

Ecological Assessment Land at Newgate Lane (South)



September 2019

Ecology | Green Space | Arboiculture | GIS

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Report Produced for **Fareham Land LP**

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EXECUTIVE SUMMARY

- The site is located to the east of Newgate Lane, Fareham Hampshire (Central grid reference: SU 57178 03129);
- The total area surveyed consisted of arable fields, hedgerows, mature trees, wet ditches, a small section of the River Alver and built structures;
- Proposals for the site include development for up to 115 residential units with demolition of the existing built structures and removal of the majority of low-quality habitats within the site with the planting of a new hedgerow and creation of areas of open space and SUDS;
- The key ecological features on site were the hedgerows;
- A range of common species of bat were present on site and a key commuting corridor was identified;
- The site was assessed to have high potential to support breeding birds;
- Recommendations have been made regarding the habitats on site with regard to bats, NERC-listed mammals and birds; and
- No evidence of brent geese or waders associated with the Solent were found but as the site is classified as “Low use” within the Solent Waders and Brent Goose Strategy and is within 5.6km of the Solent SPAs, contributions will be required via s.106 agreements.

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1.0 INTRODUCTION

1.1 Background

Ethos Environmental Planning (Ethos) have undertaken this Ecological Assessment of land to the east of Newgate Lane, Fareham. The site included poor semi-improved grassland, arable farmland and species-poor hedgerows.

This report has been updated following the receipt of comments from the council ecologist (17.11.18) and a subsequent site visit between Ethos and the ecologist (28.01.19). This version of the report provides updates in relation to these comments and discussions on site.

The following background is also relevant to the assessment:

A request for a Screening Opinion was submitted under The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended) and a formal decision issued on 1st June 2018 (ref. P/18/0488/EA) confirmed that the proposal was not EIA development. A further request for a screening opinion was submitted on 5th June 2018, due to an amendment to the red line area of the proposal, and a formal decision issued on 11th June 2018 (ref. P/18/0619/EA) re-affirmed the Council's commitment to the previous comments.

Site proposals for up to 200 dwellings were submitted for a screening opinion (P/18/0488/EA) in May 2018 and has received the following comments in relation to Ecology (summarised below and appended to this document):

Natural England:

- **Bird Aware Solent contribution:** As the site is within 5.6km of the Solent and Southampton SPA, the proposals will have to comply with adopted planning policy as agreed by the Solent Recreation Mitigation Partnership (SRMP);
- **Solent Waders and Brent Goose Strategy:** The site is identified as a Low Use site and therefore the proposed development could have impacts on qualifying features of the SPA;
- **Protected Species:** advice should be sought regarding any likely biodiversity receptors that may be affected. A Biodiversity Mitigation and Enhancement Plan should be submitted;

Hampshire County Council:

- **Protected species surveys:** the following protected species assessments are recommended: badger, reptiles, breeding birds, SPA birds, great crested newts, water voles, bats, dormice;

- **HRA:** An assessment of the impacts of the proposals on designated sites, including cumulative impacts from other nearby developments should be undertaken;
- Developer contribution to SRMP is required;

This report will therefore seek to provide a full ecological assessment of the proposed site and address each of the concerns above through recommendations made in section 9.

1.2 Aims and Objectives of the Assessment

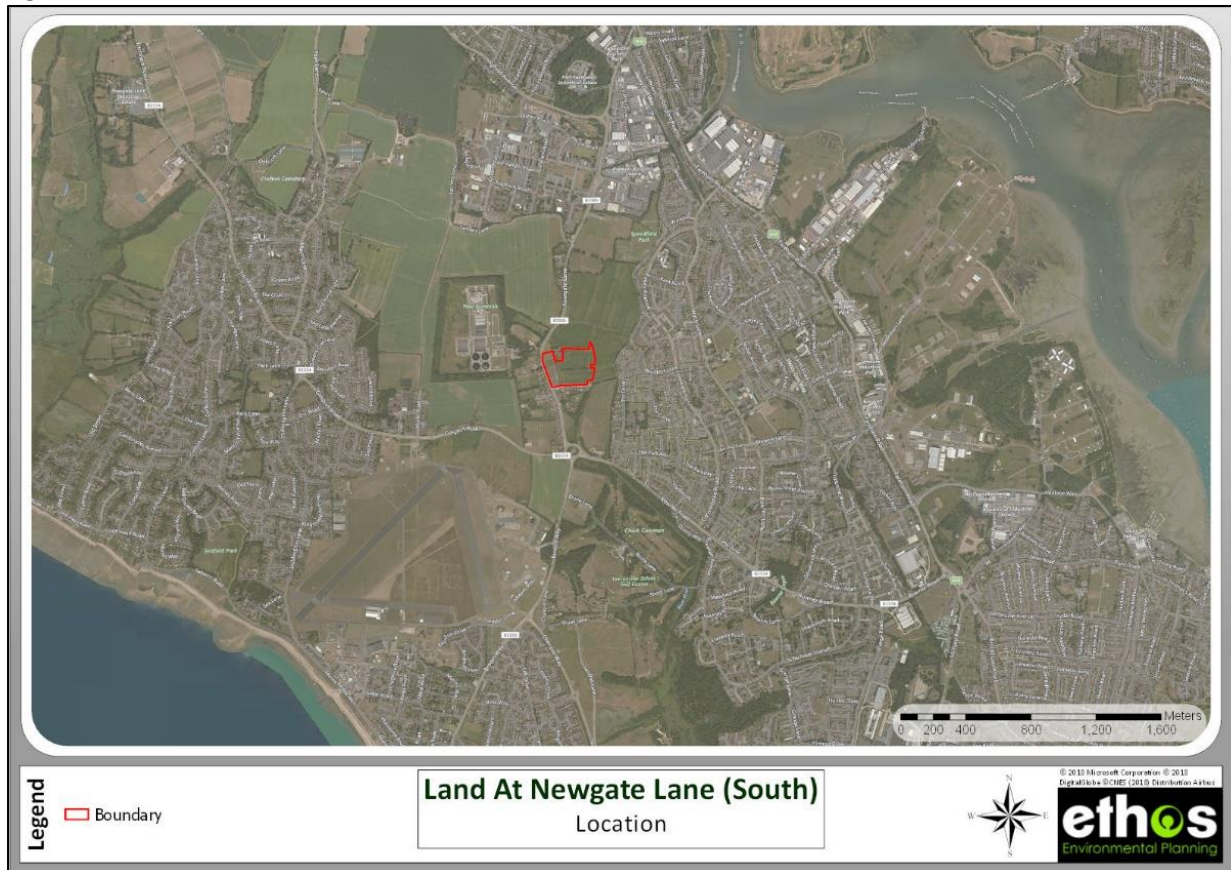
The ecological assessment comprises a Phase 1 habitat survey which has been extended to include an assessment for protected species. The overall assessment has been informed by guidelines provided in the '*CIEEM guidelines for ecological report writing, 2015*'. Further guidance in relation to surveys for protected species is detailed in the relevant sections within this report. The survey has the following objectives:

- to identify the existing habitats on site;
- to identify the potential for protected species;
- to establish baseline ecological conditions and determine the importance of ecological features present within the specified area;
- to identify if any further surveys are required with regards to protected habitats or species.
- to identify key ecological constraints to the project and make recommendations for design options to avoid significant effects on important ecological features/resources;
- to identify the mitigation and compensation measures to ensure there is no negative impact on habitats and protected species during construction and in operation;
- to establish any requirements for further surveys or licensing;
- to identify ecological enhancement opportunities to seek a net gain in biodiversity.

1.3 Site Location

The site is located east of Newgate Lane, Fareham centred at: SU 57178 032129, as shown in figure 1. The site is set in an area of farmland and rural open space between the urban centres of Fareham, Stubbington and Bridgemarky.

Figure 1 Site location



1.4 Development Proposals

The proposals (figure 2) include the development for residential use with construction of up to 115 residential dwellings and associated gardens, access roads and open space. The development proposals have been considered as part of an overall master plan with land to the north – as illustrated below.

Figure 2 Development proposals



LAND ADJACENT TO NEWGATE LANE, FAREHAM - ILLUSTRATIVE FRAMEWORK MASTERPLAN - SOUTHERN PARCEL



1.5 Structure of the Report

The following is included within this report:

- Legislative and planning context;
- Methodology;
- Background data search;
- Phase 1 habitat survey;
- Protected species surveys; and
- Recommendations.

2.0 LEGISLATIVE AND PLANNING CONTEXT

This section provides a summary of the legislative and planning context which has been used to inform the ecological assessment and subsequent recommendations made in this report. Appendix 1 sets out further details in relation to the most relevant legislation and policy.

2.1 Summary of Legislation

The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1,000 animals and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Badgers and their setts are protected under the **Protection of Badgers Act 1992** as amended by the Hunting Act 2004.

The **Natural Environment and Rural Communities Act 2006** (the NERC act) places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. Local planning authorities are to ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and aims to enhance biodiversity.

The **Hedgerows Regulations 1997** protect 'important hedgerows' from being removed (uprooted or destroyed). Hedgerows are protected if they are at least 30 years old and meet at least one of the criteria listed in part II of schedule 1.

Specific legislation related to different species such as bats, birds and reptiles is outlined in appendix 1.

Local Policy

Fareham Borough Council have published guidance in relation to biodiversity and planning “Fareham Local Development Framework: Shaping Fareham’s Future” (August 2011). The following highlights a key policy from this local plan, against which, the ecological assessment will be measured:

Policy CS4:

Green Infrastructure, Biodiversity and Geological Conservation Habitats important to the biodiversity of the Borough, including Sites of Special Scientific Interest, Sites of Importance for Nature Conservation, areas of woodland, the coast and trees will be protected in accordance with the following hierarchy of nature conservation designations:

- (i) International - Special Protection Areas (SPA), Special Areas of Conservation (SAC) and RAMSAR;*
- (ii) National - Sites of Special Scientific Interest (SSSI) and National Nature Reserves;*
- (iii) Local - Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above;*
- (iv) Sites of Nature Conservation Value.*

Where possible, particularly within the identified Biodiversity Opportunity Areas, sites will be enhanced to contribute to the objectives and targets set out in UK, Core Strategy DPD Adopted August 2011. For further information please contact planningpolicy@fareham.gov.uk 30 Regional, County and Local Biodiversity Action Plans. Green Infrastructure networks, which buffer and link established sites, whilst also enabling species to disperse and adapt to climate change will be maintained and enhanced.

3.0 METHODOLOGY

3.1 Desktop background review

The proposed site and much of the surrounding environs were subject to an array of ecological surveys by WSP UK Ltd. in 2015 in association with an application for the Stubbington Bypass project, which has since been completed.

