is to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

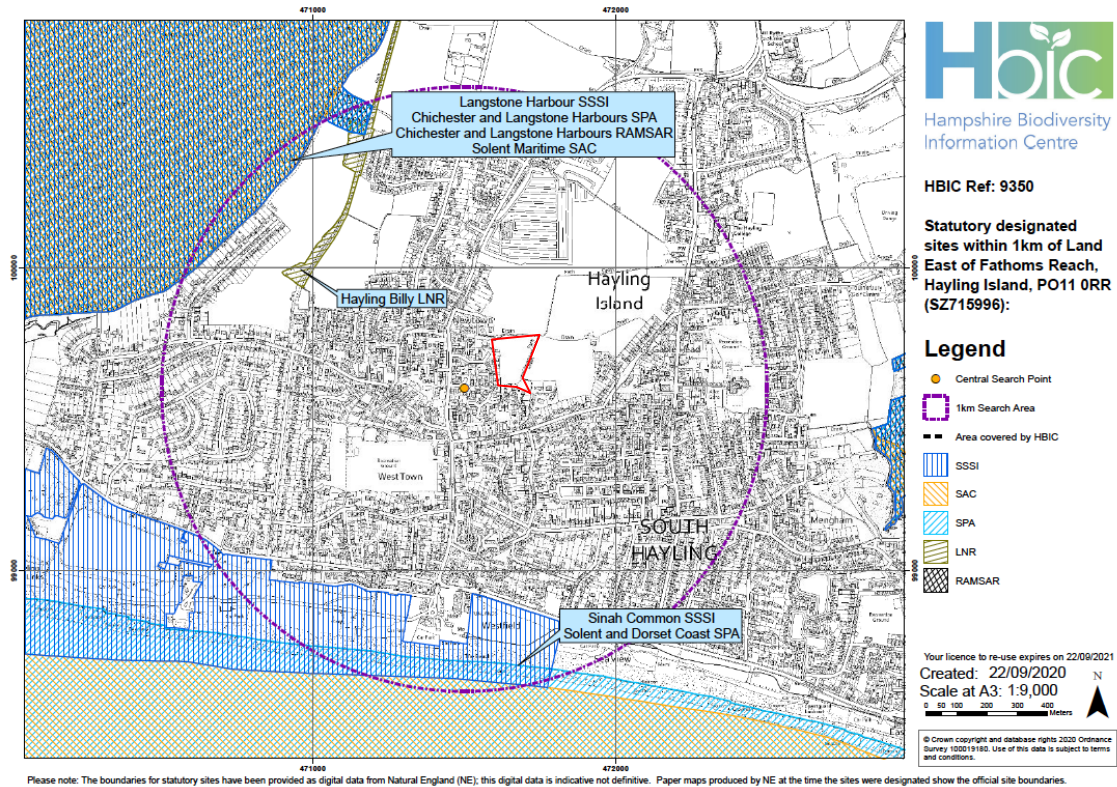
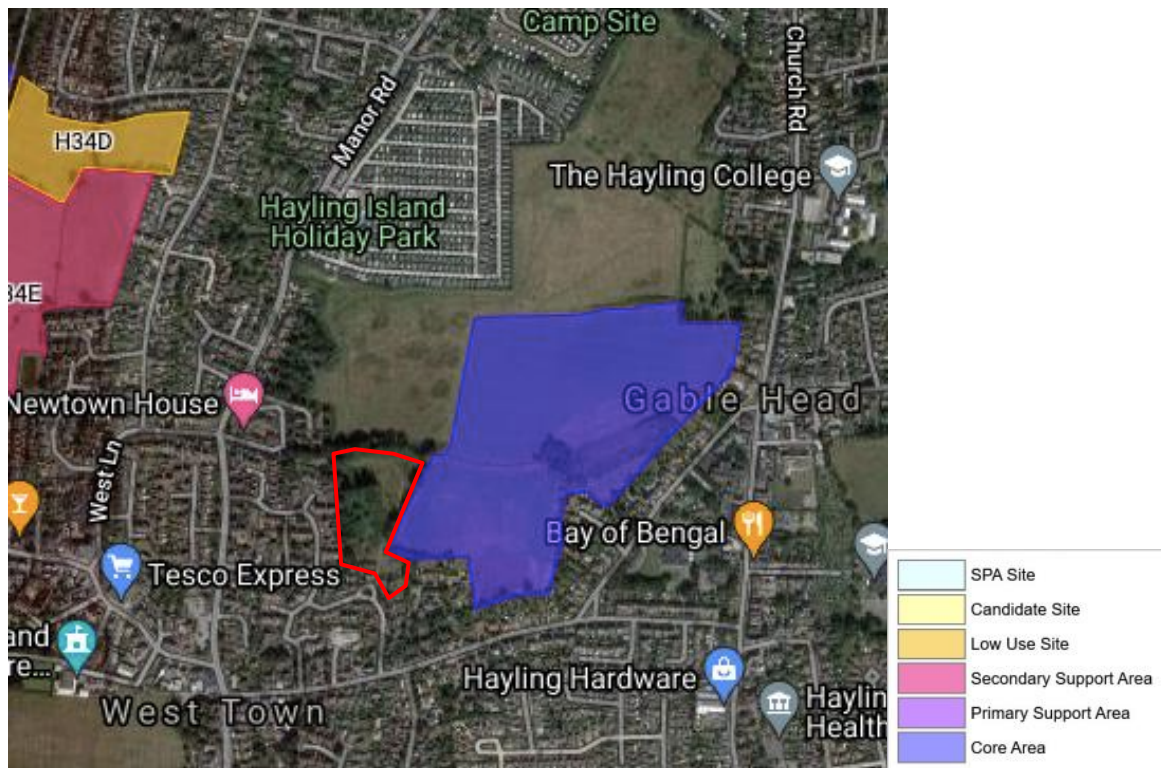
- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

