CHAPTER 10:
ECOLOGY AND BIODIVERSITY

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10.0 ECOLOGY AND BIODIVERSITY

10.1 Scope of Assessment

10.1.1 This chapter of the ES assesses the likely significant effects of the Proposed Development in terms of ecology and biodiversity and is supported by **Volume 4, Appendix F**.

10.1.2 The chapter describes: the assessment methodology; the baseline conditions currently existing at the Site and in the surrounding area; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; the likely residual effects after these measures have been employed; and the cumulative effects associated with the Proposed Development in combination with other developments within 3.5 km of the Site.

10.1.3 'Intra-project effects' which are the combined effects of individual topic impacts on a particular sensitive receptor are considered in **Volume 2, Chapter 11: Effect Interactions**.

10.2 Key Legislation, Policy and Guidance Considerations

10.2.1 The ecology and biodiversity assessment has been undertaken within the context of relevant planning policies, guidance documents and legislative instruments. These are summarised below.

Legislation and Regulation

10.2.2 The main relevant legislation is listed below (further comprehensive detail is provided in **Volume 4, Appendix F**):

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- The Conservation of Habitats and Species Regulations ("The Habitats Regulations") (As Amended) 2017.
- Wildlife and Countryside Act 1981 (As Amended).
- The Natural Environment and Rural Communities Act 2006 "NERC Act".
- Hedgerow Regulations 1997.
- Protection of Badgers Act (1992).

National Planning Policy

National Planning Policy Framework

10.2.3 National Planning Policy Framework (Ministry for Housing, Communities and Local Government, 2019) covers Habitats and Biodiversity in sections 174 - 177. In summary, Local Planning Authorities (LPAs) should:

- Safeguard local wildlife-rich habitats and wider ecological networks.

- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species, and identify and pursue opportunities for securing measurable net gains for biodiversity.
- Prevent significant harm to biodiversity, through avoidance and / or mitigation, or as last resort, compensation (also known as the Mitigation Hierarchy), and refuse of planning permission where this is not possible.
- Protect Sites of Special Scientific Interest and irreplaceable habitats such as ancient woodlands and veteran trees, and refuse planning permission where this is not possible unless there are exceptional circumstances for the former and exceptional reasons the latter (details of exceptions are described); and
- Protect the Natura 2000 network i.e. European Protected Sites (referred to in the NPPF collectively as "Habitat Sites"). This is administered through the Habitats Regulations Process (see Appendix 10.5 for further information).
- Government Circular Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System (ODPM Circular 06/2005).

Regional and Local Policy

Fareham Borough Local Plan

10.2.4 The Fareham Borough Local Plan polices applicable to this assessment are as set out below.

- NE1 – Landscape:

  Development for all major applications will be permitted only where it can be demonstrated, through a robust landscape assessment that the proposals satisfy the specific development criteria contained within the Council's Landscape Sensitivity Assessment for the character area in which the development is located. Development proposals must respect, enhance and not have severe adverse impacts on the character or function of the landscape that may be affected, with particular regard to: a) Intrinsic landscape character, quality and important features; b) Visual setting, including to/from key views; c) The landscape as a setting for settlements, including important views to, across, within and out of settlements; d) The landscape's role as part of the existing Green Infrastructure network; e) The local character and setting of buildings and settlements; f) Natural landscape features, such as trees, ancient woodland, hedgerows, water features and their function as ecological networks; and g) The character of the Borough's rivers and coastline, which should be safeguarded. Major development proposals shall include a comprehensive landscaping mitigation and enhancement scheme to ensure that the development is able to successfully integrate with the landscape and surroundings. The landscaping scheme shall be proportionate to the scale and nature of the development proposed and shall be in accordance with the enhancement opportunities specified in the Council's Landscape Sensitivity Assessment.

- NE2 - Biodiversity and Nature Conservation:

  Development may be permitted where it can be demonstrated that; a) Designated sites, sites of nature conservation value and priority habitats are protected; and b)

Protected and priority species and their associated habitats, breeding areas and foraging areas are protected; and c) Proposals would not prejudice or result in the fragmentation of the ecological network; and d) Alternative layouts or designs have been fully considered by the applicant to ensure that adverse impacts cannot be avoided; and e) Suitable and adequate mitigation can be provided as part of the development to address any adverse impacts, both short-term and long-term. Development proposals should seek to provide opportunities to incorporate biodiversity within the development and where practical, attempt to achieve no net loss of biodiversity. Applications for development should include adequate and proportionate information to enable a proper assessment of the implications for biodiversity and geodiversity. Proposals that provide enhancements, local habitat restoration, creation and management, independently on-site and/or off site will be supported.

- NE3 - Solent Special Protection Areas:

  Development on 'Uncertain' supporting sites for Brent Geese and/or Waders (as identified on the Proposals Map) will be permitted where evidence is presented that clearly demonstrates the site is not of 'Importance'. Development on 'Important' supporting sites for Brent Geese and/or Waders (as identified on the Policies Map) will be permitted where it can be clearly demonstrated that: a) There is to be no severe adverse effects on the importance of those sites; and b) The proposal has sought to avoid impacts first and subsequently provided appropriate mitigation measures to address any identified adverse impacts; and c) A programme for the implementation of any mitigation measure is satisfactorily agreed and secured. Cumulative Effects Planning permission for proposals resulting in a net increase in residential units will be permitted where the cumulative effects of recreation on the Special Protection Areas are satisfactorily mitigated through the provision of a financial contribution towards the Solent Recreation Mitigation Partnership's Definitive Mitigation Strategy. In the absence of a financial contribution toward mitigation, an Appropriate Assessment will be required to demonstrate that any 'in combination' negative effects can either be avoided or satisfactorily mitigated through a developer provided package of measures. Direct Effects on Special Protection Areas Any application for development that is of a scale and/or in a location that is likely to result in adverse effects on European-designated sites will be required to undergo an individual Appropriate Assessment. This may result in the need for additional site-specific avoidance and/or mitigation measures which are to be maintained in perpetuity. Where proposals result in adverse impacts on the integrity of any Special Protection Area and/or its important supporting sites and cannot be avoided or satisfactorily mitigated, planning permission will be refused.

- NE4 - Coastal Change Management Areas

  Planning applications for development including new development, redevelopment, extensions to existing properties and intensification of land uses within the Coastal Change Management Area, as identified on the Policies Map, will only be permitted where it can be demonstrated that it will not result in an increased risk to life or significantly increase the risk to any property. This must be demonstrated through the submission of a Coastal Change Vulnerability Assessment which is proportionate to the scale and cost of the development and the level of impact from and to coastal change. Proposals for new residential dwellings or for the conversion of existing non-

residential buildings to residential use, will not be permitted in the Coastal Change Management Areas set out below:

- Hook Spit to Workman's Lane; and
- Hook Park to Meon Shore.

Any activities that would involve forms of excavation should be avoided within the Hook Park to Meon Shore Coastal Change Management Area, unless it can be demonstrated, through the submission of a Coastal Change Vulnerability Assessment that it will not result in an increased risk to life or significantly increase the risk to any property. Proposals for new or replacement coastal defence schemes will only be permitted where it can be demonstrated that the works are consistent with the relevant Shoreline Management Plan and that there will be no severe adverse impact on the environment. Essential infrastructure that requires a coastal location and/or proposals may be permitted provided there are clear plans to manage the impacts of coastal change, and it will not have an adverse impact on rates of coastal change elsewhere.

Solent Waders and Brent Goose Strategy

10.2.5 The Solent Waders and Brent Goose Strategy is a conservation partnership project, which aims to conserve the internationally important brent goose and wading bird populations within and around the Special Protection Areas and Ramsar wetlands of the Solent coast.

Bird Aware Solent Recreation Mitigation Strategy

10.2.6 The Strategy provides a strategic solution to ensure the requirements of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) are met with regard to the in-combination effects of increased recreational pressure on the Solent Special Protection Areas (SPAs) arising from new residential development.

Technical Standards and Guidance

10.2.7 All relevant guidance is summarised as follows:

- Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland: Terrestrial, Freshwater and Coastal. This is the main EIA guidance for ecology and the one with which the methodology laid out below is based on.
- British Standards (2013) BS 42020:2013 Biodiversity. Code of practice for planning and development.

10.2.8 Most protected species groups and survey types have specific published guidance that, along with Natural England / Department for Environment, Food and Rural Affairs (Defra) standing advice published on the www.gov.uk, are the industry standards, and each is referenced under the relevant heading in the methodology section below.

10.3 Assessment Methodology

10.3.1 This assessment was undertaken in accordance with the ecological impact assessment guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

10.3.2 The assessment has been undertaken based on the indicative masterplan and maximum number of dwellings, as presented in **Chapter 5: The Proposed Development and Construction Overview.** This is considered to be both the reasonable worst case and most likely scenario for the Proposed Development. Any deviation from this at subsequent application stages would be subject to further assessment.

Determination of Baseline

10.3.3 An outline of the methodologies for the ecological survey work and study are described below, highlighting any limitations. Full methodologies are provided in **Volume 4, Appendix F** for all surveys mentioned below, that were conducted between 2017 and 2018 by Ecosupport.

Zone of Influence

10.3.4 For the purposes of this assessment, the Zone of Influence from the Site has been set as the following:

- Natura 2000 - 10 kilometres (km);
- Other statutory protected sites including Sites of Special Scientific Interest (SSSIs) - 5 km;
- Non-statutory sites and protected species - 2 km; and
- Cumulative sites for assessment – 3.5 km.

Desk study

10.3.5 Information was collected on protected and notable species, habitats and protected sites within the Zone of Influence (ZoI) from the Site. It included consultation with Hampshire Biodiversity Information Centre (HBIC) and used Multi Agency Geographic Information for the countryside (MAGIC).

Phase 1 Habitat Survey and Update

10.3.6 A Phase 1 Habitat Survey was conducted by Ecosupport in May 2018 using the methodology outlined in the Handbook for Phase 1 Habitat Survey[1] (Joint Nature Conservancy Committee, 2010). This updated the Phase 1 Habitat Survey work conducted by Ecosupport in May 2017.