The ecological findings within these reports are now outdated but provide a robust and comprehensive baseline of previous baseline conditions on site and have therefore played a key role in the background data search. The following reports have been examined and used to inform the discussion and recommendations made within this report:

- WSP (2014) Stubbington Bypass and Newgate Lane South Ecological Desk Study,
- WSP (2015) Stubbington Bypass and Newgate Lane South Phase 1 Habitat Survey,
- WSP (2014) Newgate Lane South Great crested newt survey report,
- WSP (2014) Stubbington Bypass and Newgate Lane South Bat habitat appraisal,
- WSP (2015) Stubbington Bypass Bat report,
- WSP (2015) Stubbington Bypass and Newgate Lane South winter bird survey report,
- WSP (2015) Newgate Lane South Water Vole survey report,
- WSP (2015) Newgate Lane South botanical report (Lee on Solent SINC),
- WSP (2014) Newgate Lane South Dormouse survey report,
- WSP (2014) Newgate Lane South Reptile Survey Report,
- Wildlife Matters Consultancy (2012) Newlands Farm, Fareham, Hampshire, Phase 1 Habitats Survey (extended).

3.2 Phase 1 Habitat Survey

The Phase 1 habitat survey and mapping has drawn on guidance provided in the *Handbook for Phase 1 Habitat Survey - a technique for environmental audit* (JNCC 2010). An initial Phase 1 habitat survey was carried out on 7th April 2018. The survey incorporated detailed assessment of the land within the development boundary, including a description and mapping of all key features and habitat types. The survey was carried out to identify the range of habitats within the site and the predominant and notable species of flora.

3.3 Assessment for Protected Species

3.3.1 NERC S. 41 Mammals

There is no standardised survey technique for many of these species, however, hedgerows and other suitable habitats within the site were assessed for their potential to support NERC mammals, and visually for evidence of the species themselves or their droppings.

3.3.2 Badger

The survey for badger (*Meles meles*) included a search of the development site for any evidence of badgers, including setts, foraging signs (snuffle holes), runs and latrines. A camera trap was deployed near a hole found in H3 from 16th May – 8th June 2018 to assess whether the hole was in use by badgers, as shown in figure 3.

Figure 3 Camera trap location



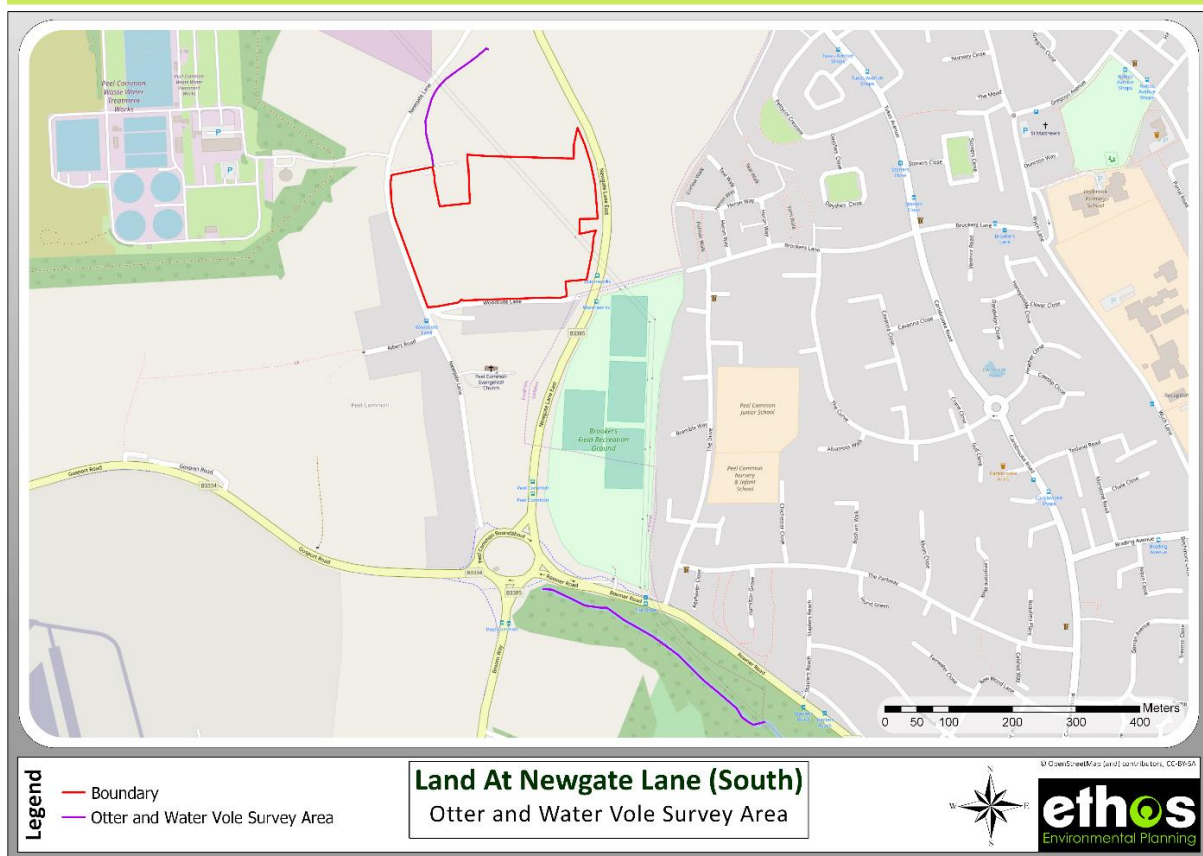
3.3.3 Dormouse

The survey included an assessment of the potential of the site for hazel dormouse (*Muscardinus avellanarius*), focusing on the connectivity and suitability of the habitat on site.

3.3.4 Otter and Water Vole

Detailed surveys for otter (*Lutra lutra*) and water vole (*Arvicola amphibius*) were undertaken on 11th April and 6th September 2018. The surveys involved searching along accessible sections of the Alver River for signs of otter (*Lutra lutra*) and water vole activity including a section of the river south of Rowner Road, approximately 700m south of the site, as shown in figure 6, below. It should be noted that the entirety of the River Alver channel running through the red line boundary was in accessible as the river essentially ran through the centre of a hedge (H4).

Figure 4 Otter and Water vole survey area.



In addition, suitable terrestrial habitats within the site boundary were also searched for evidence of otters and their holts.

The survey methodology was informed by the national otter survey of Wales 2009-2010 and used non-invasive survey methods such as an inspection of the banks from the river using waders (as certain parts of the bank were obscured by vegetation). Also used to inform the survey methods was English Nature’s advice sheet Monitoring the Otter, Conserving Natura 2000 Rivers Monitoring Series No. 10.

Principal field signs for otter are:

- **Holts** - underground shelters, often found under tree roots, in rock piles, earth banks, and can be located within existing structures such as badger setts, rabbit burrows, fox earths. Above ground shelters in dense scrubby vegetation.
- **Couches** - lying up places above ground. Often found in long grasses, dense vegetation or rushes near watercourses or in wetland areas.
- **Feeding sites** - where food remains are found, mainly fish, shellfish or amphibians.
- **Spraints** - faeces left by the otter, showing food remains. Typically, in prominent positions on rocks, trees or tree roots, beneath bridges, at crossing points of fences or walls, or confluence of river systems. Spraints can be placed in one of three categories: old, recent or fresh. This provides some indication of the level and most recent occurrence of activity.

- **Tracks** - otter tracks (typically footprints) are highly distinctive and diagnostic and clearly differentiated from mink tracks by both size and shape.

Standard survey methodology based on that found in the 'Water Vole Conservation Handbook' 2nd edition (Strachan 2006) was undertaken for all water bodies and ditches within the site. Surveys were undertaken in September 2018 when juvenile voles are dispersing and the population is at its yearly high. Data is then recorded on the standard water vole survey form (Strachan et al.) which records background and habitat information, which can inform the relative suitability of a water body for water voles. All water bodies within the site have been visited on foot from the bank, and from the river with the use of waders by experienced surveyors. The survey entailed a search for the following evidence:

- Sightings;
- Footprints;
- Run-ways in vegetation;
- Burrows;
- Lawns;
- Nests;
- Feeding stations;
- Faeces and latrines.

3.3.5 Bats

The methodology for the bat survey has been informed by the Bat Conservation Trust *Bat Surveys Good Practice Guidelines 2016*. (Note limitations to bat surveys at section 3.3.11).

3.3.5.1 Building Inspection

Physical external site inspection of the buildings on site were undertaken by the survey team on 8th June 2018. The surveyor conducted this inspection using Pentax 0.5m Papilio (8.5x21) close focusing binoculars to view areas inaccessible on foot, and approximately two hour of search effort was expended.

The physical search included a search for signs that give an indication of past or present occupancy, as well as roosting potential. In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated or at least be indicative of species type), signs of staining, urine splashing, characteristic odours, and accumulations of discarded prey remains.

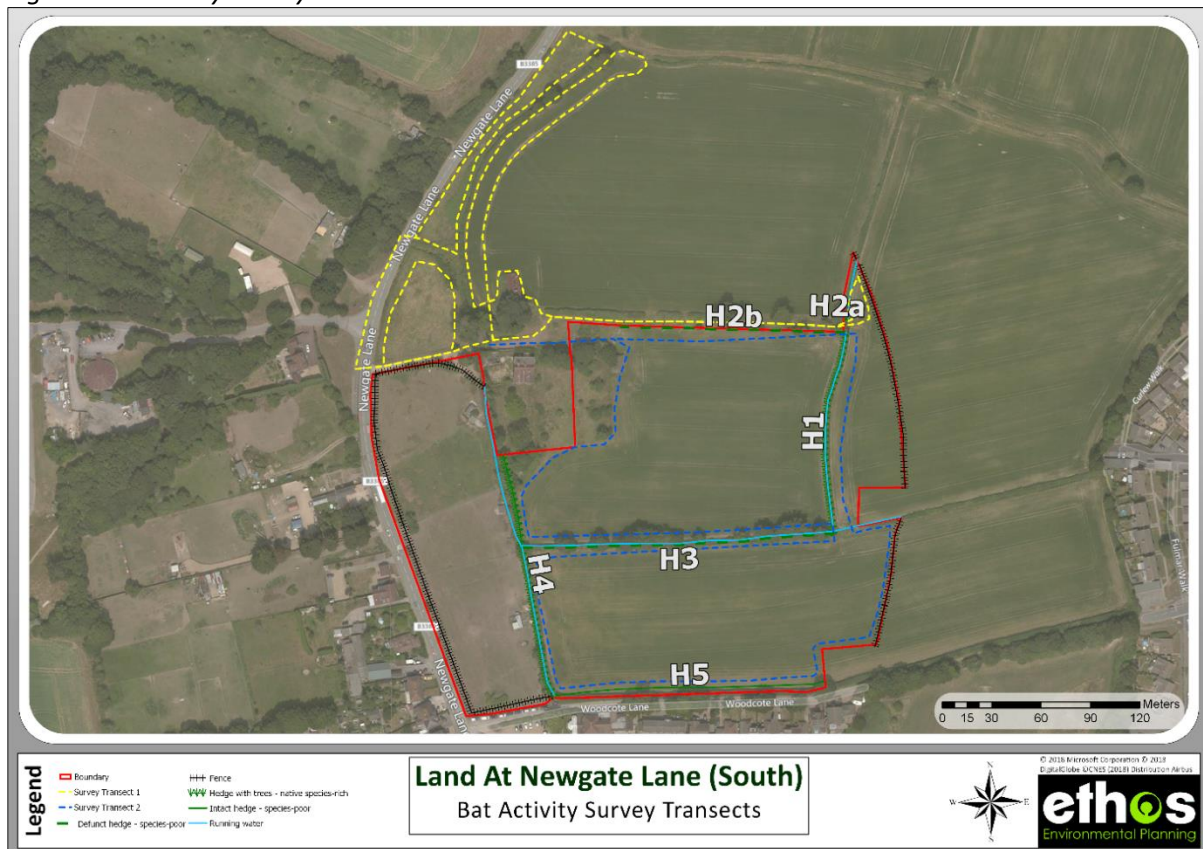
3.3.5.2 Emergence/Activity Surveys

Activity surveys of the site were undertaken on 11th July, 8th August and 6th September 2018 and consisted of two surveyors equipped with echo metre touch (EMT) bat detectors walking transects as depicted on figure 5. The surveys commenced 15 minutes before sunset and

lasted for approximately 1.5 hours.