The Qualifying Features include:

- *Sterna sandvicensis*; Sandwich Tern (breeding)
- *Sterna hirundo*; Common Tern (breeding)
- *Sterna albifrons*; Little Tern (breeding)

1.5 Application Site

The site comprises a parcel of land supporting scattered trees, scrub and unmanaged grassland located to the east of Fathom's Reach, Hayling Island, PO11 0RR. Chichester & Langstone SPA & Ramsar (and the overlapping sites of Solent Maritime SAC and Langstone Harbours SSSI) is located 0.9km to the northwest of the site and Solent and Dorset Coast SPA (and overlapping site Sinah Common SSSI) is located 0.8km to the south. The arable field immediately adjacent the site to the east is classified as a "Core Area" (H46B) for waders and Brent geese in the Solent Waders and Brent Goose Strategy (**Fig 2**), which may be used by the qualifying features of the designated sites.

Figure 1. Location of the site in relation to designated sites (HBIC, 2021).**Figure 2.** Location of sites utilised by SPA qualifying species (identified in SW&BGS Mapping) in relation to the site

1.6 Proposals

The proposals will entail the construction of 51 dwellings with associated access and infrastructure.

2.0 HRA PRINCIPLES

2.1 Introduction to the HRA Process

The Conservation of Habitats and Species Regulations 2017 ('Habitats Regulations') transposed the European Habitats Directive 1992 into UK domestic law and The Conservation of Habitats and Species Regulations 2019 transposed the 2017 regulations to continue post-Brexit.

The following information has been provided by the Habitats Regulations Handbook (Tyldesley & Chapman, 2018).

Under Article 6(3) all Member States, via their collection of 'Competent Authorities' (in this case HCC) must ensure any plan or project requiring authorisation under their jurisdiction will result in no significant adverse effect upon the integrity of European designated sites' qualifying features. Only adverse effects are considered; proposals that could result in beneficial effects upon the European site's conservation objectives do not form the basis of HRA.

This assessment has a number of phases, and is collectively referred to as a Habitats Regulation Assessment (HRA) (Natural England, 2017). The HRA process must be applied before a plan or project which may affect a European site can be lawfully authorised.

The first stage of the HRA process is a Screening Assessment (SA), where all proposals are screened for potential Likely Significant Effects upon European sites, both in isolation and in combination with other plans and proposals in the locality. If the SA concludes that such impacts cannot be excluded, the HRA progresses to the Appropriate Assessment (AA) stage, to classify such impacts and determine whether effects upon the integrity of the European site can be ruled out. If the SA concludes that no significant impacts are likely to result from the scheme, however, the scheme is screened out and no further HRA consideration is required.