10.3.7 The survey involved a systematic walkover of the Site to classify the habitat types present, using the standardised Phase 1 Habitat classification system. An update to the 2018

[1] Joint Nature Conservancy Council (2010) *Handbook for Phase 1 habitat survey - a technique for environmental audit.* JNCC, Monkstone House, City Road, Peterborough. PE1 1JY

Phase 1 survey was conducted by FPCR in November 2020, with a walkover to assess any changes in Site conditions.

Biodiversity Net Gain

10.3.8 A Biodiversity Net Gain Condition Assessment, using the DEFRA 2.0 metric was undertaken to assess whether there was a loss or gain in biodiversity after the implementation of mitigation and enhancements as part of the Proposed Development.

Hedgerow Survey

10.3.9 A hedgerow survey was conducted in November 2020, using the Hedgerow Evaluation and Grading System (HEGS). This method of assessment includes noting down canopy species composition, associated ground flora and climbers, structure of the hedgerow including height, width and gaps, associated features including the number and species of mature trees, banks, ditches and grass verges.

Badger Survey

10.3.10 A survey was carried out by Ecosupport using standard methodology, as outlined by Harris, Creswell and Jefferies (1991). This involved a thorough search and mapping of evidence indicating the presence of badgers across the Site and to a distance of 30 m outside of the Site boundary. The badger survey was updated in November 2020 by FPCR using the same method.

Bat Survey

Activity Surveys

10.3.11 The most recent bat activity surveys were conducted in 2017 by Ecosupport. The surveys followed the methods outlined in the Bat Surveys for Professional Ecologists: Good Practice Guidelines (BCT, 2016). They included manual activity surveys in April, May, June, July and September 2017, and automated activity surveys consisting of a bat detector deployed over five nights in May, July and October 2017. To assess if the baseline has changed, FPCR have undertaken updated bat surveys in l May 2021, consisting of monthly walked transects and two automated detectors deployed each month for five nights. Monthly surveys will follow until October 2021.

Bat Tree Roosts

10.3.12 Trees on-Site were assessed from the ground by Ecosupport in accordance with Bat Surveys for Professional Ecologists (Collins, 2016). These results were updated by FPCR in November 2020 using methods outlined in the Bat Conservation trust Guidelines (2016).

Birds

10.3.13 Winter Bird surveys were undertaken of the Site in 2014-2015 and 2016-2017 by Lindsay Carrington Ecological Services Ltd. The methodology used a modified system based on the Wetland Bird Survey high tide count methods from Bird Census Techniques (Bibby et al, 2000). Surveys were undertaken once monthly between November and March in 2014/15 and once monthly between November and February in 2016/17. These surveys involved watching the Site from a viewpoint for two hours either side of high tide.

10.3.14 Whilst Winter (SPA) Bird Surveys have not been updated since 2017, the field has been under a high level of scrutiny by local residents as evidenced by photographs submitted to Fareham Borough Council of Canada geese on-Site. There has been no evidence of Brent Geese, or other notable wintering waterbird bird species, either from locals or within records submitted to HBIC. The habitat has not changed since 2014-2018. No further surveys are therefore considered necessary.

Dormouse

10.3.15 Dormouse surveys were most recently conducted by Ecosupport in March to September 2017. The survey methodology followed that outlined in the Dormouse Conservation Handbook (Bright, Morris & Mitchell-Jones, 2004). It consisted of 50 tubes deployed in March 2017 which were checked regularly for the presence of dormice by a licenced ecologist between April and September 2017. Dormouse surveys are currently being updated by FPCR starting in 2021 using the same method. A total of 50 tubes will be used, one for every 20 m of suitable hedgerow.

Reptiles

10.3.16 Surveys for reptiles were carried out by Ecosupport in April 2017. The survey methodology was taken from a number of source (Griffiths & Inns, 1998, Froglife 1999, Sewel et al., 2013). Areas of suitable habitat were surveyed for presence using artificial refugia consisting of roofing felt tiles and corrugated tin. The tiles were checked on seven occasions during suitable weather conditions. Reptiles were resurveyed by FPCR using similar methodology; however, refugia was deployed at a rate of one for every 10 m of perimeter, totalling 150 m.

Prediction Methodology

Assigning Ecological Importance

10.3.17 Under the CIEEM guidance, EcIA should classify “Important Ecological Features” (IEFs) in terms of a geographical frame of reference. This assessment has used Sub-Local, Local, County, Regional, National, European & International.

10.3.18 It is not possible for there to be a fully standardised and agreed upon measures for the different geographical levels due to the inherent variability within ecosystems. There are, however, widely understood hierarchies within a finite number value-measures that are used by ecologists, to make an informed professional judgement. The value-measures include rarity, size of population, conservation status, legal protection, site designation status and ecological function. IEFs for this assessment were those considered of local importance or above. These were judged based on **Table 10.1.**

Table 10.1 Geographical Frame of Reference used to Assign Ecological Importance

Geological Frame of Reference	Ecological Importance
European / International	High to Very High Importance e.g. European/international protected sites (SACs, SPAs, Ramsar) Internationally important populations (1%+ of population)
National	High Importance e.g. Nationally protected sites (SSSIs, NNRs)

Geological Frame of Reference	Ecological Importance
	Nationally important populations (1% of national population) Nationally rare species IUCN England CE
Regional	Medium to High Importance e.g. Large non-statutory sites/undesignated areas that cross county boundaries Significant habitat or landscape features on regional plans or strategies. Ancient semi-natural woodlands (areas wooded since pre-1600) Regionally important populations (1% of Southern England population) Nationally scarce species
County*	Low to Medium importance e.g. County Wildlife Sites Local Nature Reserves (unless designated with higher status also) County Important Populations (1% of county Population) Minimum level for European Protected Species (EPS) Minimum level for "full" Section 5. WCA Species (WCA) Minimum level for breeding WCA Schedule 1 birds (WCA, Sch. 1) County rare species and certain notables Minimum level IUCN England EN
Local*	Low importance e.g. Other Local Wildlife Sites Minimum level for NERC Section 41 Habitats and Species Minimum level for BoCC Amber and Red Species of Bird Minimum level for badger Minimum level Section 5 WCA killing and injury only e.g. common reptiles Minimum level IUCN England VU and LC
Sub - Local	Very Low Importance All other species

*A *minimum* Local and County level reflects only the importance related to the legal or conservation status of a species to ensure they are assessed at an appropriate level. Higher importance is assigned where the species, or a species habitat, is more notable in terms of distribution, population size or functionality.

Assessment of Significant Effects

10.3.19 The emphasis in EcIA is on 'significant effects' and not *all* ecological effects. Therefore, only those ecological features identified using the above method considered at local level or above were taken forward to the assessment of effects.

Determining Impact Magnitude

10.3.20 The assessment included potential beneficial and adverse impacts on each ecological feature (determined as important) during both construction and operational phases. This was done through identifying and then characterising the impacts by considering factors such as duration, extent, frequency, timing, route through which they occur (whether direct, indirect, secondary or cumulative) and reversibility. The assessment only describes those characteristics / factors relevant to understanding the ecological effect of the impacts and in determining significance. Additionally, only those impacts considered likely to be significant are included; not every conceivable impact.

10.3.21 For assessment purposes, a magnitude value was the was applied to all impacts identified as described in **Table 10.2.**

Table 10.2 Magnitude of Impacts

Magnitude	Typical Descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse).
	Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Medium	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse).
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse).
	Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Determining Significance

10.3.22 The next stage of the assessment is to combine importance and magnitude. For this assessment, the significance of the effect was determined using the matrix below (**Table 10.3**). This was carried separately for construction and operational phases for each important ecological feature and identified impact. In addition, effects were assessed as being either adverse (negative) or beneficial (positive); direct or indirect; and to occur at a scale that is either short, medium or long-term.

Table 10.3 Assessment of significance of effects

Importance	Magnitude			
	Negligible	Low	Medium	High
Local	Negligible	Negligible or Minor	Minor	Minor or Moderate
County	Negligible or Minor	Negligible or Minor	Minor or Moderate	Moderate
Regional	Negligible or Minor	Minor or moderate	Moderate	Moderate or Major
National	Negligible or Minor	Minor or Moderate	Moderate or Major	Major
International	Negligible or Minor	Moderate	Major	Major

10.3.23 Where the matrix shows more than one significance option, professional judgement was used to decide which option was most appropriate, based on best practice and policy objectives in line with the pertinent policies and guidance described earlier in this Chapter.

10.3.24 If a potential effect resulting from the Proposed Development is classified as either moderate or major, it is considered significant in terms of the EIA Regulations. As such mitigation and / or management measures are then prescribed to reduce / offset these to acceptable levels, by applying the mitigation hierarchy, ensuring that the Proposed Development meets national and local planning policy (by avoiding 'significant harm to biodiversity' and delivering a proportionate net biodiversity gain).

10.3.25 The following terms have been used to define the significance of the effects identified with respect to Ecology and Biodiversity:

- Major: These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
- Moderate: These beneficial or adverse effects may be important, but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
- Minor: These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Limitations and Assumptions

10.3.26 The main survey data for habitats and species from 2014-2018 is now out of date based on the CIEEM guidelines for survey data validity (CIEEM, 2019). A Phase 1 habitat survey and desk study update in 2021 showed habitats within the Site boundary and connectivity of the Site to the surrounding landscape has remained broadly unchanged. Badger and reptile surveys were fully updated in 2021.

10.3.27 Bat surveys are being updated in 2021, with monthly surveys between May and October. Given the low value of the habitats on-Site for bats, and the limited species and activity levels recorded previously, this level of update is sufficient as a re-assessment of the baseline conditions. Surveys will continue to October as a precaution for a future Reserved Matters application.