All calls recorded were analysed using Kaleidoscope Software and the Echometer Touch app and were compared to a library of known bat calls to confirm species presence. The surveys commenced approximately 15 minutes before sunset and were completed approximately 2 hours after sunset.

Figure 5 Activity Surveyor Transect



3.3.5.3 Static Detectors

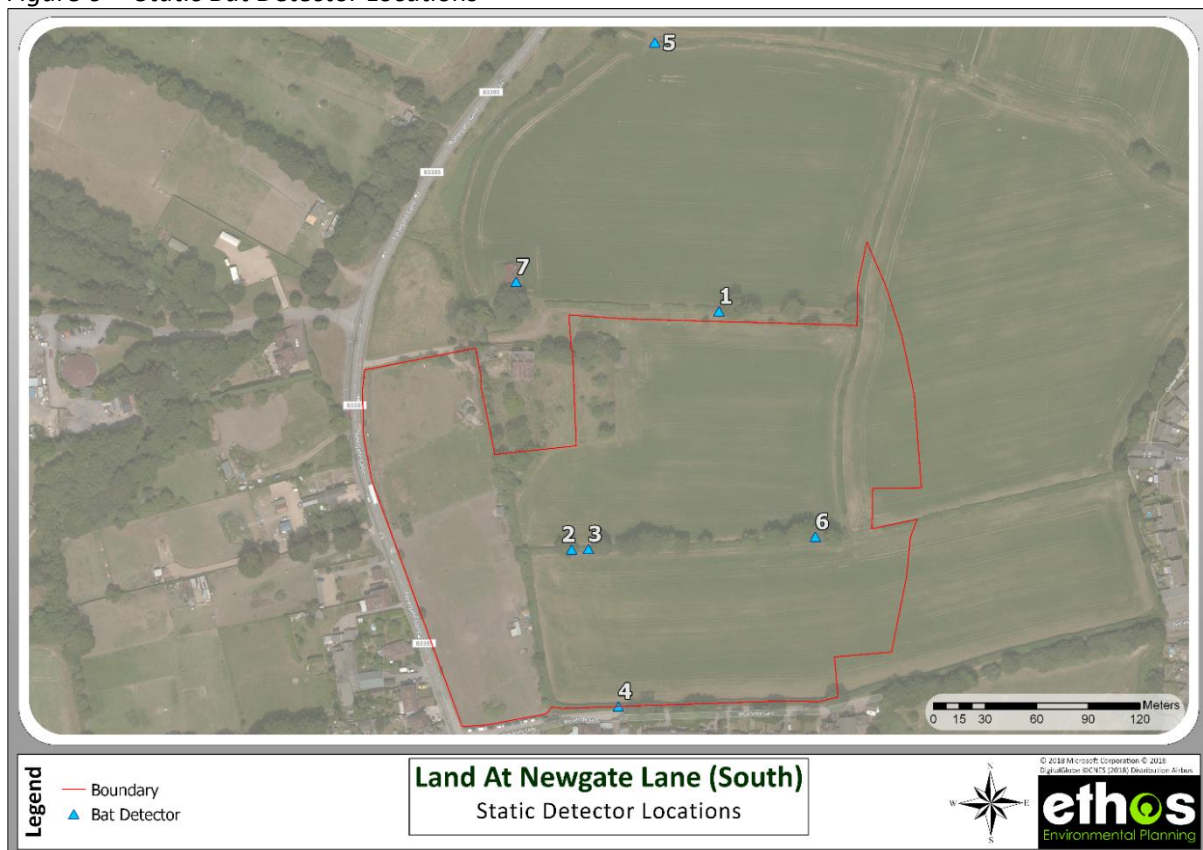
Passive bat detector surveys were used to supplement the emergence surveys, as recommended in Bat Conservation Trust (BCT) Survey Guidelines. Passive bat detectors can provide a greater understanding of the bat species using the site and identify patterns in bat activity over long periods of time. Seven Wildlife Acoustics Song Metre 4 (SM4) static bat detectors were deployed across the wider site (see figure 6) on the following dates:

- Detector 1: 16th May – 29th May 2018, 13 nights;
- Detector 2: 16th May - 8th June 2018, 23 nights;
- Detector 3: 29th July – 6th August 2017, 8 nights;
- Detector 4: 8th August – 6th September 2018, 29 nights;
- Detector 5: 8th August – 6th September 2018, 29 nights.
- Detector 6: 6th September – 7th September, 2 nights

- Detector 7: 6th September – 11th September, 5 nights

The location of each detector is shown in figure 6, below. Detectors situated on the adjacent site to the north have been included within this report to contextualize the onsite activity and examine broader trends of activity at a landscape level. All calls recorded were analysed using Kaleidoscope Software and compared with a library of known bat calls.

Figure 6 Static Bat Detector Locations



3.3.6 Birds

3.3.6.1 Breeding Birds

The survey included an assessment of the habitats on site for their potential to support breeding birds. Three breeding bird surveys were undertaken on 24th April, 8th and 30th May 2018 using methodology informed by the British Trust for Ornithology (BTO) Common Bird Census methodology. Two surveyors carried out the survey over approximately 3 hours.

Surveyors were equipped with Barr and Stroud 8 x 42 binoculars and any bird species observed exhibiting breeding behaviour during the site visits were recorded. Examples of behaviour linked with breeding include:

- Sitting on/visiting a nest;
- Territory displays/singing;

- Food-carrying;
- Presence of fledglings

The activity of all birds observed and one of the following activity codes was recorded;

Table 1 BTO Breeding Status Codes

Non-Breeding	
F	Flying Over
M	Species observed but suspected to be still on migration
U	Species observed but suspected to be a summer non-breeder
Possible Breeder	
H	Species observed in breeding season in suitable nesting habitat
S	Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat
Probable Breeding	
P	Pair observed in suitable nesting habitat in breeding season
T	Permanent territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more part at the same place or many individuals on one day
D	Courtship and Display (judged to be in or near potential breeding habitat; be cautious with wildfowl)
N	Visiting probable nest site
A	Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
I	Brood patch on adult examined in the hand, suggesting incubation
B	Nest building or excavating nest-hole
Confirmed Breeding	
DD	Distraction Display or injury-feigning
UN	Used nest or eggshells found (occupied or laid within period of survey)
FL	Recently fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable or significant geographical movement. Evidence of dependant on adults (e.g. feeding) is helpful. be cautious, even if the record comes from suitable habitat.
ON	Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes, the contents of which can not be seen) or adults seen incubating
FF	Adult carrying faecal sac or food for young
NE	Nest containing eggs
NY	Nest with young seen or heard

3.3.6.2 Wintering Birds

Winter bird surveys were carried out on 6th and 17th March 2018. These consisted of a surveyor equipped with Barr and Stroud 8 x 42 binoculars and a Swarovski ATX 25-60x85 Angled Scope walking along the boundary of the site, looking into each of the fields and recording the location, number and activity of any birds observed. On each day, two surveys were undertaken, each

lasting approximately 1.5 hours – one in the morning commencing at 08:30, and one in the afternoon commencing at 14:30. (Note limitations to wintering bird surveys at section 3.3.11).

3.3.7 Reptiles

The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. Where possible, attempts to confirm reptile presence on site were made following Froglife Advice Sheet 10 – Surveying for Reptiles through direct observation in reptile “hotspots” and checking of any existing refugia.

3.3.8 Amphibians

The habitats on site were assessed for their potential to support amphibian species, including great crested newts (*Triturus cristatus*) (GCN). Surveys for GCN were informed by the *Great Crested Newt Conservation Handbook* and *Froglife 2001*. The site was examined for suitable waterbodies and for breeding terrestrial habitat. Terrestrial habitats providing sufficiently structured vegetation in which amphibians may forage or hibernate over winter were also surveyed for.

In addition to the on-site assessment, *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) recommend that a desktop analysis of ponds within 500m of the site be undertaken, to identify any potential breeding ponds which may require further surveys. Ponds within 500m of the site were mapped on GIS with an OS OpenData base map at 1:10,000 resolution.

3.3.8.1 eDNA Sampling

In addition, a pond present approximately 50m north of the site boundary was subject to an eDNA test on 27th April 2018. 40ml water samples was collected from 20 locations around the edge of the pond, spread as evenly as possible to provide the greatest coverage. These samples are mixed together in bag and five 15ml samples are extracted and stored with preserving fluid. These samples are then sent to FERA Science where any DNA present is targeted with primers and amplified through PCR with 12 replicates per pond. This technique has been tested by DEFRA and found to have 99.3% reliability.

3.3.9 Invertebrates

Due to the many invertebrate taxonomic groups that exist, the large differences in invertebrate diversity between habitats and the many survey techniques available, invertebrate surveys are highly specific to the site in question. Therefore, an assessment of the potential site for invertebrates was undertaken, including the need for any targeted surveys.

3.3.10 Personnel

All surveys were led by Charlie Fayers BSc (Hons), ACIEEM, Charlie is a Senior Ecologist at Ethos with over 5 year's field work experience, holds a NE level 2 class licence for bats and level 1 class licence for GCN. Charlie was assisted on surveys by Matt Attrill BSc (Hons), GRAD CIEEM, George Clutterbuck and Joel Moore. Matt is an Ecologist with over 4 years survey experience and holds a NE level 2 class licence for bats. George and Joel are assistant ecologists with 3 and 2 years of practical field experience respectively.

The survey team have worked together on numerous similar projects and have a complimentary range of skills and experience which are considered to have provided a robust ecological appraisal of the site.

3.3.11 Limitations

Due to access permissions, there was restricted access to the site during the survey period. This impacted the timing of surveys and in some cases the survey effort possible, as detailed below.

Wintering Birds: These were not commissioned until March 2018 which meant a full season of surveys was not completed. Whilst this enabled a general assemblage of birds to be identified, it was not sufficient to assess the status of the sites' use as part of the Solent Waders and Brent Geese Strategy. However, following these surveys, and on publication of the strategy (October 2018), the site was subsequently classified as a 'low use site'. It is not the intention of this assessment to dispute this, as such it is confirmed that the development will comply with the mitigation requirements of this strategy as outlined in section 9.