If an AA is required, following its completion, permission should only be granted if the Competent Authority is satisfied that, based upon the best available scientific information and in light of any suitable mitigation measures, the proposed scheme will result in no significant adverse effects upon the integrity of the European site through appropriate measures being established, either alone or in combination with other plans or projects in the area. The only exception to this is when further tests as described in Article 6(4) can be met, as detailed below. This process requires consultation with, and the agreement of, Natural England to ensure the requirements of the Habitats Regulations are satisfied prior to authorisation of the proposals.

In line with Regulation 10 of the Habitats Regulations, European sites are taken to comprise Ramsar sites, Special Protection Areas (SPA) and Special Areas of Conservation (SAC).

A precautionary approach must be adopted in HRA, and where a loss of site integrity cannot be ruled out (i.e. a 'significant impact' is likely to occur), the proposals may only be authorised under very exceptional circumstances (such as overriding public interest and with no viable alternative, as detailed in full under Article 6(4)) and following consultation with the European Commission.

Unless further consideration of over-riding public interest is required, the Directive sets out a two-stage process:

1. Screening for Likely Significant Effect. If likely significant effect cannot be ruled out, on the basis of objective information without extensive investigations, then the HRA will proceed to:
2. Appropriate Assessment of the project in the light of relevant sites' conservation objectives.

The recent (2017) CJEU judgement 'People Over Wind and Sweetman vs. Coillte Teoranta (C-323/17)' has changed the way in which Competent Authorities must address the HRA process. Any measures that are incorporated into a project specifically to address impacts to international sites can no longer be considered to avoid or reduce (mitigate) a likely significant effect, unless the avoidance effects of a particular feature of the development are essential for the delivery of that project regardless of any effect that feature may have in avoiding or mitigating impacts to the International site.

2.2 Assessing Significance

The HRA Screening Assessment requires the Competent Authority to determine whether a project is likely to have a *significant* effect upon the integrity of the relevant European site, either alone or in combination with other projects or plans.

Terminology:

Likelihood: A likely effect is one that cannot be ruled out on the basis of objective information. Ordinarily, 'likely' might be considered to mean that an effect is probable or might well happen. However, the Waddenzee case (ECJC-127/02) in the European Court ruled that a project should be the subject of an Appropriate Assessment if:

'...it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site either individually or in combination with other plans and projects'.

'Objective', in the context of HRA, means information based upon clear, verifiable fact rather than subjective opinion. Conclusions of either nature must be based upon credible evidence rather than supposition or speculation.

Significance: Where a project, either alone or in combination with other plans or projects, could undermine the site's conservation objectives, the effects on the site must be considered to be significant. The relevant consideration is the potential effect on the ecological functioning of the site, rather than consideration solely on the proportion or area of the habitats or species affected on a site. These effects may be direct or indirect, and could relate to works within the European site itself, or beyond its boundaries but which might cause impacts to qualifying mobile features within the site when they are outside it.

Effect: It is therefore apparent that the first task is to identify the effects that could follow from the implementation of the project, and how and to what level they might affect any given International site.

3.0 LIKELY SIGNIFICANT EFFECTS

3.1 Introduction

This section evaluates whether the proposals are likely to result in any significant adverse effects upon the conservation objectives and/or qualifying features of Chichester and Langstone Harbour SPA and Solent Maritime SAC, based upon the details of the scheme in isolation.

3.2 Construction Impacts

3.2.1 Construction noise & activity

This pathway is defined as impacts from development whose construction processes emit a level of noise or visual disturbance which could change the distribution of qualifying species within a European site or important supporting area, displacing the species from otherwise suitable habitats, and thereby reducing individual survival rates and risking a population reduction.

Very loud (>70dB) and percussive noises have the potential to disturb birds, increasing time spent alert and in flight, and reducing the time available to feed. Peak levels of sound are most likely to occur from the impact of pneumatic drilling and concrete breaking during site preparation and piling during construction. These activities can have an impact on bird species at a distance of up to 250m (Environment Agency, 2008).