The bat equipment currently used by FPCR is technologically superior than that used by Ecosupport in 2017. The analysis by FPCR also used .wav files rather than Zero Crossing files. It is therefore likely that the FPCR survey in May 2021 was more sensitive than the previous work undertaken in 2017, which is an ongoing trend in bat survey work with the constantly improving acoustic monitoring microphones, recorders and analytical packages. This improves the likelihood of recording species with quiet, directional and cryptic calls, such as barbastelle and lesser horseshoe, which were previously under recorded during bat activity surveys.

10.3.28 Dormouse surveys were previously undertaken in 2017 which identified no presence. These are being repeated in 2021, and a negative result can not be confirmed until October 2021. As dormice were negative previously, and as there will be limited impact on hedges, this is not considered a significant limitation. Should a positive result be confirmed in 2021, the Proposed Development's limited impact on dormouse habitat means a European Protected Species (EPS) licence would unlikely be required. If at the Reserved Matters stage, currently unforeseen changes result in a negative impact on hedges, the 2021 surveys will provide the survey information for the licence application information, should it be required.

10.3.29 Winter (SPA) Bird Surveys have not been updated since 2017. As evidenced by photographs submitted to Fareham Borough Council of Canada geese on-Ste, the field has been under a high level of scrutiny by local residents. There has been no evidence of Brent Geese, or other notable wintering waterbird bird species, either from locals or within records submitted to HBIC or Hampshire Ornithology Group. As noted above, the Site has also not changed in terms of habitat since 2014-2018. The lack of more recent survey data is not a limitation to this assessment for wintering birds.

10.3.30 The CIEEM survey data validity guidelines state the following for the validity of surveys undertaken within 18 months to three years of data being submitted for an application;

"The likelihood of surveys needing to be updated increases with time, and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to):

• Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site (see scenario 1&2 examples);

• Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management (see scenario 3 example);

• Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence (see scenario 4 example)."

10.3.31 The guidance goes on to say that for any surveys older than three years, updates are likely to be required, based on an assessment by a professional Ecologist, considering the above criteria.

10.3.32 In order to reassess the Site in line with the CIEEM guidance, an updated Phase 1 survey was conducted in November 2020. This survey re-assessed the on-Site habitats, whether or not the potential for protected species had significantly changed, and the current status of badger on-Site. The survey confirmed that there were no significant changes in the habitats present, both in type and extent, nor their condition, and there was no evidence to suggest the function of the habitats would have significantly changed since the last survey in May 2018. This is in keeping with the continued intensive arable management regime on the Site, which has remained the same since the previous surveys and continues to typically lack biodiversity.

10.3.33 The 2020 surveys confirmed the Site remains suitable for the "good" reptile population previously confirmed present within the verges. The hedgerows / Site boundaries will continue to support commuting and foraging common bat species similar to those recorded on previous surveys and low numbers of rarer species have also been recorded during update surveys in 2021. The survey confirmed that badgers had not expanded their sett numbers or range, and the limited but potentially suitable dormouse habitat remained unchanged and, given the poor connectivity of the Site, this species is unlikely to have become established at the Site. The consistency of the habitat for breeding and wintering SPA birds has also remained unchanged, and in the case of SPA birds, this is further discussed below.

10.3.34 Given the consistency of the habitats on-Site, and the Proposed Development, including significant areas of enhancement habitat and species specific mitigation proposals, it is not a constraint to this impact assessment that specific protected species surveys for reptiles, dormice and bats have yet to be fully updated. These surveys are being undertaken in 2021. The primary reason for the updated surveys, is to ensure that the surveys are up-to-date prior for the Reserved Matters stage to reduce the risk of delay, and it is not predicted that these will record any significant changes.

Consultation

10.3.35 No formal EcIA consultation has taken place prior to this ES Chapter being written. However, both the FBC's Ecology team and Application Advisor and Natural England have been consulted at various stages of the 2018 planning application and this Appeal.

10.3.36 FBC's ecology team have provided consultation at all stages of the 2018 planning application, with the most recent being at the Appeal stage. FBC's statement of case (May, 2021) summarises the following reasons for refusal in relation to biodiversity;

- *"The proposal fails to appropriately mitigate the likely adverse effects on the integrity of European Protected Sites which would arise as a result of the effect of the development on, and loss of part of, a Primary Support Area for Brent geese and waders"*;
- *"The proposal fails to provide sufficient information to demonstrate that protected and priority species would be protected and enhanced"*; and
- *"In the absence of a legal agreement to secure such, the proposal fails to appropriately secure mitigation of the likely adverse effects on the integrity of European Protected Sites which, in combination with other developments, would arise due to the impacts of recreational disturbance"*.

10.3.37 These reasons for refusal are all discussed within this ES Chapter. FBC's Ecology team's concerns specifically related to ensuring protected species were considered in the Site layout. This included the reptile and badger populations present at the Site. Providing suitable brent goose mitigation habitat was also requested and consulting with Natural England on this was recommended.

10.3.38 Natural England were consulted prior to the submission of the 2018 planning application through the Discretionary Advice Service (DAS). Initially, the Appellant directly consulted Natural England, who advised that a bird mitigation reserve plan should be produced.

10.3.39 A bespoke brent goose and bird mitigation reserve design was produced in Spring 2020 and included specific management and provisions for brent geese, and was submitted to Natural England through the DAS. Natural England responded with concerns regarding the overall size of the mitigation area and the restrictive sightlines it may create for the geese.

10.3.40 An updated document was provided to address these concerns in Autumn 2020. This document compared the proposed reserve to other nearby Primary Support Areas that were of a similar size, supported similar counts of geese and were surrounded by restrictive sightlines and urban development.

10.3.41 The final response from Natural England was received in February 2021, after reviewing the additional evidence submitted. The following response was provided.

"Given the available data, it is advised that the suitability of the mitigation proposal at this site should continue to be assessed in line with the recommendations for Primary Support Areas.

The abovementioned challenges highlight the uncertainties in determining whether the proposed mitigation area is sufficient to support (as a minimum) the same contribution and function of the existing site for brent geese. Therefore, it is my advice that there remains some scientific uncertainty that the proposal will avoid an adverse effect on the integrity of the Portsmouth Harbour SPA and Ramsar. In accordance with the Conservation of Habitats and Species Regulations 2017 (as amended), a deciding authority must, prior to granting any permission, assess whether the proposal would result in an adverse effect on site integrity. In undertaking this assessment, the deciding authority must apply the precautionary principle and take into account any uncertainty."

10.4 Baseline Assessment and Identification of Key Receptors

10.4.1 **Volume 4, Appendix F** presents the desk study results and figures showing statutory and non-statutory protected site locations in relation to the Site. A summary of the baseline is presented below.

International / European Statutory Designated Sites

Portsmouth Harbour SPA and Ramsar

10.4.2 The Site is located 0.2 km to the north of Portsmouth Harbour SPA / Ramsar. Portsmouth Harbour is a large, industrialised estuary and includes one of the four largest expanses of mudflats and tidal creeks on the south coast of Britain. The mudflats support large beds of narrow-leaved and dwarf eelgrass, extensive green alga and sea lettuce. The harbour has only a narrow connection to the sea via the Solent, and receives comparatively little freshwater, thus giving it an unusual hydrology. The SPA qualifies under Article 4.2 of the Birds Directive for supporting internationally important numbers of wintering dark-bellied brent geese and nationally important numbers of grey plover, dunlin and black-tailed godwit. This feature is of **international importance.**

Solent and Southampton Water SPA & Ramsar

10.4.3 The Site is located 5.14 km to the east of the Solent and Southampton Water SPA / Ramsar. The SPA / Ramsar comprises of estuaries and adjacent coastal habitats

including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats supports internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. The SPA qualifies under Article 4.1 of the Birds Directive for nationally important breeding bird species, under Article 4.2 for internationally and nationally important populations of wintering bird species, and under Article 4.2 for the presence of an internationally important wintering bird assemblage. This feature is of **international importance.**

Chichester and Langstone Harbour SPA & Ramsar

10.4.4 The Site is situated 6.83 km to the west of Chichester and Langstone Harbour SPA / Ramsar, which are large, sheltered estuarine basins comprising extensive mud and sand flats exposed at low tide. The SPA is of particular significance for over-wintering wildfowl and waders and also a wide range of coastal and transitional habitats supporting important plant and animal communities. The SPA qualifies under Article 4.1 of the Birds Directive for nationally important breeding bird species, under Article 4.2 for internationally and nationally important populations of wintering bird species, and under Article 4.2 for the presence of an internationally important wintering bird assemblage. This feature is of **international importance.**

Solent and Wildlife Lagoons SAC

10.4.5 The Site is located 7.43 km to the east of the Solent and Wildlife Lagoons SAC. The SAC is designated for the Annex I habitat coastal lagoons, which includes populations of rare species including the nationally rare foxtail stonewort *Lamprothamnium papulosum*, the nationally scarce lagoon sand shrimp *Gammarus insensibilis*, and the nationally scarce starlet sea anemone *Nematostella vectensis*. This feature is of **international importance.**

Solent Maritime SAC

10.4.6 The Site is situated 6.79 km to the east of the Solent Maritime SAC. The SAC is designated for a large number of Annex I habitats, primarily estuaries; Spartina swards; and Atlantic salt meadows. Qualifying Annex I habitats also include Sandbanks which are slightly covered by sea water all the time; Mudflats and sandflats not covered by seawater at low tide; Coastal lagoons; Annual vegetation of drift lines; Perennial vegetation of stony banks; *Salicornia* and other annuals colonizing mud and sand; and "Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")". The Annex II Desmoulin's whorl snail *Vertigo moulinsiana* is also a qualifying feature. This feature is of **international importance.**

National Statutory Designated Sites

Portsmouth Harbour SSSI / SPA

10.4.7 The Portsmouth Harbour SSSI is situated 0.2 km to the south of the Site. It is designated as a large area of tidal lagoons and mudflats, with extensive eelgrass beds, cord grass marshes and a small area of important chalk grassland. These habitats support a large diversity of waterfowl and shorebirds in both the breeding and non-breeding seasons and are especially important for dark-bellied brent geese, grey plover, black-tailed godwit and dunlin. The SPA designation falls within the boundary of the SSSI, and henceforth will be considered as one feature of **international importance**.