Bat Surveys (Foraging/commuting): It was only possible to complete 3 activity surveys, and access was limited to the site resulting in less static bat detectors being deployed than if full access was possible. As a result the survey methodology fell below the recommended survey effort (Bat Conservation Trust, 2016). The report sets out the survey effort that was possible, and sets out the 'precautionary approach' to mitigation for bats to offset this limitation.

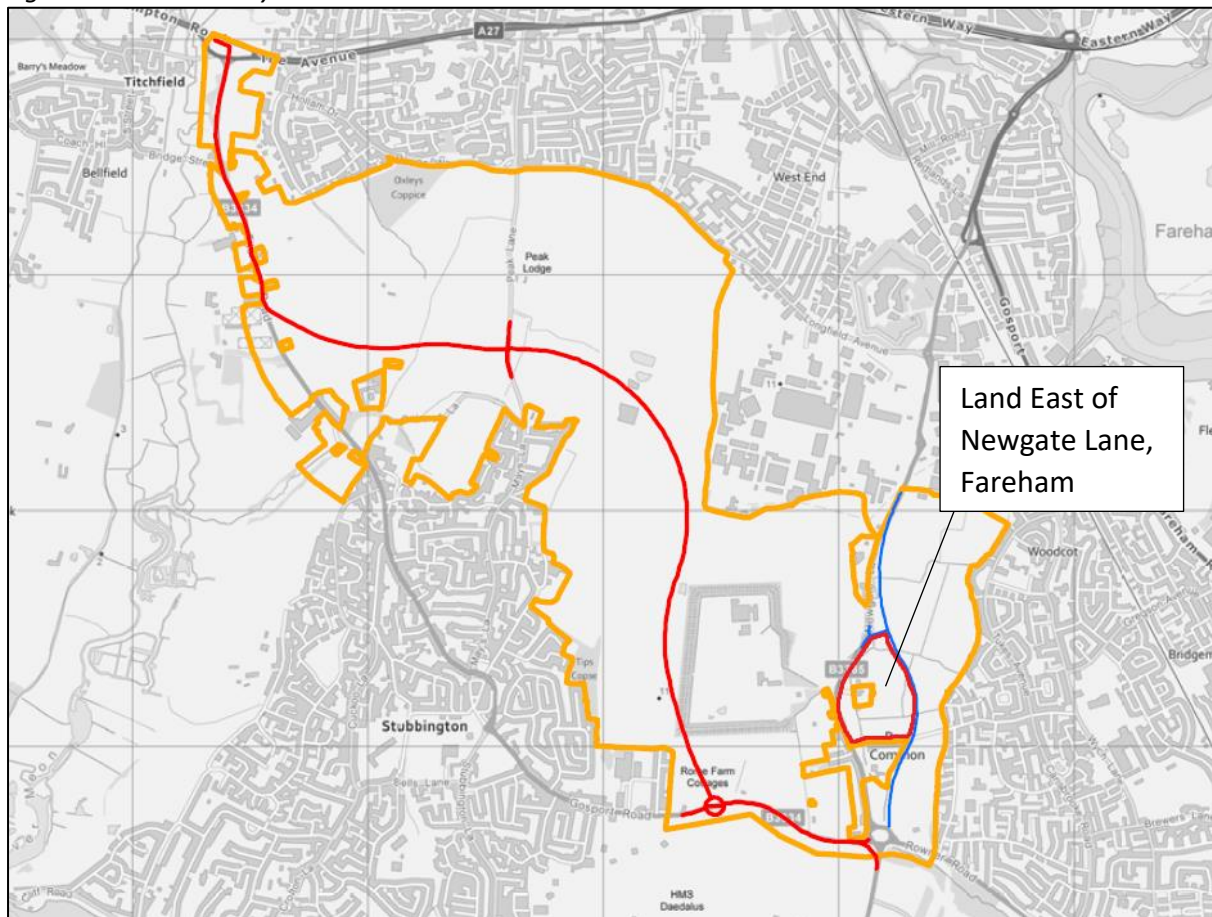
Bat Surveys (Roosting): A single structure adjacent to the site was assessed to have 'moderate' potential to support roosting bats. Current BCT guidance recommends that such structures are subject to two surveys comprising a dusk and dawn survey. Again due to access restrictions, it was not possible to conduct a dawn survey at the site, to offset this, an additional dusk survey was completed (i.e. a total of three dusk surveys). It is considered that this comprised sufficient survey effort to make an assessment of the structure for roosting bats. Again, a 'precautionary approach' to mitigate impacts on roosting bats will be implemented to further offset this limitation.

4.0 DESKTOP REVIEW

4.1 Introduction

A full ecological assessment of the site and surrounding environs was carried out by WSP in 2014 and submitted as part of a planning application for the Stubbington bypass. As a result, a full suite of protected species surveys was conducted on the proposed site. These survey results are now outdated but nevertheless provide a robust baseline foundation for ecology in the area. Results published within these reports have been reviewed and are summarised below.

Figure 7 WSP Survey Area



4.2 WSP (2014) Stubbington Bypass and Newgate Lane South Bat habitat appraisal/WSP (2015) Stubbington Bypass Bat report

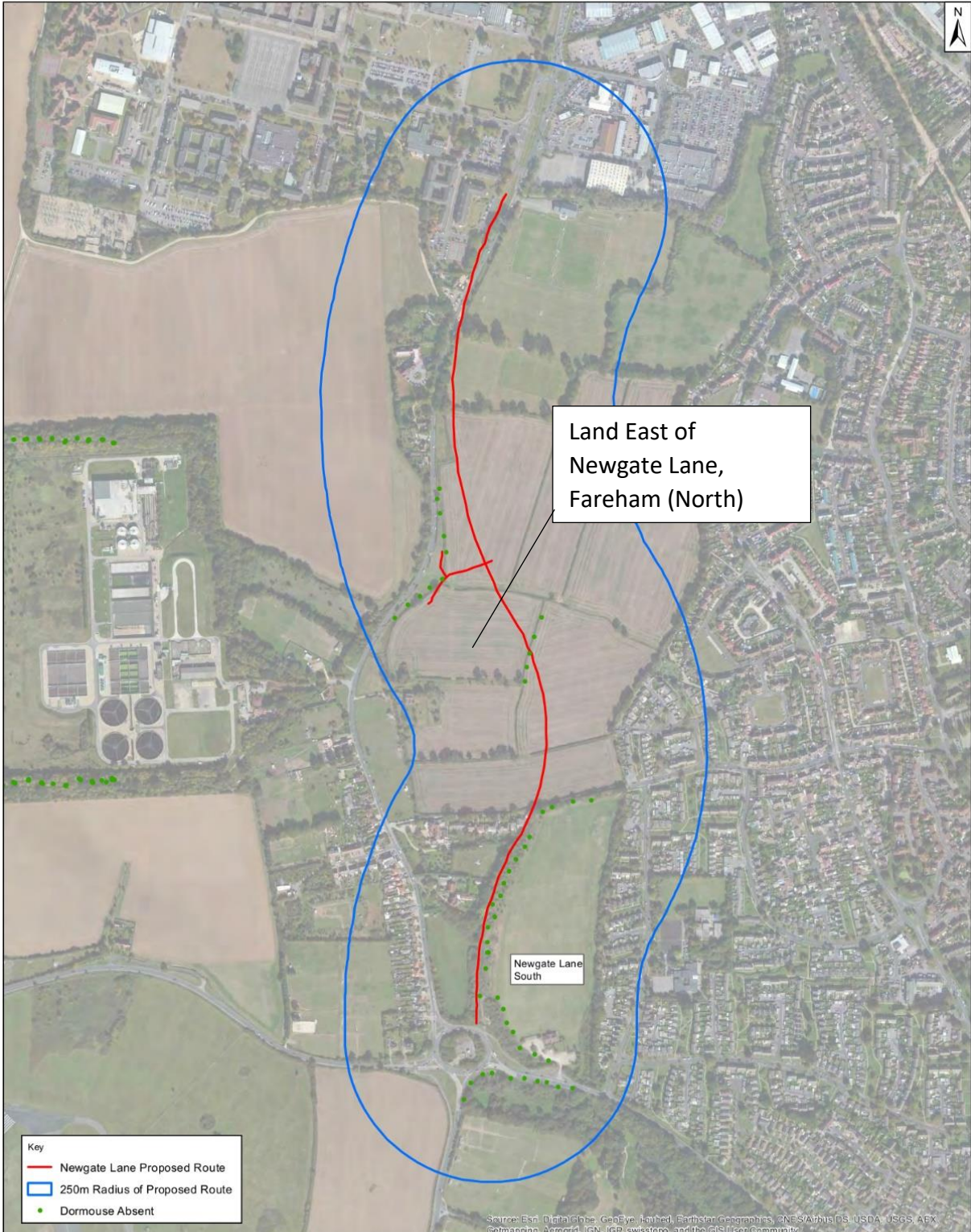
- A full season of bat surveys were carried out from April to September 2014.
- Surveys methods used included transect surveys, backtracking surveys, static monitoring and emergence surveys.
- The activity transects recorded three species of bat; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule*.
- Static detectors detected two lesser horseshoe (*Rhinolophus hipposideros*) calls in April 2014 and a single barbastelle (*Barbastella barbastellus*) call in September 2014.
- Of the 11 buildings surveyed, bats were observed emerging from three. These were buildings 13, 14 and 18 (located approximately 1.3 km from the proposed site).

4.3 WSP (2014) Newgate Lane South Great crested newt survey report

- 31 water bodies were identified within the study area and within 250 metres of the site boundary/ 5 occur within 500 metres of the proposed development.
- The presence/absence surveys comprised four survey visits between March and June 2014.
- At least three survey techniques (where possible) were used during each survey. Survey methods included; torching, bottle-trapping and egg searching.
- The results of the presence/absence survey demonstrates that GCN are likely absent from all five water bodies within 500 metres of the proposed route and absent from the study area.
- Smooth newt (*Lissotriton vulgaris*), palmate newt (*Lissotriton helveticus*), common toad (*Bufo bufo*) and common frog (*Rana temporaria*) were all recorded within ponds surveyed.
- Of the 19 water bodies subject to HSI only one was assessed to provide excellent habitat, three good habitat, four below average, and ten poor habitat for GCN
- Three ditches were assessed as having potential to support GCN these are beyond 500 metres from the proposed route.

4.4 WSP (2014) Newgate Lane South Dormouse survey report

Figure 8 WSP Dormouse survey effort



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REF	DATE	BY	DESCRIPTION	CHK	APD													
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- 50 dormouse tubes were installed within suitable habitat on the 22nd and 23rd April, 2014. Nest tubes were installed at 20m spacing within suitable hedgerow and scrub habitat, attached to branches of a variety of native woody species. The tube survey was designed to ensure effective coverage of the preferred route as a whole and included the majority of the proposed site – see figure 4.
- All nest tubes on the site were surveyed once a month under suitable weather conditions on 21st May; 17th June; 31st July; 20th August; and 18th September. This duration of survey ensured sufficient points (not less than 20) were achieved to demonstrate likely absence in accordance with best practice guidance (EN, 2006). During each survey tubes were checked for presence of dormice or evidence of dormice, for example characteristic nests or opened nuts.
- Presence absence surveys demonstrated that dormice are likely absent from suitable habitat on site.