Stillman et al. identify median distances for Brent Goose and some Waders within which the birds commonly respond to human activity, thereby causing changes in behaviour or displacement from otherwise suitable habitats. This response distance is around 80-100m for most species analysed in the Solent area.

3.2.2 Atmospheric Pollution

This pathway is defined as impacts from development of a site which is thought to contain contaminants whose mobilisation during remediation, demolition or construction could result in pollution of a qualifying habitat or habitat of a qualifying species, thereby limiting the function of the habitat or altering the supporting processes on which it relies.

This could occur by causing the pollutants to be released into the atmosphere in close proximity to the habitat or introducing pollutants to an aquatic environment that is hydrologically connected with the habitat.

Atmospheric pollution has been identified to be a direct threat to biodiversity in England. Effects occur through atmospheric concentrations of pollutants as well as subsequent deposition to land or water. With regards to Habitats Regulations, the main primary pollutants of concern include nitrogen oxides (NO_x) and sulphur dioxide (SO₂) (**Table 1**). The main effects on the environment are as a result of acid deposition, nitrogen deposition and also direct exposure to atmospheric concentrations of pollutants.

Table 1. Pollutants of concern within track-side development.

Pollutant	Source	Impacts
Sulphur Dioxide	The main sources of SO ₂ emissions are electricity generation, industry and domestic fuel combustion. Road transport produced less than 1% of the total SO ₂ emissions in the UK in 2015. Since 1970, SO ₂ emissions have declined by 96%. A number of factors have assisted with the decline in SO ₂ emissions from road transport including a reduction in the sulphur content of Diesel Engine Road Vehicle (DERV) and petrol. With levels of SO ₂ having decreased over recent years NOx and reduced nitrogen compounds (e.g. NH ⁺) are now the main source of acid deposition.	DEFRA identifies that deposition of pollution from SO ₂ emissions can contribute to acidification of soils and waters and subsequent loss of biodiversity. Both wet and dry acid deposition have been implicated in the damage and destruction of vegetation (heather, mosses, liverworts and lichens are particularly susceptible to cell membrane damage due to excessive pollutant levels). There are often visible symptoms, for example, leaf discolouration.
Nitrogen Oxides	Nitrogen oxides (NOx) describes the sum of two compounds nitric oxide (NO) and nitrogen dioxide (NO ₂). Road transport was the most dominant source of nitrogen oxides (NOx) in the UK in 2015 contributing to around a third of all UK NOx emissions. Most of the UK NOx emissions from road transport came from diesel vehicles. Since 1970, overall NOx emissions have decreased by 69% aided by the introduction of catalytic converters and stricter regulations.	NOx can have direct adverse effects on vegetation, as well as contributing to deposition of pollutants derived from NOx (contributing towards acidification and/or eutrophication of sensitive habitats leading to loss of biodiversity). Terrestrial impacts include changes in species composition especially in nutrient poor ecosystems with a shift towards species associated with higher nitrogen availability (e.g. dominance of tall grasses), reduction in species richness and decreases or loss of sensitive lichens and bryophytes.

3.2.3 Aquatic Pollution

This pathway is defined as impacts from development of a site which is thought to contain contaminants whose mobilisation during remediation, vegetation clearance or construction could result in pollution of a qualifying habitat or habitat of a qualifying species, thereby limiting the function of the habitat or altering the supporting processes on which it relies.

Pollution impacts could also occur as a result of a pollution incident during construction on a site which is hydrologically connected with a qualifying habitat or habitat of a qualifying species.

Pollutants can reach water bodies in a number of ways that include:

- Surface water running directly into waterbodies;

- Groundwater pollution (although this is rare as groundwater is generally protected from pollution by the overlying layers of soil and rock); and

Surface water run-off has the potential to be a major source of water pollution. Such pollutants can include sediment and dust from construction activities, toxic metals and petroleum wastes from mechanical equipment, and nutrients and pesticides from vegetation management activities.