Down End Chalkpit SSSI

10.4.8 The Down End Chalkpit SSSI is located 0.73 km to the north of the Site and is designated only for geological reasons. Therefore, it is not considered further in this ES Chapter.

Portsdown SSSI

The Portsdown SSSI is situated 1.84 km to the northeast of the Site. It is designated for its chalk grassland and hawthorn scrub that supports a variety of rare plants and invertebrates. The SSSI is of **national importance.**

The Wildground SSSI

10.4.9 The Wildground SSSI is located 4.44 km to the southwest of the Site. It is a Local Nature Reserve (LNR) designated for its acid oakwood on the Brickearth of the south Hampshire coastal plain. It has no known history of management and probably developed naturally on former common land in the late 16th and early 17th centuries. The Wild Grounds represents a woodland type formerly widespread on coastal commons in Hampshire. Its natural origins and age structure, dominated by old trees which will be permitted to live their natural life span, are of great ecological and historical interest. The SSSI is of **national importance.**

Hook Heath Meadows SSSI

10.4.10 The Hook Heath Meadows SSSI is located 4.68 km to the northeast of the Site and is a mixture of woodland and unimproved acid pasture lying within a shallow river valley over London Clays. Many of the habitats present are now rare in lowland Britain through agricultural intensification. Their close juxtaposition here is of particular value as an invertebrate habitat. The SSSI is of **national importance.**

Non-Statutory Designated Sites

10.4.11 There are twenty non-statutory sites within 2 km of the Site, and details including location and reasons for designation are provided in **ES Volume 4, Appendix F**. **Table 10.4** below lists the sites. Twenty of the sites are Sites of Interest for Nature Conservation (SINCs) and two are both SINCs and Road Verges of Ecological Importance (RVEI). These sites are of **county importance.**

Table 10.4 Non-Statutory Sites within 2 km of the Site

Ref.	Non-Statutory Sites	Distance from Site
1	Cams Hall Lagoons SINC	1650 m
2	Bathinghouse Grove & Cams Coastline SINC	1100 m
3	Wallington Way SINC	1400 m
4	Wallington Meadow SINC	1820 m
5	Land off Aerodrome Road SINC	1860 m
6	Cams Plantation SINC	490 m
7	Bedenham SINC	810 m
8	DM Gosport SINC	1830 m
9	Down End Road Verge SINC	1250 m
10	Fort Nelson SINC	1410 m
11	Fort Nelson Picnic Site SINC	1270 m

Ref.	Non-Statutory Sites	Distance from Site
12	Skew Road & Nelson Lane Verges SINC	1400 m
13	Hill Road Paddock SINC	1460 m
14	Skew Road Meadow SINC	1570 m
15	Anson Grove SINC	1560 m
16	High Tor SINC	1960 m
17	Portchester Paddock SINC	1860 m
18	Castle Shore Park SINC	1820 m
19	Down End Road, Fareham RVEI	1130 m
20	Skew Road, Portchester RVEI	1380 m

Habitats

10.4.12 The main habitats identified on-Site were:

- Arable field;
- Improved grassland Margins;
- Tall ruderal;
- Scattered scrub;
- Hedgerows; and
- Trees.

Arable

10.4.13 The Site comprised of a single field in arable tenure for the production of summer cereal crops. In 2021, during the winter, it was stubble. There were no notable plant species recorded in this habitat. The Site is typical of an intensively farmed arable field and is of low biodiversity value. The habitat is of **sub-local** importance.

Improved Grassland Margins

10.4.14 The field margins were formed by a 1-2 m strip of rank unmanaged improved grassland. It was dominated by coarse grasses. Species included Bromus sp., perennial rye grass *Lolium perenne*, cock's foot *Dactylis glomerata*, common cleaver *Galium aparane*, ivy *Hedera helix*, *Geranium spp*., *Rumex spp*. germander speedwell *Veronica chamaedrys*, cow parsley *Antriscus sylvestris*, horsetail *Hippus vulgaris*, common hogweed *Heracleum sphondylium* and lesser celendine *Ranunculus ficaria*. There was nothing notable in terms botanical interest and this habitat is extremely common and widespread. The margins do, however, support reptiles (see below) and are therefore of **sub-local importance.**

Tall ruderal

10.4.15 Small areas of tall ruderal were located along sections of the northern and western boundaries and adjacent to the southern boundary tree line. It was largely dominated by common nettle *Urticia dioica* with cow parsley and field bindweed *Convolvulus arvensis*. This habitat is of **sub-local** importance and is not significant.

Scattered Scrub

10.4.16 Bramble *Rubus fruiticosus agg* dominated scrub was associated with the margins of the longer grassland areas on-Site, particularly along the northern boundary. Given the small area of this habitat type present and the lack of diversity, it is considered in this case to be of **sub-local** importance and is not significant.

Hedgerows

10.4.17 The western, eastern and southern boundaries of the Site are marked by hedgerows of varying levels of maturity / diversity. None of the hedges were of sufficient diversity or had features that would qualify them as Hedgerow Regulations (REGs) Hedgerows. The hedgerows on-Site were as follows:

- H1: The western boundary hedgerow was of low species richness and dominated by hawthorn *Crataegus monogyna* and Ivy.
- H2: The southern boundary hedgerow was also of low species richness and dominated by hawthorn *Crataegus monogyna* and Ivy, with the addition of Sycamore *Acer pseudoplantanus.*
- H3: The eastern boundary hedgerow was more diverse and included elder *Sambuscus nigra*, field maple *Acer campastre*, hawthorn, blackthorn *Prunus spinosa*, rowan *Sorbus aucuparia*, alder *Alnus glutinosa* and dog rose *Rosa canina*.

10.4.18 All native hedges are NERC Section 41 habitats. The hedges on-Site are of **local importance.**

Trees

10.4.19 The western part of the southern boundary supports a small woodland / tree line which is dominated by ash *Fraxinus excelsior*, with field maple, sycamore, hazel *Corylus avellana*, oak *Quercus spp*. and blackthorn. The trees are of **sub-local importance**.

Protected and Notable Species

Badgers

10.4.20 A four-entrance sett was recorded on-Site in 2018 in the south east corner of the Site, on the southern boundary. A known main sett is present on the neighbouring site to the east, and it is considered most likely the sett on-Site is an annex to the sett on the neighbouring site. Runs were also recorded along the eastern and western boundaries. Badgers are common and widespread, and owing to their legal protection are considered of **local importance.**

Bats

10.4.21 During the 2017 activity surveys, at least six species of bat were recorded, five were identified to species level, and *Myotis spp.* were present but could only identified only to genus, due to the group's similar calls. The five identified were common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*(NERC Section 41), brown long eared Plecotus auritus (NERC Section 41), noctule *Nyctalus noctula* and serotine *Eptesicus serotinus*. These species are common and or widespread across the

south of England and neither their presence, nor the diversity of assemblage, is significant for Hampshire.

10.4.22 Activity levels across all species was not significant. As is normally expected, common pipistrelle was dominant, followed by soprano pipistrelle. The 2017 manual activity survey showed that the highest activity levels were recorded at Point Count 7 in the south-eastern corner of the Site and Point Count 2 in the middle of the northern boundary of the Site. However, across all species, the overall level of activity was very low.

10.4.23 In May 2021, there was a single deployment for five nights of two static detectors and one walked transect survey.

10.4.24 Overall, during the survey, a total of seven bat species / species groups were recorded including (in order of abundance) common pipistrelle (93.7% of activity), soprano pipistrelle (2.7% of activity), *Myotis species* (2.7% of activity), and barbastelle (*Barbastella barbastellus*), *Nyctalus species,* long-eared species, and serotine (<1.0% of activity).

10.4.25 The unit with the highest assemblage of species was Unit 2 which was located at the southwest corner of the Site on the southern boundary, with seven species / species groups identified. Unit 1 recorded five species / species groups recorded at the northeast corner of the Site on the species-poor hedgerow along the eastern boundary.

10.4.26 Barbastelle, was recorded on both static units deployed in May 2021. Four and one barbastelle registrations were respectively recorded on Unit 1 and Unit 2, during the same night, between 23:08 and 00:06. These registrations are likely to relate to a single bat utilising features at the Site.

10.4.27 Barbastelle have restricted distribution in England, but are locally common at important sites in southern, south eastern and south western England, including Hampshire. This species mainly roosts in good quality woodland and such sites are present within 5 km of the Site. Barbastelle are known to travel large distances between roost sites and foraging areas, however, typically they have a core sustenance zone of up to 6km.

10.4.28 Barbastelle were recorded on just one occasion during the May 2021 static survey. The total of 5 registrations within an hour period, approximately 2.5 hours after sunset, suggest that a single bat was utilising Site boundary features for foraging. The low level of activity recorded from this species over the May survey period suggests that use of the Site is occasional and that the Site is not important for this species.

10.4.29 During the walked transect survey in May 2021, just one species was recorded, common pipistrelle. There were a total of 16 passes recorded from this species. Overall levels of activity were very low, limited to boundary features including the southern and eastern hedgerows which recorded more activity from foraging bats than other areas of the Site. No bats were recorded over the arable field.

10.4.30 The overall assemblage of species and numbers of bats recorded suggest that the Site is of **local importance**.

Bat Roosts

10.4.31 A row of trees in the southwest corner of the Site provides the only potential features that bats may roost in. An assessment of these in 2018 recorded all to have either low or negligible potential to support roosting bats and no roosting bats were recorded. The Site

is of **sub-local** importance for roosting bats due to the lack of habitat and roosting features.

Breeding and Wintering Birds

10.4.32 Targeted breeding bird surveys have not been undertaken at the Site. Suitable breeding bird habitat in the form of hedgerows and mature trees are present around the Site's boundary. No vegetation is to be lost. During spring visits for other protected species surveys in 2021, no ground nesting bird species, such as skylark *Alauda arvensis* have been recorded. Ground nesting birds will continue to be considered during further assessment of the Site. The Site is of **local importance** for breeding birds.