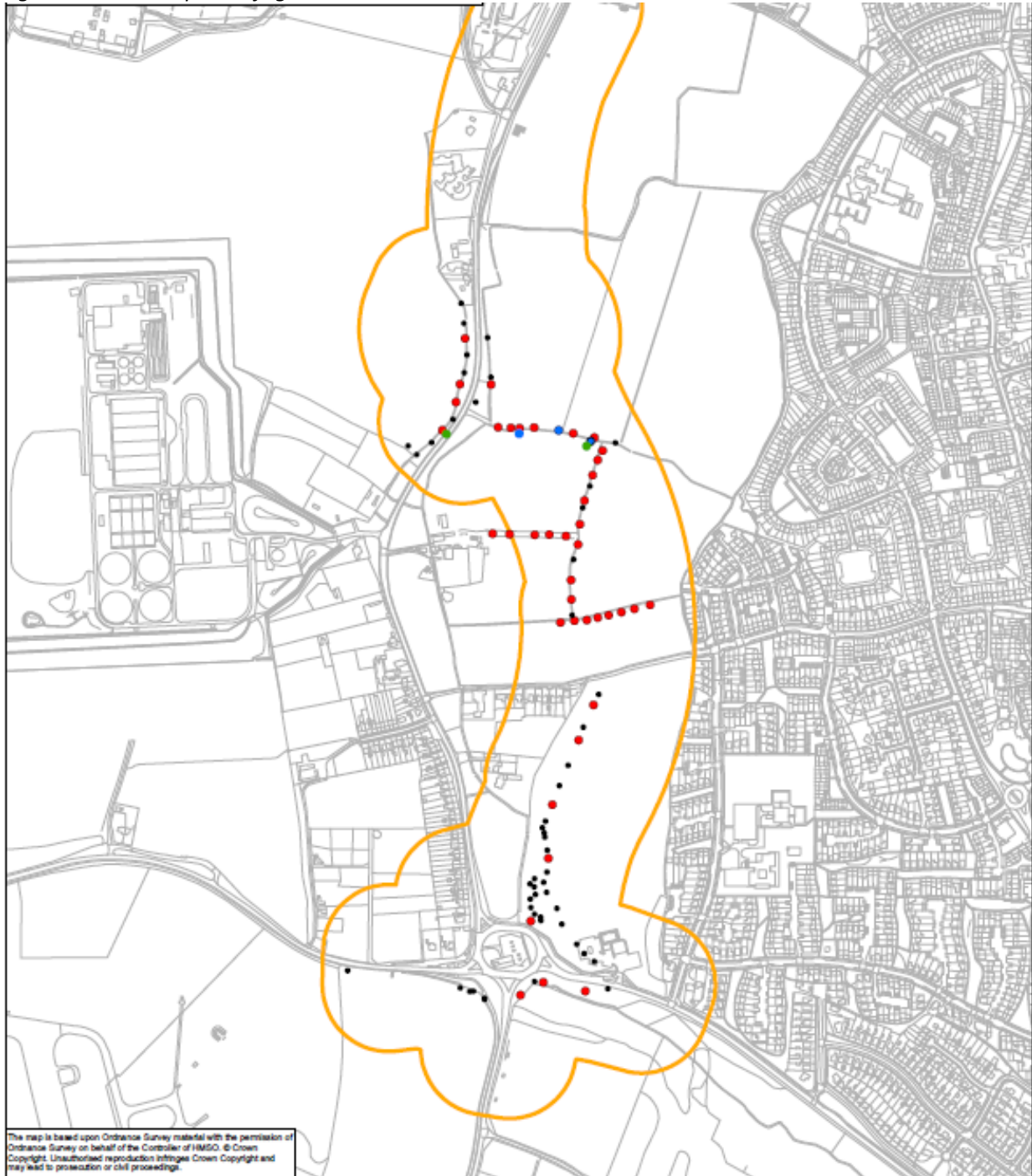
4.5 WSP (2015) Newgate Lane South Water Vole survey report

- Two water vole surveys were completed on the 5th June and 12th September 2014.
- Of the nine sections of watercourse / water bodies surveyed the majority were found to provide either unsuitable or poor-quality habitat for water voles with suitability decreasing between the June and September visits due to a reduction in water levels.
- No evidence of current or historic water vole activity was recorded during the survey, nor was any evidence of otter or mink presence recorded.
- The survey concluded water voles are considered to be absent from all watercourses within 100m of the proposed development.

4.6 WSP (2014) Newgate Lane South Reptile Survey Report

- A combination of direct observation and survey of artificial and natural refugia were used to determine the presence or likely absence of reptiles within the Survey Area. Seven survey visits were completed between May and July 2014.
- Slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and grass snake *Natrix natrix* were recorded, with all other reptile species considered likely absent. This reptile population is considered to be of local conservation value.
- Slow worms were widely distributed across the survey area, with grass snake and common lizard only being recorded within arable field margins which lie in the centre of the survey area (common lizard was recorded on both sides of Newgate Lane, and grass snake only to the east of Newgate Lane).

Figure 9 WSP Reptile refugia locations



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REV	DATE	BY	DESCRIPTION	CHK	APP
Revision A					



WSP
Newbatten House, Dasinglow
Basingstoke, Hampshire RG21 4U
www.wspgroup.co.uk



PARSONS
BRINCKERHOFF
Waterloo Mills, Godalming
Surrey GU7 3JZ
www.pbworld.com

PROJECT	Newgate Lane South
SUBJECT	Hampshire County Council
TITLE	Survey Results

SCALE	1:5,412	DATE	R01	APPROVED	HS
FILE	FIGURE	DATE	R05	DATE	AUG 2014
PROJECT No	42059	ISSUED AS	FIGURE 3		REV
© WSP Group plc					

4.7 WSP (2015) Stubbington Bypass and Newgate Lane South winter bird survey report

- Overall 73 species of bird were recorded; including 35 which are specially protected or of conservation concern.
- The study area was consistently used by a moderate to large (30-80 birds) flocks of golden plover *Pluvialis apricaria* (BoCC amber list) during the 2013-14 winter.
- The study area is also used by large (100-1650 birds) flocks of black-headed gulls *Chroicocephalus ridibundus* (BoCC amber list).
- Two green sandpiper *Tringa ochropus* were present within the Peel Common Sewage Works for the duration of the 2014-15 winter.

4.8 WSP (2015) Newgate Lane South botanical report (Lee on Solent SINC)

- Botanical survey was carried out in April 2014; which identified one area of habitat of potentially elevated botanical interest which may be subject to direct effect as a consequence of proposed works.
- Surveys comprised a combination of quantitative quadrat survey with regard for national vegetation classification.
- The part of the Lee on Solent SINC surveyed comprises of woodland and open ruderal communities/ and adjoins grassland, ruderal and dense scrub. This includes both lowland mixed deciduous woodland Habitat of principal importance and wet woodland.
- Recommendations were made to avoid and compensate for effects upon the habitats within the SINC.
- Mosses, lichens and liverworts were not identified to species level during surveys; however, this is not considered to have limited the assessment of the vegetation communities as in the majority of quadrats these were not extensive in cover.
- Stand A and B comprised of unmanaged woodland dominated by oak (*Quercus spp.*) and scrub comprising of mature willow (*Salix*).
- Stand C was very dense area of hemlock water dropwort *Oenanthe crocata* that is approximately 1.7m tall; in which hedge bindweed *Calystegia sepium* is frequent and marsh thistle *Cirsium palustre* occasional. It is a damp area and the ground layer is shaded out in many areas by the density of hemlock water dropwort. Other species include Common nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), Yorkshire fog (*Holcus lanatus*), and dock. This stand comprises what would previously have been a marshy grassland habitat which has deteriorated and is now dominated by hemlock water dropwort.
- Stand D and E were Dense scrub dominated by bramble (*Rubus fruticosus*) and short mown amenity grassland.
- Stand F and G were both ruderal vegetation.
- The habitats present within the Lee on Solent SINC stands surveyed are largely species poor and deteriorating due to lack of management.

5.0 PHASE 1 HABITAT SURVEY

5.1 General site description

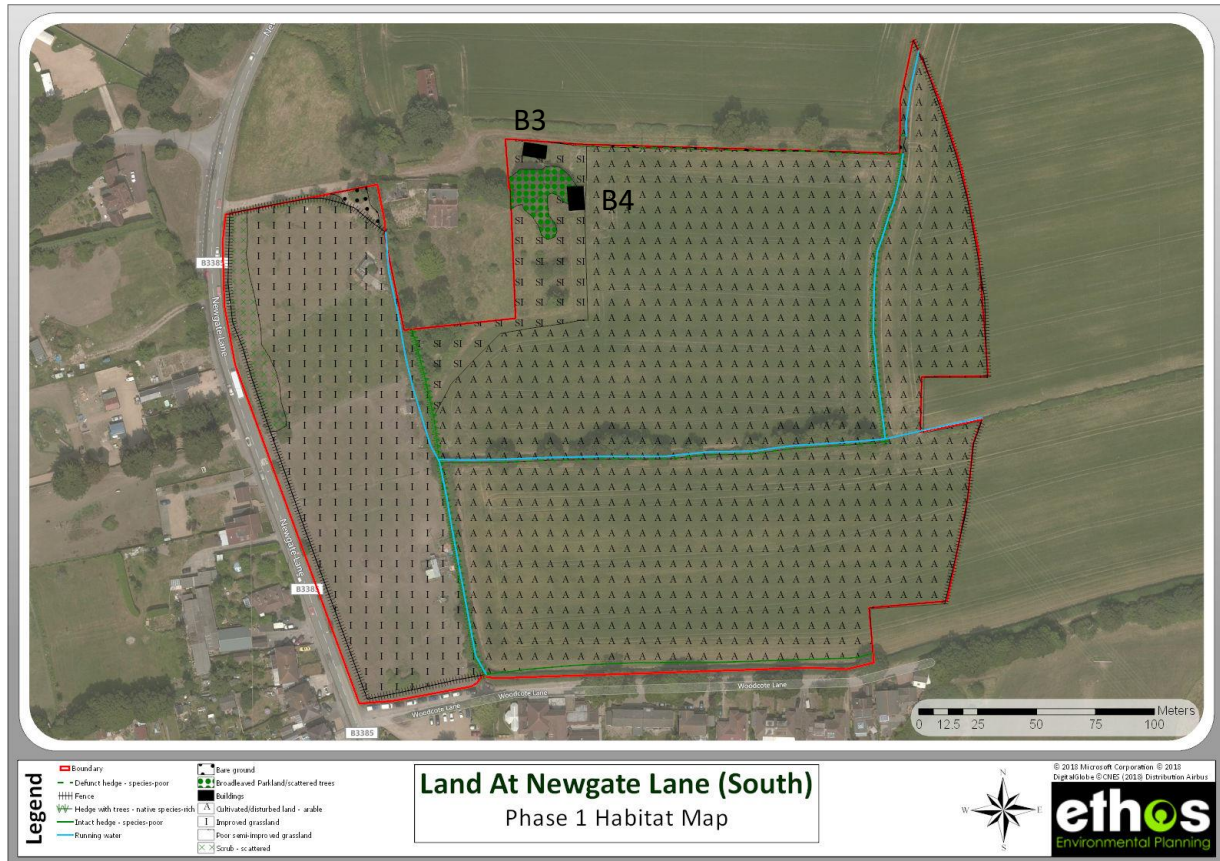
The site included a number of agricultural crop fields and improved grassland fields adjacent to Newgate Lane, Fareham, Hampshire. The wider environment comprised of residential development to the east and a sewage-treatment works and solar farm to the west. The River Alver flows through the western side of the site, parallel with Newgate Lane.