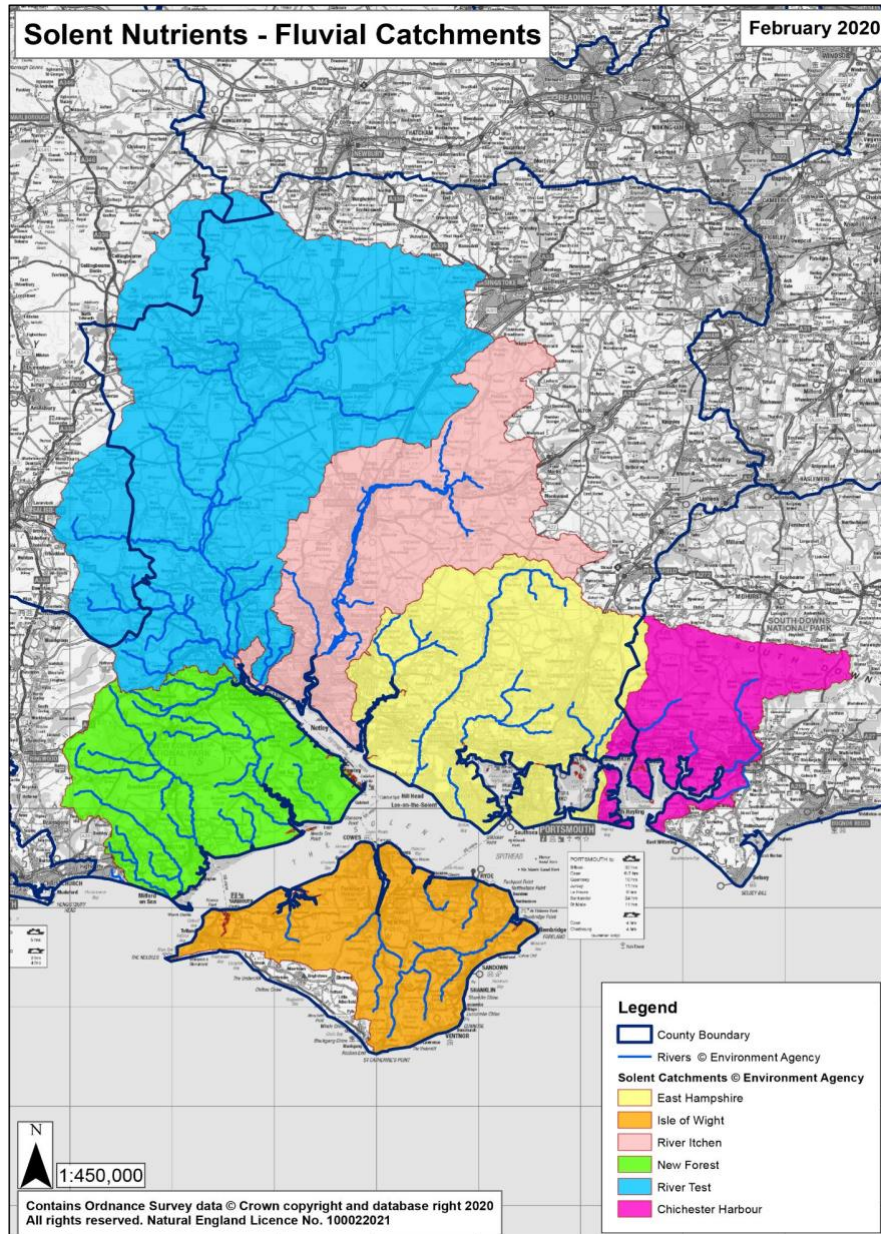
3.3 Operation Impacts

3.3.1 Disturbance due to Increased Activity

This pathway is defined as impacts from development which results in heightened activity or increased operational noise within the development site, thereby causing changes in the distribution of qualifying species within a European site or important supporting area, displacing the species from otherwise suitable habitats, and thereby reducing individual survival rates and risking a population reduction. This could be due to the proximity of the allocation site to the European site / supporting area and/or the absence of existing topographic features, structures or vegetation which may serve to sufficiently screen the activity or attenuate the noise. The response distance of around 80-100m referred to in Section 3.2.1 provides some context for sites which are particularly close to a European site or Important Wader or Brent Goose site.

3.3.2 Pollution due to Increased Nitrogen Output

This pathway is defined as impacts from development of a site which results in increased water pollution at the discharge point of the Waste Water Treatment Works (WwTW) where the site will be linked to and therefore causing changes in the condition of qualifying features within a European site. Natural England has assessed that many parts of the designated sites associated with the Solent are in declining condition, partially due to water quality and excess nutrient loading (Natural England, 2020). As such, any sites within the Solent catchment areas (**Fig 3**) that will result in a net increase in dwellings are considered to potentially cause significant adverse impacts upon the qualifying features of the designated sites.