10.4.33 During Winter Bird surveys in 2014/15 and 2016/17, there was just one record of notable bird species. This was 20 curlew *Numenius arquata*, recorded in March 2014.

10.4.34 The desktop study for the Site, carried out in May 2021, returned further records of notable bird species relating to the Solent Wader and Brent Goose Strategy from 2012 to 2017. This included two counts of 300 dark-bellied brent goose *Branta bernicla bernicla* in 2012 and 2013 and a single brent goose in 2017, a single oystercatcher in January 2013 and two counts of 26 and 15 curlew in December 2013 and February 2014, respectively. The Ecosupport EcIA report from 2018 mentions two counts of 300 brent geese from 2017. This is erroneous and the HBIC data clearly shows these counts relate to 2012 and 2013.

10.4.35 The two notable brent goose records of 300 geese, coincided with years when the management regime of the field was winter wheat or oats, both suitable forage crops for this species (see **Table 10.5**). The single record of a stray brent goose from 2017 was a year when no winter crop was present.

10.4.36 From winter 2014/15, the land management of the Site was changed by the farmer (as shown in **Table 10.5**) when the sowing of winter cereals became financially unviable, due to the damage caused to the crop by foraging geese (mainly Canada geese *Branta canadensis)*. Entire cereal crops could be lost over the winter period. At this time, to help the farming business, the farmer changed to a winter non-cereal sowing regime, with winter weed management. Therefore, there has been no suitable brent goose foraging habitat over winter on the Site since winter 2013/14.

10.4.37 The farmer has not taken part in any stewardship schemes for managing the Site and there are currently no brent goose winter arable habitat specific stewardship schemes available to the farmer.

10.4.38 In addition to the brent geese records for the Site, there are two counts of Eurasian curlew and a single count of oystercatcher on the northern parcel of F21. 26 curlew were recorded in December 2013 and 15 were recorded in February 2014. The single oystercatcher was recorded in January 2013.

10.4.39 Curlew and oystercatcher primarily forage on tidal mudflat habitats in winter; however, they will also occasionally utilise arable fields close to core foraging areas at high tide for roosting and foraging. Curlew are a species of Birds of Conservation Concern (BoCC4,

2015[2]) red list species, which are rapidly declining throughout their range. This decline is thought mainly to be caused by pressure on their breeding grounds. Oystercatcher are BoCC4 amber listed, with populations also declining throughout their range, also thought to be caused by poor farming practice and increased predation. The Site does not provide suitable breeding habitat for these species and the very occasional use of the Site makes it unlikely that is important for curlew populations wintering at the Solent Protected Sites.

10.4.40 There are no brent goose or wader records either side of 2013 or 2017. The Site forms part of an area that is classified by the Solent Wader and Brent Goose Strategy as a primary support area F21 and has recorded use by Eurasian curlew. When suitably managed for brent geese, the Site was historically of **county importance.** Now, in the absence of suitable management, with occasional use by geese and waders, the Site is considered to be of **local importance.**

Table 10.5 Site Field Management from 2011-2020

Year	Winter field management
2011	Oil seed rape
2012	Winter wheat
2013	Winter oats
2014	Winter wheat
2015	Spring barley
2016	Spring barley
2017	Spring barley
2018	Spring barley
2019	Spring barley
2020	Spring barley

Hazel Dormice

10.4.41 50 dormouse *Muscardinus avellanarius* survey tubes were deployed in suitable vegetative habitat between May and October 2017. No dormice or signs of dormice were recorded during this survey. There are records of dormice within 2 km of the Site, however, there is no connectivity between the Site and the habitats that dormice are present. Further suitable dormice habitat is present to the west of the Site and is well connected to the Site; however, there are no dormouse records present. The Site is of **sub-local importance**.

Reptiles

10.4.42 Seven reptile surveys were undertaken in April 2017. These surveys recorded slow worm *Anguis fragilis* on each occasion, with a peak count of 31. Most of these records were from the northern boundary, which has a strip of grassland that backs onto the gardens of houses along Romsey Avenue. This represents a “good” population of slow worm. The slow worm is widespread and locally common, although declining throughout its range. This species is common throughout Hampshire. The Site is of **local importance**.

[2] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. British Birds 108, 708–746

Baseline Summary

10.4.43 The Site has been shown to support **sub-locally** to **locally important** groups of habitats and populations of protected species including bats, badgers and reptiles. The Site has also supported **county important** counts of brent geese on two occasions in the winter months. With the Site now in a permanent unfavourable management regime for brent geese, the Site is overall of **local importance** for biodiversity.

Future Baseline

10.4.44 In the absence of the Proposed Development, habitats within the Site would likely remain broadly the same, or semi-natural habitats would decline with increased agricultural intensity and an unfavourable management regime for SPA bird species. Therefore, the overall biodiversity value of the Site would remain of **local importance / low value**.

10.5 Identification and Description of Changes Likely to Generate Effect

Construction phase

Off-Site

10.5.1 The Portsmouth Harbour SPA, Ramsar and SSSI is located 185 m to the southwest of the proposed Site boundary. Potential impacts from construction include visual and noise disturbance of SPA bird species, as well as dust and chemical pollution of SSSI habitats from construction operations.

On-Site

10.5.2 To facilitate ground works within the Site area, approximately 12.6 hectares of arable farmland will be lost permanently. This habitat provides low quality foraging for badgers and bats.

10.5.3 The 12.6 hectares of arable field also forms a part of the F21 parcel of the Solent Wader and Brent Goose Strategy classified as a Primary Support Area (PSA). When appropriately managed, the field provides foraging habitat for Portsmouth Harbour SPA qualifying species dark bellied brent goose and other wader and wildfowl species have been recorded using the Site.

10.5.4 Small areas of improved grassland and low scrub may be lost during groundworks for the construction phase. The improved grassland and scrub provide foraging and shelter habitat for reptiles, nesting habitat for breeding birds and foraging habitat for badgers. Any unmitigated removal of vegetation could result in the killing or injuring of reptiles and disturbance or loss of nesting birds.

10.5.5 Badger setts are present withing the proposed construction area. Disturbance or the loss of setts and killing / injuring of badgers is possible in the absence of suitable mitigation.

Operational phase

Off-Site

10.5.6 The proposed 225 dwellings will increase the population of the local area. This population requires recreational facilities for activities such as dog walking. In the absence of suitable

alternative recreational space, people are likely to visit natural areas that are designated as statutory sites, such as the Portsmouth Harbour SPA. This increased recreational pressure may lead to disturbance of SPA designation bird species, including brent goose and therefore, have potential effects on the features of the SPA.

10.5.7 The Proposed Development will create additional vehicle movements along the local highways network. Increased traffic has the potential to negatively impact air quality at protected sites through increased nitrogen dioxide (NO_x), sulphur dioxide (SO_2) and ammonia (NH_3), where they occur within 200 m of the highway[3]. Within 5 km of the Site, there are statutory protected sites where impacts from increased deposition of pollutants may have a significant effect on the designation features of these sites.

On-Site

10.5.8 The Proposed Development has the potential to result in some disturbance effects to wildlife, using the habitats within and adjacent to the Site through increased human activity and vehicular movements and noise levels. Species most likely to be affected by disturbance are mammals and day-active birds.

10.5.9 Operational light spill (i.e. road lighting and residential lighting) has the potential to adversely affect commuting routes and foraging habitats of bat species and to disturb badgers.

10.5.10 The Proposed Development may affect local populations of reptiles, birds and bats due to predation from the influx of domestic cats.

10.5.11 Newly created habitats are vulnerable to poor management that would lead to deterioration and direct loss, for example, as a result of scrub encroachment or colonisation by invasive species. These habitats are also susceptible to visitor pressure effects, such as increased erosion due to concentrated heavy footfall and nutrient enrichment from accumulation of dog faeces, which in turn leads to an increase in vigorous, nutrient loving plants and a decrease in species richness / diversity.

10.6 Assessment of Likely Significant Effect

Construction Phase

Embedded Mitigation Measures

General

10.6.1 An Ecology Management Strategy for Construction will be produced either as a standalone report provided with, or detailed within, the Construction Environmental Management Plan (CEMP). The document will detail method statements for protecting both habitats and species. The information detailed in the below will be included and the provision of this document will be secured through a suitably worded planning condition.

[3] Highways Agency (2019) *Design Manual for Roads and Bridges, LA 105 England National Application Annex to LA 105 Air quality*.

10.6.2 An appropriately qualified Ecological Clerk of Works (ECoW) will be designated to manage the implementation of the Ecology Management Strategy for Construction and be the first point of contact should ecological issues arise.

10.6.3 The CEMP shall include an Ecological Avoidance and Mitigation During Construction Plan, identifying all sensitive habitats on-Site. It will also show appropriate buffer locations and widths, where temporary fencing is required and details of any specific protection requirements for a given feature if necessary. The CEMP will detail pollution control measures to ensure construction works are undertaken in an environmentally responsible manner. Any environmentally hazardous material used will be kept in dedicated stores and storage tanks will have appropriate bunding. All construction activities will be undertaken in accordance with the CEMP.

10.6.4 Following best practice, no temporary storage of materials, construction of haul routes, or site machinery will be situated within or adjacent to the retained habitats.

10.6.5 Site construction works will not take place during the sensitive period for qualifying feature bird species of the Portsmouth Harbour SPA between October and February inclusive.

10.6.6 The green infrastructure for the Site including the proposed bird mitigation reserve should all be operational prior to construction of the residential areas commencing. This ensures that the loss of potential brent goose foraging habitat is mitigated for, prior to construction taking place.

Badger

10.6.7 A four-entrance sett was recorded on-Site in 2018 in the southeast corner of the Site, on the southern boundary which will be retained within the Proposed Development, with a 30 m buffer surrounding the sett. This will be fenced and signed to ensure no construction activities or storage of materials within this buffer zone. An updated badger walkover survey will be conducted prior to submission of the Reserved Matters application. If a sett is later confirmed present within the developmental footprint, the ecologist will be able to advise accordingly depending on the type of sett on the best way to ensure that construction activities remain lawful.