5.2 Habitat description

Figure 6 shows the key habitats using the Phase 1 habitat classifications. The key features described within this section are:

- Intact hedge- Species poor (J2.3.1);
- Defunct hedge – species-poor (J2.2.2);
- Fence (J2.4);
- Running Water (G2);
- Standing Water (G1);
- Buildings (J3.6);
- Broadleaved scattered trees (A2.1)
- Cultivated/disturbed land – arable (J1.1);
- Improved grassland (B4);
- Scrub – scattered (A2.2).

Figure 10 Phase 1 habitat map



5.2.1 Cultivated/disturbed land – arable

The site was dominated by arable farmland on which wheat (*Triticum aestivum*) was being cultivated. The field margins adjacent to the hedgerows were approximately 1m wide and species present included; cow parsley (*Anthriscus sylvestris*), hogweed (*Heracleum sphondylium*), greater stichwort (*Stellaria holostea*), goosegrass (*Eleusine indica*), primrose (*Primula vulgaris*), cut-leaved cranesbill (*Geranium dissectum*), hedge woundwort (*Stachys sylvatica*), lesser celandine (*Ficaria verna*), lords and ladies (*Arum maculatum*). This habitat was assessed to hold low ecological value.



Photo 1: Arable field



Photo 2: Field margin

5.2.2 Improved grassland

Several fields of heavily-poached horse-grazed pasture (improved grassland) were present along Newgate Lane in the west of the site. The poaching had resulted in a low species-diversity with only the following recorded: daisy (*Bellis perennis*), dandelion (*Taraxacum officinale*), annual meadowgrass (*Poa annua*), perennial rye grass (*Lolium perenne*), creeping thistle (*Cirsium arvense*), white clover (*Trifolium repens*), and creeping bent (*Agrostis stolonifera*).



Photo 3: Improved Grassland



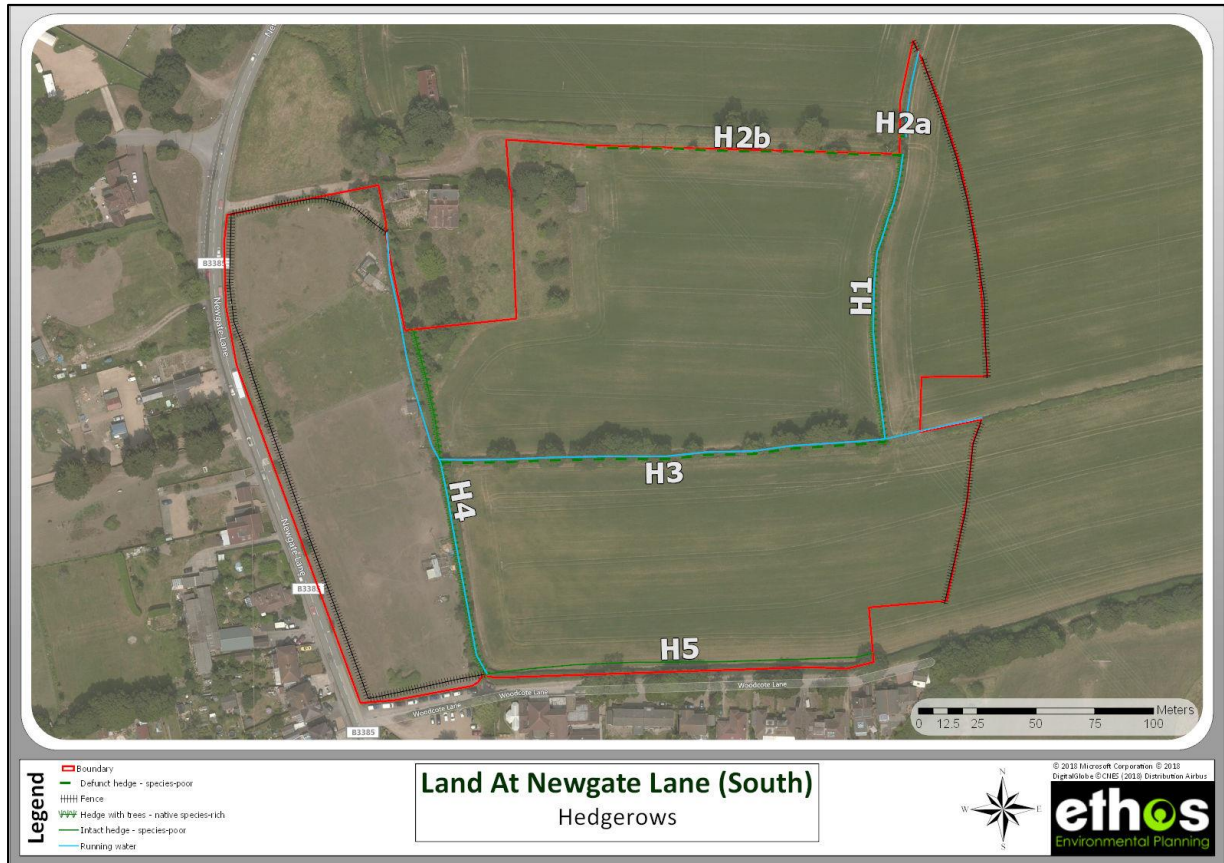
Photo 4: Improved Grassland

5.2.3 Hedgerows

A number of hedgerows divided the fields on site whilst the redline site boundary was largely marked out by unvegetated fences. It should be noted that the satellite imagery on the maps has not yet been updated with the newly constructed Stubbington Bypass road which passes along the eastern site boundary.

The hedgerows have been divided into distinct sections labelled H1 – H5 (see figure 11) and examined separately below.

Figure 11 Hedgerows map



5.2.3.1 Hedge 1

Species-poor, defunct hedgerow running alongside a wet ditch in the centre of the site. Species present included blackthorn (*Prunus spinosa*), ivy (*Hedera helix*), hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*), bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*).



Photo 5: Hedge 1



Photo 6: Hedges 2a and 2b

5.2.3.2 Hedge 2b

Species-poor, defunct hedgerow with large, mature oak trees which formed the northern site boundary. Species present included English oak (*Quercus robur*), bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*), ivy (*Hedera helix*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*).

5.2.3.3 Hedge 3

Species-poor, defunct hedge with trees. Similar in structure and species-composition to Hedge 2 with large, mature oaks, numerous gaps and low woody-species diversity. Species present included English oak (*Quercus robur*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), ivy (*Hedera helix*), bramble (*Rubus fruticosus*).



Photo 7: Hedge 3



Photo 8: Hedge 4

5.2.3.4 Hedge 4

Intact, species-poor hedge with species including blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), ivy (*Hedera helix*), bramble (*Rubus fruticosus*), and elder (*Sambucus nigra*).

5.2.3.5 Hedge 5

Defunct, species-poor hedgerow running along Woodcote Lane on the southern site boundary. Similarly to other hedgerows on site, species consisted principally of blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), ivy (*Hedera helix*), bramble (*Rubus fruticosus*) and elder (*Sambucus nigra*).



Photo 9: Hedge 5

5.2.4 Buildings

There were two dilapidated buildings present within the redline boundary:

5.2.4.1 Building 3

Abandoned farm building constructed from block walls with wooden cross beams and a pitched corrugated asbestos roof with numerous holes. The structure was densely vegetated externally (photo 16) with ivy, hawthorn and sycamore trees.



Photo 10: Building 3 external



Photo 11: Building 3 internal

5.2.4.2 Building 4

A concrete and steel-framed structure with a single-pitch corrugated asbestos roof over a chipboard false-ceiling that had largely collapsed. The structure had a large number of windows that allowed high ambient light levels internally.



Photo 12: Building 4 external

5.2.5 Running water

The River Alver runs through the western side of the site parallel to the field boundary hedgerows. In some areas the banks become less well-defined resulting in the creation of an ephemeral area of standing water and marshy grassland. At the time of survey the river was dominated by hemlock water dropwort (*Oenanthe crocata*).



Photo 13: River Alver



Photo 14: River Alver

5.2.6 Scattered Trees

To the east of the retained house, lies a parcel of land containing two buildings that has been excluded from agricultural management for sufficient time that copses of immature self-seeded scattered trees have established. These copses were of fast-growing species including sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), apple (*Malus domestica*), willow (*Salix*), elder (*Sambucus nigra*).



Photo 15: Scattered trees



Photo 16: Scattered trees

5.2.7 Scattered Scrub

An area of scattered scrub was present in the north-west of the site. This area was also heavily poached by the livestock grazing the field and species diversity was low. Species present included; bramble (*Rubus fruticosus*), spear thistle (*Cirsium vulgare*).

6.0 ASSESSMENT FOR PROTECTED SPECIES

6.1 NERC S. 41 Mammals

The habitats on site were deemed to have some suitability for NERC-listed mammals such as hedgehog (*Erinaceus europaeus*), polecat (*Mustela putorius*) and brown hare (*Lepus europaeus*). No evidence of these species was found during any site visits, however recommendations will be made to ensure permeability of boundary features, and retention of higher-value habitat features in the development to enable continued usage of the area.

6.2 Badger

The hedgerows, arable fields and grassland on site were assessed as having moderate potential for foraging and commuting badger. No snuffle holes or latrines were found on site. A camera trap was deployed for 23 consecutive nights on a mammal hole located in H3, did not make any recordings of badger, but a fox was seen regularly using the area (photo 18).

Overall, it was assessed that there are no badger setts on, or within 30m of the site; and that badgers are either absent or present in low densities.



Photo 17: Mammal hole



Photo 18: Fox

6.3 Dormouse

Previous surveys of the site did not find any evidence of dormouse. The hedgerows on site (which are retained within the development proposals) contained species favoured by foraging dormouse and were composed of a suitably dense structure. However, they were poorly connected with other suitable habitat in the wider environment, and the geographical location of the site – encircled by The Solent and Portsmouth Harbour with the town of Fareham to the north result in a high degree of isolation from natural habitat of a scale necessary to sustain viable dormouse populations. On a more local scale, the presence of main roads and urban development around the site was assessed to limit connectivity to the site for dormouse.

Overall, it was assessed that there was low potential for the presence of hazel dormouse on site and as the hedgerows are retained within the development proposals, this species is not considered further in this report.

6.4 Otter and Water vole

The River Alver runs from north to south across the site, bisecting the horse-grazed paddock from the arable fields. A number of additional running water drainage ditches ran along the hedgerows and field boundaries.