Fig 3. Map of catchment areas considered to impact Solent designated sites (Natural England, 2020)

4.0 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

The following assessment uses the qualifying features, conservation objectives and ecological data for each European site (**Section 1.4**) and considers these against the range of impact pathways.

4.1 Construction Impacts

4.1.1 Construction noise & activity

While the site is over 800m from Chichester & Langstone Harbours SPA and the Solent & Dorset Coast SPA, construction noise and activity are unlikely to impact directly on these sites. However, the site lies adjacent parcel H46B, an SPA-supporting site (Core Area within the Solent Waders & Brent Goose Strategy). As the site lies immediately adjacent, this SPA supporting site will be subject to increased noise from construction machinery associated with the construction phase of the development. The SPA supporting site is considered to be a core area for waders and Brent Geese, and supports populations of overwintering birds and breeding birds, which are qualifying features of the SPAs.

The two SPA sites have multiple species listed within their qualifying features (Chichester & Langstone Harbours SPA lists 15 non-breeding species and 3 breeding species, while Solent & Dorset Coast SPA lists 3 breeding species of terns). However, records provided by HBIC showed only 2 species within the qualifying features lists were recorded using the SPA-supporting site – Curlew and Dark-bellied Brent Goose, from data collected between 2013 and 2017 (Ecosupport, 2021). These species are both considered to be over-wintering (non-breeding) birds who will use the site during the winter months. A Core Area is defined as a site that has either:

- A network value;
- And/or the max score of 7 in the 3 metrics: GB importance, SPA importance and SPA Assemblage;
- And/or a max count of bird use of 1000 or more.

Therefore, there is potential disturbance to the two species listed as qualifying features for the two SPAs.

The site is divided by the H46B parcel by a hedgerow / tree line and as such, visual disturbance is not expected to have a significant effect on the birds using it. The focus will therefore be on noise disturbance. The designated populations of these species have varying sensitivity to noise disturbance. This sensitivity for the two designated birds associated with the site has been classified by the Waterbird Disturbance Mitigation Toolkit (Cutts, Hemingway & Spencer, 2013), shown in **Table 2**. Given the sensitivity of the two species, it is imperative that noise disturbance is kept to a minimum and mitigation measures are implemented.

The noise is expected to be temporary, but the works must consider the timing to be carried out. Construction noise can cause moderate to high noise disturbance to waterbirds and as such could impact the qualifying features of the SPA sites through the SPA-supporting site. If works are undertaken at a time to avoid the over-wintering populations, the temporary increase in

noise levels will not impact the qualifying features of the sites. Therefore, if works avoid the winter months (October to March), or noise levels are kept below 70dB (at the H46B parcel) the development is not expected to have a significant impact on the SPAs. However, if loud (over 70dB) works are undertaken within winter months, a significant impact will likely occur on the qualifying features of the Chichester & Langstone Harbours SPA.

Table 2. Classification of sensitivity to disturbance of some designated waterbirds.

Species	Sensitivity to Disturbance	Details
Dark-bellied Brent Goose, <i>Brant bernicla bernicla</i>	High	Highly sensitive to noise disturbance. If works are within 400m, mitigation should be considered. High level noise disturbance is created at 110-115dB at the source.
Curlew, <i>Numenius arquata</i>	Moderate	Extremely wary and do not habituate to works rapidly. Birds closer than 300m should be considered for visual disturbance and at 100m distance, high level noise disturbance would be at 107-112dB at the source.

4.1.2 Atmospheric Pollution

Construction-related activities will result in a minor temporary increase in atmospheric pollution through the use of petroleum-fueled mechanical machinery and from dust from earth movement. However, the machinery is expected to be in good working condition. With the presence of a hedgerow along the eastern boundary acting as a screen, it is not expected that any significant atmospheric pollution will affect the adjacent site and there will be no impact on the SPAs themselves (at over 800m distance). Due to the limited nature of the works and with adequate measures in place, any impact on the adjacent site from atmospheric pollution would only be minor and temporary.