Bats

10.6.8 The habitat on-Site of most value to foraging and commuting bats is the hedgerows which are to be retained within the Green Infrastructure of the Proposed Development, thereby maintaining an interconnected network of foraging and commuting habitat with the surrounding landscape.

10.6.9 The retained habitats will be suitably protected using heras fencing or similar. The hedgerows will remain unlit for the duration of the construction works and where possible night-time working is to be avoided. Construction / security compounds and Site offices are to be located away from sensitive, retained habitats to reduce light spill and other general impacts of construction activities.

Bat Roosts

10.6.10 At present, it is not anticipated any trees suitable for supporting roosting bats will be removed as part of the Proposed Development. However, should plans change and potentially suitable trees are removed or altered, there is a risk of an offence being

committed without proper precaution. To prevent this, a precautionary method statement will be included within the Ecology Management Strategy for Construction. The method statement will detail the requirement to assess any affected trees for bats (as roosting features may change over time). This process requires a minimum ground inspection by a suitably qualified ecologist. If suitable features or evidence are observed, aerial inspections and nocturnal surveys may be required. If bats are confirmed within a tree and the loss of the roost is unavoidable, a Natural England Mitigation Licence will be required.

Breeding Birds

10.6.11 To ensure an offence under the Wildlife and Countryside Act (as amended) is not committed, removal of any vegetation suitable for the support of nesting birds will take place outside of the bird breeding season (March to September) to avoid disturbance and direct harm to this species group. If there are any areas where this is not feasible, vegetation proposed for removal shall be checked by an experienced ecologist prior to removal to ensure there is no breeding bird activity. If any activity is recorded, vegetation will remain in situ and an appropriate buffer (as stipulated by the ecologist) adopted until the young have fledged. A nesting bird method statement will be included within the Ecology Management Strategy for Construction.

Hazel Dormice

10.6.12 Surveys for hazel dormice are currently on-going on Site but no evidence of the species has been found to date (please refer to the 'Limitations' section of this Chapter). The hedgerows on Site are to be retained and as previously discussed, protected within the construction phase.

Reptiles

10.6.13 A "good" population of slow worm is present on-Site. Very small amounts of improved grassland habitat are likely to be lost to development. Inappropriate removal of habitat may result in unlawful killing or injury of reptiles. The removal of grassland and scattered scrub will be conducted under the protected species method statement within the CEMP. As the area is small, no trapping is required, but it will require supervision by a suitably qualified ecologist, and removal will be required to take place during April to September when reptiles are active. The grassland will require two stage removal and relocation of any reptiles encountered into the retained grassland. Reptile drift fencing will be installed around the construction zone to prevent reptiles from being killed or injured during construction operations. Overall, the improved grassland will be largely retained and enhanced within the Proposed Development.

Other Species

10.6.14 Inappropriate removal of habitat may result in killing and injury of hedgehog and toads. A precautionary "other species" method statement to cover potential NERC S41 species will be detailed within the CEMP as a matter of good practice.

Anticipated Effects

Off-Site

10.6.15 During the construction phase, the primary impacts on off-Site features would be the disturbance of qualifying feature bird species through construction noise and visual effects

and the potential pollution of SSSI habitats within the SPA, through dust production and chemical / fuel spills.

10.6.16 The predicted magnitude of the impact of the construction phase on the off-Site receptors will be **Negligible** in the short term at the **international** level, and the effect will be **Negligible** and not significant.

On-Site

Habitats

10.6.17 During the construction period, the primary impacts will be a direct loss of habitat, disturbance (both visual and from noise) and the creation of dust.

10.6.18 The hedgerows and trees on-Site are to be retained. The 12.6 hectare arable field will be lost completely and some very small areas of ruderal vegetation and bramble scrub may also be lost.

10.6.19 The predicted magnitude of the impact of the construction phase on the habitats will be **Negligible** in the short term at the **local** level, and the effect will be **Negligible** and not significant.

Protected Species

10.6.20 Habitats due to be lost through development consists largely of arable land and improved grassland margins. Based on this, the species most likely to be impacted by the Proposed Development are badger, foraging / commuting bats, roosting bats (precautionary), breeding birds and reptiles. The Ecology Management Strategy for Construction / CEMP will include details of the measures to mitigate impacts on the abovementioned species.

Badger

10.6.21 The predicted magnitude of the impact on badger from construction is **no change** at the **local** level in the short-term, and the effect will be **no effect** (not significant).

Bats

10.6.22 The predicted magnitude of the impact from construction on bats is **low** in the short-term at the **local** level and the effect will be **negligible** (not significant).

Bat Roosts

10.6.23 The predicted magnitude of the impact from construction on bat roosts is **negligible** in the short-term at the **sub-local** level and the effect will be **negligible** (not significant).

Breeding Birds

10.6.24 The predicted magnitude of the impact of the Proposed Development on the breeding bird population will be **negligible** in the short-term at the **local** level and the effect is **minor adverse** (not significant).

Hazel Dormice

10.6.25 The predicted magnitude of the impact of construction on dormice will be **negligible** in the short-term at the **sub-local** level and the effect will be **negligible.**

Reptiles

10.6.26 The predicted magnitude of the impact on reptiles is **negligible** at the **local** level and the effect will be **negligible adverse** (not significant).

Other Species

10.6.27 The predicted magnitude of the impact on other priority species, including hedgehog and common toad, is **negligible** at the **local** level and the effect will be **negligible adverse** (not significant).

Operational Phase

Embedded Mitigation Measures

General

10.6.28 In conjunction with the project's Landscape Architects, either as a standalone document or within the same document, the ecological management of the Site will be delivered through the Landscape and Environmental Management Plan (LEMP) and can be secured through a planning condition. The LEMP will include, amongst other information essential for the management of the Proposed Development, the details of the habitat creation and habitat management. The LEMP will include the Biodiversity Net Gain Assessment based on the latest DEFRA Metric, including a Biodiversity Net Gain Plan showing the habitat areas scored. The Biodiversity Net Gain at outline targets a 10% net gain for the Site. A sensitive lighting scheme to protect key features for bats, including barbastelle, will be designed and implemented through this LEMP. This will ensure dark corridors are maintained at maximum of the existing levels for those features.

10.6.29 In addition to the LEMP, a dedicated Management and Monitoring Plan (MMP) will be created for the proposed Brent Goose and Bird Mitigation Reserve area. This plan will detail the creation and specification of the Site, a lifetime management plan with embedded flexibility for Site condition changes, lifetime monitoring strategy and details of how this will be financially supported and agreement on who is responsible for management and monitoring. The brent goose reserve will incorporate 3.7 hectares of land specifically managed as highly suitable foraging habitat for brent geese and maintain permeable connectivity with the remaining area of F21 to the south.

10.6.30 Mitigation for increased recreational disturbance of the Solent SPA sites will be conditioned through Policy NE3 of the local plan, by a financial sum based on the lasted Solent Bird Aware payment schedule (April 2021). The calculation is based on a price per dwelling (as set out below), depending on the number of bedrooms, or a flat rate if this information is not possible to predict.

- 1 bedroom property £361;
- 2 bedroom property £522;
- 3 bedroom property £681;
- 4 bedroom property £801;
- 5 bedroom property £940; and

- Flat Rate £604.

Biodiversity Mitigation Enhancement Plan

10.6.31 A Biodiversity Mitigation Enhancement Plan has been produced detailing biodiversity enhancement measure for the proposal. This details mitigation for existing on-Site protected species and enhancement features for these and other species groups. This includes the following;

- One swift brick per dwelling;
- 50 house sparrow terraces;
- One integrated bat box per dwelling;
- One integrated bee brick per dwelling;
- Three reptile hibernacula;
- A Kingfisher and sand martin bank in the bird reserve area next to the new pond;
- Hedgehog gaps in all fences and walls and 20 hedgehog houses; and
- Species rich native damp grassland around the pond and SuDs area.

10.6.32 The provision of house sparrow terraces and swift bricks will significantly increase the nesting opportunities for birds in the local area. The boxes target NERC Section 41 species including starling and house sparrow, and declining species such as swift.

10.6.33 The kingfisher and sand martin bank will provide suitable breeding habitat for these declining species.

10.6.34 The inclusion of bat boxes in every building will greatly enhance the network of roosting sites for bats in the local area. Many boxes will also be used by birds if bats do not occupy these sites.

10.6.35 Bee bricks greatly enhance buildings for solitary invertebrates including bees, which are declining nationally.

10.6.36 Hedgehog houses and gaps will allow for this NERC S41 species to expand and increase its population within the area.

10.6.37 Reptile hibernacula in strategic positions will allow slow worms to have better hibernation and foraging sites and hopefully lead to a population increase at the Site. They also provide suitable habitat for a range of amphibian species and invertebrates.

10.6.38 The species rich native damp grassland in the bird reserve which will surround the ponds and SuDS area will create suitable habitat for a wide range of species including birds, bats, mammals, invertebrates and amphibians.

Recreational Disturbance on the Portsmouth Harbour SPA and Solent and Southampton Water SPA

10.6.39 Recreational disturbance will be mitigated through two methods. A financial contribution totalling £145,027.00 (78 x two bed properties, 112 three bed properties and 35 four bed

properties), to the Solent Birds Aware mitigation scheme as per policy NE3 of the Fareham Borough Local Plan. As 1.4 hectares of public open space is also integrated into the Proposed Development, this is likely to take a significant proportion of daily visits away from the Portsmouth Harbour SPA.