The river was the only water course assessed as having potential to support riparian mammals, whilst the vegetation and structure of the ditches were such that their potential was limited to providing potential commuting corridors.

Surveys of the river on the 11th April and 6th September 2018 were hampered by the fact that the river runs through dense hedgerow within the redline boundary and is predominantly inaccessible. However, results from the stretches of river surveyed, both on and off site did not find any evidence of otter or water vole. This result corroborates previous surveys of the area by WSP in 2014, which also concluded that no evidence of current or historic water vole activity was recorded during the survey, nor was any evidence of otter or mink presence recorded.

It is therefore assessed that these species were absent from the site and are not considered further in this report.

6.5 Bats

6.5.1 Habitats

The wider environment was assessed as having moderate potential for foraging, commuting and roosting bats with a mosaic of fields, hedgerows and residential development. The site itself was also assessed as having moderate potential for foraging and commuting bats with the hedgerows and watercourses considered to provide the highest quality habitat.

There were two built structures on site which are described in more detail in section 5.2.4 and both were assessed to hold negligible potential for roosting bats.

6.5.2 Activity Surveys

Activity Surveys

11th July 2018

Low levels of activity were recorded during the survey with common pipistrelle and soprano pipistrelle (*Pipistrellus pygmaeus*) bats recorded using hedgerow H2 and H8 as commuting corridors. Foraging bats were recorded at the eastern end of H2. A single common pipistrelle was recorded commuting along the central hedgerow in the southern part of the site.

8th August 2018

Low levels of activity were recorded during the survey. A noctule bat (*Nyctalus noctula*) was recorded at the southern end of hedgerow H7, a common pipistrelle was also recorded on H7 near the pond. Common pipistrelles were also recorded commuting along the hedgerows running east-west in the south of the site.

6th September 2018

Low levels of activity were recorded during the survey with low numbers of common and soprano pipistrelles observed foraging at the eastern end of H2 and the eastern end, close to B1.

Table 2 Environmental Variables for bat surveys

Variable	11/07/2018		08/08/2018		06/09/2018	
Sunset	21:15		20:38		19:39	
	Start	End	Start	End	Start	End
Time	21:00	23:30	20:20	22:30	19:25	21:50
Temperature (°C)	24	22	19	12	17	16
Relative Humidity (%)	50	60	89	88	74	76
Cloud Coverage (oktars)	0	0	7	7	8	8
Precipitation	0	0	0	0	0	0
Average Wind Speed (mph)	0	1.2	2.4	3.7	0	1.1

6.5.2.1 Static Detector Surveys

Seven static bat detectors were deployed on site but one detector placed on the southern hedgerow from 8th August failed to make any recordings. A summary of the data collected so far has been presented below and the full results are included in appendix IV.

- Six species of bat were recorded during the survey with 28,319 passes of species including; common pipistrelle, soprano pipistrelle, Nathusius's pipistrelle (*Pipistrellus nathusii*), noctule, Leisler's bat (*Nyctalus leisleri*) and brown long-eared bat (*Plecotus auritus*);
- The highest levels of activity were recorded on detector 1 which was deployed in H2 from 16th May to 8th June 2018 with 16,174 passes recorded;
- The next highest activity was recorded on detector 2 which was deployed south of the redline boundary during the same period with 11,267 passes. A second detector, 3, was deployed in the same location from 29th July – 8th August and recorded just 851 passes;

- The most commonly recorded species was common pipistrelle with 92.43% of passes, followed interestingly by Nathusius' pipistrelle with 7.04% of passes. All other species accounted for less than 1% of recorded passes;
- Nathusius' pipistrelle were only recorded on 2 out of the 7 static detectors but accounted for 1574 passes on detector 3 (July) and 420 passes on detector 2 (August);
- The key features for bats were assessed to be hedgerows H2 on the southern boundary of the site and H3, in the southern site.

Table 3 Summary of static detector results

Bat Species	Total Recordings	no.	Average Records / Night	Maximum / All Nights
Common pipistrelle	26226		354.87	2074
Soprano pipistrelle	118		2.24	14
Nathusius's pipistrelle	1994		69.67	601
Noctule	28		0.81	4
Leisler's	9		0.36	4
Brown long-eared	5		2.08	1

6.6 Birds

6.6.1 Breeding Birds

There was suitable habitat on site for breeding birds with dense vegetation in the boundary hedgerows. The arable fields provided potential foraging habitat for wintering birds and foraging and nesting habitat for farmland birds. There were two built structures on site; no bird nests were visible during the inspection, however the level of dilapidation and the dense ivy coverage could have obscured nests and the buildings are assessed as having moderate to high potential for nesting birds.

A total of 29 bird species, including four red-listed and UK BAP and a number of declining farmland species, were recorded across the three surveys (table 5). Of these, 21 were exhibiting breeding behaviors and were assessed to hold territories within the survey area (table 4).

A summary of the three surveys has been provided in table 2, below, and the full data has been included in appendix III.

Table 4 Summary of Breeding Bird Surveys

BTO Species Code	Species	Approx Number of Pairs	Comments
BT	Blue Tit	2	
D.	Duncock	3	
B.	Blackbird	4	
C.	Carrion Crow	1	
WR	Wren	3	
WP	Woodpigeon	4	
WH	Whitethroat	3	
R.	Robin	2	
GT	Great Tit	2	
GO	Goldfinch	3	
ST	Song Thrush	1	
S.	Skylark	1	Regularly heard singing above northern corner of site and once over centre of site, so it probably breeds nearby or maybe onsite.
GR	Greenfinch	1	
MG	Magpie	1	
SL	Swallow	2	Breeds nearby or possibly onsite
M.	Mistle Thrush	1	Breeds nearby or possibly onsite
CD	Collared Dove	1	Breeds nearby
JD	Jackdaw	1	Breeds nearby
G.	Green Woodpecker	1	Breeds nearby
HS	House Sparrow	3	Breeds nearby
SG	Starling	2	Breeds nearby

Table 5 Conservation Status of bird species recorded on site

Bird Species								
Common Name	Scientific Name	Comments	Conservation Status	NERC S. 41	W&CA (1981)	UK BAP	Bern	Declining
blue tit	<i>Cyanistes caeruleus</i>			-	-	-	-	
duncock	<i>Prunella modularis</i>			-	European conce	-	-	
Green Woodpeck	<i>Picus viridis</i>			-	-	-	-	
blackbird	<i>Turdus merula</i>			-	-	-	-	
Carrion Crow	<i>Corvus corone</i>			-	-	-	-	
wren	<i>Troglodytes troglodytes</i>			-	-	-	-	
Woodpigeon	<i>Columba palumbus</i>			-	-	-	-	125%
Whitethroat	<i>Sylvia communis</i>			-	-	-	-	5%
robin	<i>Erithacus rubecula</i>			-	-	-	-	
Great Tit	<i>Parus major</i>			-	-	-	-	
Swallow	<i>Hirundo rustica</i>			-	-	-	-	
Mistle Thrush	<i>Turdus viscivorus</i>			-	-	-	-	
Goldfinch	<i>Carduelis carduelis</i>			-	-	-	-	23%
Song Thrush	<i>Turdus philomelos</i>			Global conce	-	UK BAP	-	
Collared Dove	<i>Streptopelia decaocto</i>			-	-	-	-	
Skylark	<i>Alauda arvensis</i>			European cor	-	UK BAP	II(I)	-51%
House Sparrow	<i>Passer domesticus</i>			European cor	-	UK BAP	-	
Starling	<i>Sturnus vulgaris</i>			European cor	-	UK BAP	-	-68%
Greenfinch	<i>Chloris chloris</i>			-	-	-	-	23%
Great Spotted W	<i>Dendrocopos major</i>			-	-	-	-	
Magpie	<i>Pica pica</i>			-	-	-	-	
Jackdaw	<i>Corvus monedula</i>			-	-	-	-	136%
Black-headed Gu	<i>Chroicocephalus ridibundus</i>			-	-	-	-	
Lesser Whitethro	<i>Sylvia curruca</i>			-	-	-	-	
Stock Dove	<i>Columba oenas</i>			-	-	-	-	55%
Sparrowhawk	<i>Accipiter nisus</i>			-	-	-	-	
Buzzard	<i>Buteo buteo</i>			-	-	-	-	
Mallard	<i>Anas platyrhynchos</i>			-	-	-	II(I)	
Little Egret	<i>Egretta garzetta</i>			-	-	-	I	

6.6.2 Wintering Birds

The wider environment was assessed as having high potential for a range of bird species including important populations of wintering birds in Portsmouth Harbour.

Previous surveys by WSP identified 73 species of bird using the wider area including 20 waterbird species that may be considered part of the ‘internationally important assemblage of waterfowl’ for which the local SPAs are designated.

During the current wintering bird surveys, no geese or waders were recorded on any of the surveys. Just 13 species of bird were recorded (table 6), with the only SPA-listed species being black-headed gull – one individual recorded on 17th March, and two Mediterranean gulls taking off from an adjacent field and flying over the site on the same day.

Table 6 Wintering bird survey results

Bird Species					
Date	Common Name	Scientific Name	Location	Conservation Status	W&CA (1981)
6th March	carrion crow	<i>Corvus corone</i>	Arable field		-
6th March	wood pigeon	<i>Columba palumbus</i>	Hedgerows		-
6th March	blackbird	<i>Turdus merula</i>	Hedgerows		-
6th March	dunnock	<i>Prunella modularis</i>	Hedgerows		European conce
6th March	robin	<i>Erithacus rubecula</i>	Hedgerows		-
6th March	buzzard	<i>Buteo buteo</i>	Hedgerows		-
6th March	goldfinch	<i>Carduelis carduelis</i>	Hedgerows		-
6th March	great tit	<i>Parus major</i>	Hedgerows		-
17th March	carrion crow	<i>Corvus corone</i>	Arable field		-
17th March	woodpigeon	<i>Columba palumbus</i>	Arable field		-
17th March	magpie	<i>Pica pica</i>	Arable field		-
17th March	black-headed gu	<i>Chroicocephalus ridibu</i>	Arable field		-
17th March	goldfinch	<i>Carduelis carduelis</i>	Arable field		-
17th March	Mediterranean G	<i>Larus melanocephalus</i>	Arable field		Schedule 1
17th March	blue tit	<i>Cyanistes caeruleus</i>	Hedgerows		-
17th March	blackbird	<i>Turdus merula</i>	Hedgerows		-
17th March	magpie	<i>Pica pica</i>	Hedgerows		-
17th March	wood pigeon	<i>Columba palumbus</i>	Hedgerows		-
17th March	robin	<i>Erithacus rubecula</i>	Hedgerows		-

6.7 Reptiles

Previous surveys found common lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*) and slow worm (*Anguis fragilis*) in the area. However habitats within the proposed site was dominated by arable fields within small margins and horse-grazed improved grassland. It was assessed that the habitats on site held limited value for reptiles and it was assessed that the risk posed to reptiles by the proposals was negligible and these species are not considered further in this report.