4.1.3 Aquatic Pollution

The development site is located at a large distance (over 800m) from the SPAs and is not connected through any water bodies. Although the site is adjacent an SPA-supporting site, with standard construction pollution prevention measures in place, it is not considered there will be any opportunities for pollution to run off into the adjacent site and therefore there are no expected impacts on the adjacent site from aquatic pollution.

4.2 Operational Impacts

4.2.1 Disturbance due to Increased Activity

During its operation, visual and noise disturbance is expected to be minimal with only typical noise in a residential area. As the site is currently empty, this will still result in an increase from the current noise / activity levels and a potential increase in disturbance from new residents using the existing public bridleways which go around the H46B parcel. However, the H46B SPA-supporting parcel is already surrounded by residential development to the south and east and is still being used by overwintering birds. Therefore, any increase in visual or noise disturbance on the adjacent H46B parcel 'Core Area' would likely only be minor.

As well, the net increase in dwellings will result in an increase in recreational activity during operation and is likely to have an adverse impact on the designated sites in the absence of mitigation. Chichester and Langstone Harbour SPA and Solent & Dorset Coast SPA are within the Solent network, which has a 5.6km disturbance zone. The Solent Recreation Mitigation Strategy was created to address these issues and with the inclusion of mitigation, the increase in visitor numbers is unlikely to have a significant impact on the designated sites.

4.2.1 Pollution due to Increased Nitrogen Output

Sewage output from the development is expected to be directed into a wastewater treatment works that drains into the Solent. As such, there is potential for an increase in nitrogen output into the Solent SPAs (including Chichester and Langstone Harbours SPA and Solent & Dorset Coast SPA). However, all developments within the region are now expected to mitigate any increase in nitrogen output from new dwellings and this will be secured with the council. Therefore, the increased nitrogen output from a net increase in development is unlikely to have a significant impact upon Chichester and Langstone Harbour SPA and/or Solent & Dorset SPA with the provision of offsetting mitigation.

5.0 LIKELY SIGNIFICANT IN-COMBINATION EFFECTS

In some cases, a project may have a likely significant adverse effect upon a European site in isolation in isolation from surrounding proposals. In other cases, however, the adverse effects of a project on its own may be either unlikely or insignificant to the ongoing integrity of the European site, but that there may be a number of other plans or projects in the area which could result in 'in combination adverse effects' with the scheme at the focus of the HRA if their individual effects were to be combined.

Although the 'alone' effects have been classified as insignificant in HRA terms upon the integrity of the European-level designated sites, 'in-combination' impacts would most likely comprise cumulative impacts from noise generation associated with construction activities within the local area.

A search utilising the planning finder¹ website was undertaken which did not identify any significant developments within 2 km of the site (all applications are for small scale extensions or works to trees). Given the scale of these proposals, limited area of impact and their location set back from habitat supporting classifying features and the designated sites themselves, it is considered highly unlikely there will be significant adverse 'in combination' effects.

It is therefore concluded that no significant adverse 'in combination' effects exist associated with the proposals.

¹ <https://www.planningfinder.co.uk/search/quick?radius=5&postcode=po11+0rr> (accessed 18/11/2021)

6.0 MITIGATION, COMPENSATION AND ENHANCEMENTS

6.1 Mitigation

6.1.1 Mitigating Construction Disturbance to H46B Core Area

To avoid disturbing birds using the area, works that produce a high amount of noise will be undertaken outside of the winter months (October to March, inclusive). Where works must be undertaken within winter months, construction noise will be kept to below 70dbAmax (as measured at the sensitive receptor). Practical measures to reduce noise are provided below in **Table 4**.

Table 4. Practical measures and sensitive working practices to reduce noise during construction.