Loss of Supporting Habitat from the Portsmouth Harbour SPA Brent Goose Population and Solent Wader and Brent Goose Strategy Network

10.6.40 To mitigate for the loss of 8.1 ha of the northern field of F21, a 4.5 hectare bird reserve, including a brent goose mitigation area will be created (as shown in **Volume 4, Appendix F**) in the southern portion of the Proposed Development. 3.7 hectares will be managed specifically as an improved grassland sward, with dominant clover and perennial rye grass. The sward will be kept at the short nitrogen rich height that brent geese prefer, prior to them arriving in October. The Site will be screened from disturbance by a low fence and native hedgerow along its northern boundary and a ditch line on the inside of this will enhance protection. A scrape in the centre of the Site will enhance the area for brent geese and other important wildfowl and waders.

10.6.41 This reserve will maintain a link to the southern field of F21 by retaining the gappy southern hedgerow 'as is'. This creates a contiguous area of habitat totalling 10 hectares and maintains sightlines as existing from the south, south east and south west.

10.6.42 The brent geese mitigation area will have a lifetime management and monitoring plan produced, which will include flexibility for if Site conditions changed. The plan will also outline who is responsible for the proposed management and monitoring, maintenance of the site perimeter fence and agree the financial contributions to be made by the Appellant. Overall this will result in the enhancement of 3.7 hectares of F21 that is not suitable for brent geese.

Recreational Disturbance on SSSIs and Non-Statutory Protected Sites

10.6.43 A large number of these sites are within the boundaries of the statutory protected sites already discussed. The mitigation for those is therefore also applicable here, including payments to the Solent Bird Aware mitigation strategy and on-site provision of open space. In addition to these measures, a leaflet will be produced to give to new residents that provides suitable alternative sites for recreational activities and makes them aware of the sensitive sites that should not be visited for disturbing activities, such as dog walking.

Operational Management and Maintenance - All Habitats and Species

10.6.44 Retained and newly created habitats and associated species on-Site are vulnerable to inappropriate management and degradation, that could lead to habitat loss and the fragmentation of the ecological network. The green space and bird reserve will be managed long term by a management company or local body. The management obligations will be prescribed in the LEMP. It is not possible to rule out the risk associated with poor or inappropriate management but to reduce the risk, the LEMP will prescribe effective and realistic management goals to achieve the greatest benefit for biodiversity within a mixed used space.

General Recreational Pressure - All Site Habitats

10.6.45 Recreational pressure in sensitive areas (i.e. the bird reserve) and habitats has the potential to cause direct damage, deterioration of the ecological network, direct

disturbance, erosion and soil compaction from trampling and nutrient enrichment from dog faeces to important retained habitats. This can directly impact both the habitats themselves and the species that rely on these habitats.

10.6.46 The brent geese mitigation and bird reserve will be protected by a low fence and hedgerow along its northern boundary. This will screen out human disturbance from the residential side but maintain general sightlines of the mitigation reserve itself for brent geese.

10.6.47 The habitats retained and proposed within the Site design that are outside of the bird reserve are not particularly sensitive to recreational and have been selected to achieve the greatest balance between encouraging use of the space for recreation and maximising biodiversity. The majority of the general recreational pressure will be managed by the provision of clearly marked footpaths and dog waste bins.

Anticipated Effects

Recreational Disturbance on the Portsmouth Harbour SPA and Solent and Southampton Water SPA

10.6.48 During operation, visits to nearby protected sites is likely to locally increase. The Fareham Local Plan and Solent Bird Aware mitigation strategies predict significant in-combination effects on the Solent SPA sites from any new residential development within 5.6 km of these sites. Therefore, the Proposed Development would have an effect on both the Portsmouth Harbour SPA and Solent and Southampton Water SPA through increased recreational disturbance.

10.6.49 The predicted magnitude of the impact on other the Solent SPA sites is **negligible** at the **international** level and the effect will be **negligible** (not significant).

Loss of Supporting Habitat from the Portsmouth Harbour SPA Brent Goose Population and Solent Wader and Brent Goose Strategy Network'

10.6.50 The Proposed Development will result in the total loss of 12.6 hectares of the Solent Wader and Brent Goose Strategy F21 Primary Support Area, with the bottom field parcel of this Site remaining, totalling approximately 6.5 hectares.

10.6.51 The F21 has been classed as supporting habitat by Natural England in their assessment of the Site. This relates to its designation in the Solent Wader and Brent Goose Strategy as a Primary Support Area and proximity of the Site, which is arable land classed as suitable brent goose habitat, connected to the Portsmouth Harbour SPA. The designation is based on two counts of brent geese at the Site of 300 birds from 2012 and 2013.

10.6.52 There is just one other record of brent goose using the Site, a single bird in 2017. Both significant counts of brent geese coincided with when the Site was in a management regime for winter wheat or oats. Both of these autumn-sown crops offer suitable foraging habitat for wildfowl, including brent geese.

10.6.53 Since the winter of 2013/14, the Site has been farmed to improve the faming business, by not sowing any cereal crops during the winter months. This was to prevent the financial losses the farmer was making by losing whole crops to geese. This has coincided with no brent goose records on the Site in the winters since the management regime changed,

with the exception of the single goose in 2017. This is likely to have been an individual opportunistically resting on the Site.

10.6.54 The lack of use of the Site since winter 2013/14 is linked to the management of the Site, which is no longer suitable for brent goose foraging through the winter and therefore, the Site is not considered to support the value indicated in the Solent Wader and Brent Goose Strategy and a Primary Support Area. There are also counts of wader species for the northern field parcel, including 26 and 15 curlew on separate occasions in 2013/14 and a single oystercatcher in 2012/13. Wading birds are more likely to use fields in various management during the winter as resting and foraging sites at high tide.

10.6.55 With all records for the Site between 2014 and 2021 applied to the Solent Wader and Brent Goose Strategy 2020 metric, the Site scores zero in all categories. There is uncertainty with the Site's score for assessments 5 and 7, however these are likely to score zero due to the low numbers of brent goose (max count 1, 2017), curlew (max count 26, 2014) and oystercatcher (max count 1, 2015) recorded. There has been no recorded use of the Site by waders or brent geese since 2017 during Strategy surveys or through incidental records. Canada geese have been reported by residents using the Site, however, this species is non-native and not a designated feature for the SPA sites and is not protected.

10.6.56 With the metric scores applied, the Site does not classify as a Primary Support Area. It classifies as a low use site (sites which have records of birds but in low numbers (score 0), when considering the brent geese records and wader records in combination. In the absence of wader records the Site would qualify as a candidate site for brent geese, with two historic counts of 300 brent geese. Candidate sites are described in the metric as follows;

"Candidate Sites are defined as sites that: Have records of high numbers of birds (max count equal to or greater than 100) and/or a total score equal to or greater than 1 in the 3 metrics: GB Importance, SPA Importance and SPA Assemblage but have less than 3 records in total."

10.6.57 The predicted magnitude of the impact on the Portsmouth Harbour SPA brent goose population and Solent Wader and Brent Goose Strategy network habitat through the loss of 12.6 ha of a this area classified in the Solent Wader and Brent Goose Strategy as a Primary Support Area is **negligible** at the **international** level and the effect will be **negligible** (not significant).

Recreational Disturbance on SSSIs and Non-Statutory Protected Sites

10.6.58 In addition to the Solent SPA sites, there are also five SSSIs within 5 km and 19 non-statutory protected sites within 2 km of the Site. Recreational disturbance may also impact on the features of these sites, including habitats and protected species.

10.6.59 The predicted magnitude of the impact on SSSI sites within 5 km through increased recreational disturbance is **negligible** at the **national** level and the effect will be **negligible adverse** (not significant).

10.6.60 The predicted magnitude of the impact on SINC and RVEI sites within 2 km through increased recreational disturbance is **negligible** at the **county** level and the effect will be **negligible adverse** (not significant).

Operational Management and Maintenance - All Habitats and Species

10.6.61 The predicted magnitude of the impact from the operational phase of the Proposed Development on the management and maintenance of retained and newly created habitats is **low** at the **local** level and the effect will be **minor adverse** (not significant).

General Recreational Pressure - All Site Habitats

10.6.62 The predicted magnitude of the impact from the operational phase of the Proposed Development from recreational pressure on retained and newly created habitats is **negligible** at the **local** level and the effect will be **negligible** (not significant).

10.7 Scope for Additional Mitigation Measures

10.7.1 No additional mitigation measures are required.

10.8 Residual Effects

10.8.1 With the embedded mitigation measures presented above, there are no significant residual effects anticipated as a result of the Proposed Development.

10.9 Cumulative Effects

10.9.1 Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be insignificant but, cumulatively, have a significant effect.

10.9.2 The ES has given consideration to 'Cumulative 'Effects' for all other proposed residential schemes and developments located within 3.5 km radius from the boundary of the Site.

Construction Phase

Protected Sites

10.9.3 All cumulative schemes are sufficiently distant from the statutory and non-statutory protected sites, including Portsmouth Harbour SPA and others so as not to cause disturbance to the designation features through increased construction noise and visual impacts in-combination. On-Site mitigation (including the CEMP) will ensure that there are no impacts on Portsmouth Harbour SPA from construction activities associated with the Proposed Development.

10.9.4 The construction phase of the Proposed Development will result in the loss of the northern parcel of the Solent Wader and Brent Goose Strategy F21, classified in the Strategy as a Primary support Area, but not fulfilling this function in its current management regime. Cumulative schemes P/20/0646/OA, P/19/1260/OA and P/19/0460/OA will also result in the loss of some or all of parcels F15, F17B, F17G, F17J, F17M and F76 from the strategy, however, these are not designated for brent geese, are not Primary Support Areas and are classified as Low Use sites. Therefore, the cumulative effect will remain as presented for the main assessment.

Protected Species

10.9.5 The construction phase of the Proposed Development will result in the loss of small amounts of habitat for protected species, including reptiles and breeding birds. Badgers could also be disturbed or killed by on-Site construction activities. There is sufficient mitigation proposed to avoid any impacts on protected species through a CEMP for the construction phase. Therefore, no cumulative effects on protected species are anticipated to occur during the construction phase.