Issues(s) to Control	Measures to be Adopted
General noise control measures	• Avoid simultaneous operation of noisy equipment. • Shut down all plant and equipment in intermittent use between work periods or throttled down to minimum idling speed. • Erect as early as possible noise source screening structures such as stores to shield the noise sensitive receivers (NSR). • Perform excavation works to the south, which is furthest away from the 'primary support habitat', to allow earth materials to shield the area from noise sources. • Located plant known to emit noise strongly in more than one direction oriented to direct noise away from the 'primary support area'. • Locate noisy equipment and plant as far away from the 'primary support habitat' as practically possible. • Maintenance and servicing of equipment and vehicles in accordance to manufacturers recommendations especially for noise mitigation components e.g. retaining silencers and mufflers supplied with construction equipment. • Erect temporary noise barriers constructed from readily available building materials or commercially available sound absorbing panels along the eastern boundary of the site adjacent to the H46B Core Area (surface mass of barrier material must be greater than 7kg/m², with the length at least 5 times its height). This can achieve noise reduction of 5 - 10 dB(A).
Powered mechanical equipment from general construction works	Select quiet equipment whenever possible: • Silenced/super silenced compressors or electric compressor (when mains power available); • Hydraulic concrete cutters and crushers, and rock drills (up to 20 dB noise reduction). • Pneumatic breakers fitted with mufflers and damping collars (up to 21dB noise reduction)

Site staff shall also be competent to perform tasks that have the potential to cause a significant ecological impact. Competence is defined in terms of appropriate education, training and experience. Ecological awareness and training shall be achieved by:

- Site induction provided during which information on best practice guidance for reducing the impacts of noise, the purpose and importance of the sound barrier, air pollution and appropriate storage of hazardous substances.
- The locality of Designated Sites and the adjacent 'Core Area', the associated protection and importance will be highlighted.

Environmental posters and site notices will be erected around the site.

6.1.2 Recreational Disturbance

In order to mitigate for the likely increases in residential pressure upon this SPA, due to the high densities of wildfowl and waders for which the area is predominantly protected, the Solent Recreation Mitigation Strategy (SRMS) has been introduced in collaboration with Natural England, comprising a partnership of all local councils. Mitigation towards the SPA must be provided for all new recreational developments within the 5.6km disturbance zone of the SPA.

The simplest method of providing a necessary suitable and appropriate level of mitigation towards the SPAs associated with the Solent is via financial contributions. These contributions are used to enable the continued use of the coastline in a way that reduces the risks to the bird species of international importance that use the area, for example funding a team of rangers and implementing initiatives to encourage responsible dog walking (Solent Recreation Mitigation Partnership, 2014). It is considered that the contribution, in compliance with the recommendations presented within the SDMP, provides a suitable level of mitigation for the potential adverse impacts associated with the proposed scheme upon the Solent SPA.

A sliding scale of contribution is used, based on the number of dwellings. As of 1st April, 2021 the following rates are used:

- 1 bedroom: £361
- 2 bedrooms: £522
- 3 bedrooms: £681
- 4 bedrooms: £801
- 5 bedroom or more: £940
- Flat Rate £604

Rates will increase annually on 1 April to consider inflation.

Therefore, a contribution must be made either prior to planning permission being granted, by completing the Agreement and sending the completed form along with mitigation contribution to the Planning Agreements Officer at the Local Planning Authority or by completing a Unilateral Undertaking before planning permission is granted with the per dwelling payment made before the development is implemented.

6.2 Enhancements

A number of enhancements will be included within the site to ensure it results in biodiversity net gain, in line with planning policy. As recommended within the PEA report for this site, a stand-alone Biodiversity Enhancement and Mitigation Plan (BEMP) will be created for this site to accompany the application.

7.0 SCREENING CONCLUSION

Referring back to the conservation objectives for Chichester & Langstone Harbours SPA and Solent & Dorset Coast SPA, with regard to the findings presented within this document, it is considered unlikely proposals will negatively impact the extent, distribution, structure and/or function of the habitats or the qualifying features or the supporting processes on which the habitats of the qualifying features rely, with the implementation of control measures. It is considered that there is a slight risk for a minor increase in atmospheric pollution in the immediate surrounding habitats area. Noise pollution will not impact upon the qualifying features of the SPAs if works are undertaken avoiding the overwintering bird season and/or kept to a noise level below 70dB at the adjacent site. In addition, there is a slight risk for a minor increase in disturbance due to increased activity during the operation stages.

It is considered that the mitigation measures as proposed in Section 6.0 of this document are proportionate and appropriate to this level of development. Therefore, the development is not required to progress the application to the Appropriate Assessment stage of the HRA process.

8.0 REFERENCES

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