Operational Phase

Protected Sites

10.9.6 Cumulative residential developments within the Solent area have the potential to increase recreational pressures on the network of Solent statutory protected site features, including brent geese and waders utilising the nearby Portsmouth Harbour SPA. Policy NE3 of the FBC Local Plan provides a financial mechanism through which the impacts of recreational disturbance from new residential developments can be mitigated. Policy NE3 is implemented through the Solent Bird Aware Solent Recreation Mitigation Strategy. This document details the mitigation measures implemented to minimise the impacts of increased recreational disturbance. These measures require funding to operate effectively and this funding is provided by developers when new residential schemes are created.

10.9.7 All other sites within the Local Plan will mitigate the impacts of recreational disturbance through the same pathway of financial contributions to Bird Aware Solent. The application of this embedded mitigation minimises the potential for any significant cumulative effects on qualifying features, including brent geese and wader species, therefore, no cumulative effects are anticipated on statutory protected sites.

10.9.8 A large number of the SSSI sites are within the boundaries of the statutory protected sites already discussed. The mitigation for those is therefore also applicable here, including payments to the Solent Bird Aware mitigation strategy and on-site provision of open space. In addition to these measures, a leaflet will be produced to give to new residents that provides suitable alternative sites for recreational activities and makes them aware of the sensitive sites that should not be visited for disturbing activities, such as dog walking. On site public greenspace is provided as part of the proposals. This is likely to help minimise the number of recreational visits made to protected sites nearby. These measure in combination will be sufficient to avoid increased recreational disturbance at the other SSSI and non-statutory protected sites within the ZoI from the site and the cumulative sites identified.

Protected Species

10.9.9 Four other development proposals within 3.5 km of the Site have the potential to accumulate small losses of certain species, resulting in a more significant cumulative impact. As the ecological interest on the Site was primarily connected with its classification in the Solent Wader and Brent Goose Strategy as a Primary Support Area in the for brent geese, the focus of the Proposed Development has been on maintaining the ecological network by retaining, protecting, enhancing such habitats where possible and providing mitigation for the loss of any on site habitats.

10.9.10 The Site is not connected to the identified cumulative schemes and their distance from the Site means that the populations of protected species present are isolated at a local level.

10.9.11 On the basis of the above, there will be no adverse cumulative impacts from the Proposed Development and other development schemes on these species.

10.10 Summary and Conclusions

10.10.1 The Site currently supports habitats including arable, improved grassland, hedgerows and bramble scrub. Overall, these are of low biodiversity value based on the habitat condition alone.

10.10.2 The habitats do however support protected species including slow worm, badgers and breeding birds. The Site is also classified as a Primary Support Area for brent geese under the Solent Wader and Brent Goose Strategy network; however, as outlined in the Shadow Habitat Regulations Assessment (**Volume 4, Appendix F**), it is highly unsuitable and does not act as such.

10.10.3 Surveys for protected habitats and species were undertaken in 2017 and 2018 and have been fully updated in 2021. A new desktop study has also been undertaken.

10.10.4 Natural England and FBC have been consulted on the potential impacts of the Proposed Development on protected sites and species and were in agreement that an adequate case had not yet been presented for the 2018 scheme to be approved. This decision is being appealed by the Appellant.

10.10.5 In the absence of mitigation, the following impacts were predicted alone and in combination with other cumulative schemes nearby:

- Significant effects on statutory protected sites from increased recreational disturbance;
- The loss of 12.6ha of an area classified as a Primary Support Area for brent geese in the Solent Wader and Brent Goose Strategy;
- Noise and visual disturbance of the Portsmouth Harbour SPA from construction;
- Potential disturbance of non-statutory sites of biodiversity interest from increased recreational activities; and
- The killing and or injuring of protected species including slow worm, badger and breeding birds.

10.10.6 The following mitigation methods have been proposed to remove or reduce the effect of the above impacts:

- Payments to the Solent Bird Aware mitigation strategy in line with policy NE3 of the Fareham Local Plan;
- The provision of Public Open Space in the Proposed Development design, to take some recreational activity away from local protected sites;

- A bespoke brent goose mitigation reserve, which maintains connectivity and sightlines to the remaining F21 which the Solent Wader and Brent Goose Strategy classifies as Primary Support Area to the south;
- A Brent Goose Mitigation Management and Monitoring Plan to condition the specification, management and monitoring of the Site in perpetuity;
- A Construction Environmental Management Plan, which specifies methods for avoiding disturbance and degradation of Portsmouth Harbour SPA and safeguards protected species during construction activities; and
- A Landscape Environmental Management Plan for specifying mitigation and enhancement features for biodiversity within the Proposed Development, which will ensure a Biodiversity Net Gain and ensure maintenance and enhancement of existing protected species populations at the Site.
- With the Defra Biodiversity Net Gain metric applied to the proposed enhancement measures, there will be a 5.95% gain in habitats and 132.56% gain in hedgerows.

10.10.7 Policy NE2: Biodiversity Net Gain, of the FBC Local Plan states that; "*The development of one or more dwelling or a new commercial/leisure building should provide at least 10% net gain for biodiversity for the lifetime of the development."* Whilst the net gain figures for habitat units are below 10% at 5.95%, the Defra metric does not take into account that the largest area of enhancement habitat (improved grassland for brent geese and waders) serves a more important ecological function than the value the habitat is afforded in the metric. Additionally, the proposed numbers of enhancement features, such as one swift brick per dwelling, exceeds local and national guidance for biodiversity enhancement provisions. Therefore, policy NE3 has been met in this instance.

10.10.8 Policy NE3: Recreational Disturbance on the Solent Special Protection Areas (SPAs), of the Fareham Borough Local Plan states that; "*Planning permission for proposals resulting in a net increase in residential units will be permitted where a financial contribution is made towards the Solent Recreation Mitigation Strategy*." The Proposed Development will be making the appropriate financial mitigation contributions to the Strategy and therefore, the terms of this policy have been met.

10.10.9 With the relevant mitigation applied, the predicted impacts from the construction and operational phases of the Proposed Development are likely to be **negligible** on all ecological features at all levels.

10.10.10 Furthermore, the residual effects are likely to be beneficial at a local level, with the mitigation and enhancement methods applied creating a net gain in biodiversity at the Site.

10.10.11 **Table 10.6** summarises the topic effects resulting from the Proposed Development.

Table 10.6: Summary of Residual Effects

Receptor/ Affected Group	Value or Sensitivity (Significance) of Receptor	Activity or Impact	Embedded Design Mitigation	Magnitude/ Spatial Extent/ Duration/ Likelihood of Occurrence	Significance of effect	Additional Mitigation	Residual Magnitude of Impact	Significance of Residual effect
Construction								
Off-Site Portsmouth Harbour SPA, Ramsar and SSSI	International importance	Visual and noise disturbance of SPA bird species, and dust and chemical pollution of SSSI	Ecology Management Strategy for Construction, CEMP, best practice, construction works will not take place during sensitive period for bird species of the Portsmouth Harbour SPA	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible
On-Site Habitat	Sub-local to local importance	Direct loss of habitat, visual and noise disturbance, and creation of dust	CEMP, including an Ecological Avoidance and Mitigation During Construction Plan	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible
Badger	Local importance	Disturbance or loss of setts and killing / injury	Fencing and signage, updated badger walkover	No change Direct Local	No change	None	No change	No effect

			survey prior to Reserved Matters application	Temporary Likely				
Bats	Local importance	Loss of foraging habitat	Retention of hedgerows, use of heras fencing, reduction of light spill, siting of construction compound away from sensitive habitat	Low Direct Local Temporary Likely	Low	None	Low	Negligible
Bat Roosts	Sub-local importance	Removal of roosts	Precautionary method statement to be included within the Ecology Management Strategy for Construction	Low Direct Local Temporary Possible	Low	None	Low	Negligible
Breeding Birds	Local importance	Removal of vegetation suitable for the support of nesting birds	Removal of any vegetation suitable for the support of nesting birds outside of the bird breeding season	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible
Hazel Dormice	Sub-local importance	Removal of vegetation suitable for the support	Retention of hedgerows, temporary fencing	Negligible Direct Sub-Local Temporary	Negligible	None	Negligible	Negligible

		of hazel dormice		Possible				
Reptiles	Local importance	Removal of habitat	Removal of grassland habitat, conducted under the protected species method statement within the CEMP	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible Adverse
Other Species (hedgehog and toads)	Local importance	Removal of habitat	A precautionary 'other species' method statement	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible Adverse
Operation								
Portsmouth Harbour SPA and Solent and Southampton Water SPA	International importance	Recreational disturbance	Financial contribution to the Solent Birds Aware mitigation scheme, provision of public open space	Negligible Direct International Temporary Likely	Negligible	None	Negligible	Negligible
Portsmouth Harbour SPA Brent Goose Population and Solent Wader and Brent Goose Strategy Network	International importance	Loss of supporting habitat	Provision of a bird reserve and brent goose mitigation area, lifetime management and monitoring plan for the	Negligible Direct International Temporary	Negligible	None	Negligible	Negligible

			brent goose mitigation area	Likely				
SSSIs	National importance	Recreational disturbance	Financial contribution to the Solent Birds Aware mitigation scheme, provision of public open space	Negligible Direct National Temporary Likely	Negligible	None	Negligible	Negligible adverse
Non-Statutory Protected Sites	Local importance	Recreational disturbance	Financial contribution to the Solent Birds Aware mitigation scheme, provision of public open space	Negligible Direct Local Temporary Likely	Negligible	None	Negligible	Negligible adverse
All habitats and species	Local importance	Operational management and maintenance	LEMP	Low Direct Local Temporary Likely	Low	None	Low	Minor adverse
All Site habitat	Local importance	General recreational pressure	Biodiversity Mitigation Enhancement Plan, low fence and hedgerow along the boundary of the bird reserve and brent goose	Negligible Direct Local	Negligible	None	Negligible	Negligible

			mitigation area, provision of clearly marked footpaths and dog waste bins	Temporary Likely				
Cumulative Effects - Construction								
Cumulative effects for construction are as presented for the main assessment.								
Cumulative Effects - Operation								
Cumulative effects for operation are as presented for the main assessment.								