6.8 Amphibians

There were no ponds on site and therefore no breeding habitat for amphibians. There was also very little suitable terrestrial habitat – limited to the hedgerows, although many of these incorporated wet ditches, which would act as commuting corridors.

An eDNA test of the pond to the north of the site (P1) was conducted which returned a negative result for the presence of GCN. Previous surveys conducted in the area by WSP assessed that GCN were likely absent from the ponds within 500m of the site (see section 4.2).

Two ponds (P4 and P5) were found to the adjacent land to the east of the site. These two ponds were created as holding ponds for the new B3385 road which has been laid to the east of the site. Habitat Suitability Index scores were taken for these two ponds on 8th May 2019, where both ponds were classed as “*Poor*”, see table 7 below for the scoring for each pond. Both ponds are ephemeral where they are designed to hold water run off from the new road, P4 during HIS scoring held two small puddles of water, and P5 was dry. Photos for each pond can be seen below.

Due to the poor habitats onsite, poor ponds adjacent to the site and no previous evidence of GCN in the area it is therefore assessed that GCN are likely to be absent from the site and are not considered further in this report.



Photo 19: P4 adjacent to the site



Photo 20: P4 adjacent to the site



Photo 21: P5 adjacent to the site

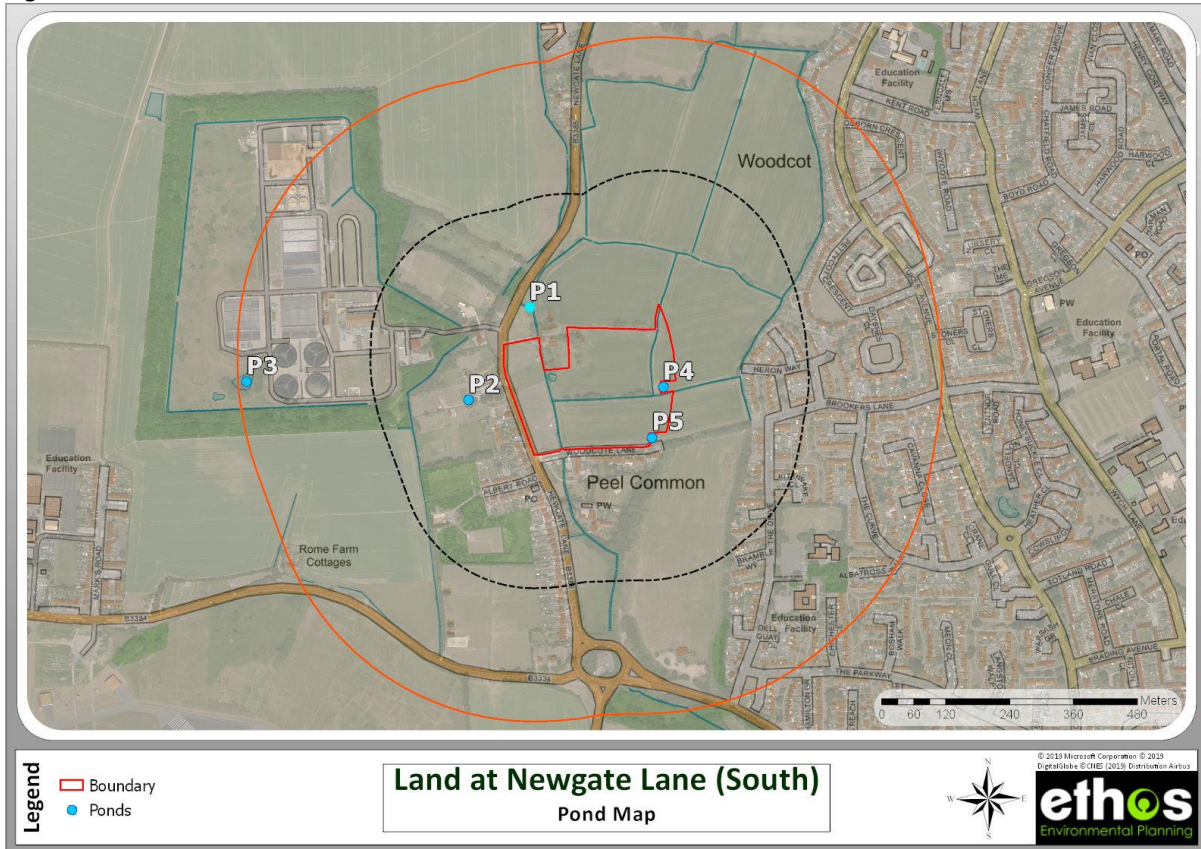


Photo 22: P5 adjacent to the site

Table 7 HSI results for ponds P4 and P5 adjacent to the site

Parameter	Description	Pond 4		Pond 5	
		Score	Index	Score	Index
Location	England = optimal	Optimal	1.00	Optimal	1.00
Pond Area	Measure pond surface area (m ²) and round to nearest 50m ²	50.00	0.10	50.00	0.10
Pond Drying	Never, rarely, annually, sometimes	Annually	0.10	Annually	0.10
Water Quality	Abundant/Moderate/Low invertebrate community/Few submerged plants/clearly polluted	Bad	0.01	Bad	0.01
Shade	Estimate percentage perimeter shaded to 1m from shore	0.00	1.00	0.00	1.00
Fowl	No evidence/present but little impact/severe impact	Minor	0.67	Minor	0.67
Fish	No records/no evidence but local conditions suggest they may be present/small number of carp, goldfish or stickelback/ dense populations	Absent	1.00	Absent	1.00
Ponds	Count number of ponds within 1km of survey pond, not separated by major barriers	5.00	0.74	5.00	0.74
Terrestrial Habitat	Good terrestrial habitat offers cover and foraging opportunities and includes meadow, rough grassland, hedges scrub and woodland	Poor	0.33	Poor	0.33
Macrophytes	Estimate percentage of pond surface occupied	5.00	0.35	0.00	0.30
		TOTAL	0.299	TOTAL	0.295
		CATEGORY	Poor	CATEGORY	Poor

Figure 12 Ponds within 500m



6.9 Invertebrates

The site was dominated by arable fields which were intensively managed and assessed to hold low value for invertebrates. The key features were the stream and the boundary hedgerows and it is understood that these are being retained within development proposals. Therefore, it was assessed that recommendations for invertebrates could be made without the need for specific surveys.

7.0 DISCUSSION

7.1 Habitats

7.1.1 Hedgerows

The hedgerows are assessed as being a key habitat feature on site with demonstrated usage by commuting/foraging bats and nesting birds. The hedgerows are all proposed for retention with the exception of a section of H1, which is being removed and a section of H4 (removed to provide access). Additionally, the proposals include the planting of a new hedgerow along the eastern site boundary adjacent to the bypass road. The proposals will therefore result in a net gain of this habitat on site, and recommendations will be made for supplementary planting of existing hedgerows and to ensure that the new hedgerow is comprised of locally native and managed sympathetically to wildlife.

7.1.2 Grassland

The amenity grassland paddock was assessed as having low ecological value largely due to its poor botanical diversity. The southern half of this field is proposed for development, whilst the northern half is proposed for open space and drainage, generating opportunities for ecological enhancement and offsetting. Recommendations will be made to maximise the ecological potential of this area, compensating for, and enhancing the proposed development.

Proposals also include the creation of a habitat buffer corridor along the newly-planted eastern boundary hedgerow, and recommendations will be made for suitable seed mixes and management regimes.

7.1.3 SUDS

The creation of SUDS next to the River Alver in the south-western corner of the site provides opportunities to extend existing riparian habitats, and recommendations will be made to ensure that this feature provides conservation value as well as performing its drainage function.

7.2 Protected Species

7.2.1 Bats

Ethos conducted three activity surveys as well as 73 nights of static monitoring. Six species of bat were identified during the surveys: common, soprano and Nathusius' pipistrelle, noctule, Leisler's and brown long-eared bats.

Nathusius' pipistrelles were only recorded on 2 of the 7 static detectors but accounted for 1574 and 420 passes on these and were therefore the second most recorded bat. It is important to note that number of passes on a static detector do not necessarily correspond to

a greater number of individuals as one bat may account for over 1000 passes per night. However, the timing of these results at the end of July through to mid-August are interesting as this is when adult females wean their young and rejoin territorial males. The recording of Nathusius' pipistrelles on these two static detectors alone could therefore be indicative of the movement of juveniles or females across the site from a nearby maternity roost.

By far, the highest activity was recorded along hedge 3, largely attributable to common pipistrelle with a mean number of call per night varying from 441 in May to over 1000 in August. Hedge 3 also accounted for the majority of Nathusius's pipistrelle calls. This is assessed as being a key commuting route for bats across the site and recommendations will be made to enhance the habitat in proximity to this linear feature.

While guidance for survey effort was not met due to limited access to the site, it is considered that the impacts of the development have been mitigated through design and the mitigation strategy is detailed in section 8.

7.2.2 Birds

Up to 21 species of bird, including red listed species; skylark, house sparrow, song thrush, and starling were observed to be exhibiting nesting behaviors and would likely be nesting on site or nearby. A single skylark was observed singing regularly over the field in the north-west of the site and once over the centre of the site during the survey on 30th May 2018. It was considered likely that this bird was nesting on site or nearby. However, as only one individual was observed across the three surveys and the habitat over which it was observed is suboptimal and being retained under the proposals, it is considered that the development poses low risk to this species.

Primarily, bird species were noted in the hedgerows with very little activity noted in the agricultural crop fields. As the hedgerows and grassland habitat are scheduled to be retained and enhanced within the development proposals then it is assessed that further compensatory measures will not be necessary, however recommendations for mitigation during vegetation clearance and for general enhancements will be made.

The site is located within an area of high value to water birds, being in close proximity to the Solent & Southampton Water and Portsmouth Harbour SPAs. The only SPA-listed species recorded during the surveys was black-headed gull, with Mediterranean gulls observed flying over the site from adjacent fields. In particular, no brent geese were observed on site. Since the surveys were undertaken, the Solent Waders and Brent Goose Strategy (SWBGS) guidance has been published which classifies the development site as a Low Use site and recommendations have been made in section 9 regarding contributions to mitigate for the impacts of the development.

7.2.3 NERC Mammals and Badger

No evidence of any of this group of mammals was recorded during any of the site surveys. However, the habitat was assessed as having suitability for species such as badger (*Meles meles*), hedgehog (*Erinaceus europaeus*), and brown hare (*Lepus europaeus*) and precautionary recommendations will be made to protect these species during construction and to allow permeability of boundary features post-construction.

7.3 Protected Sites

The site is located approximately 2.3 km NE of the Solent & Southampton Water SPA and 1.3 km SW of Portsmouth Harbour SPA and will therefore trigger the requirement for habitat regulations assessment and suitable mitigation. A shadow HRA is included in appendix VI of this report, which concludes that the development is likely to have a significant impact on the Solent SPAs. As the site is within a Low Use area as defined under the SWBGS, recommendations will be restricted to per-units contributions (to be conditioned through s.106 agreements) as recommended by the Solent Recreation Mitigation Partnership (SRMP) and SWBGS.

Figure 13 Solent Waders and Brent Goose Strategy Map



8.0 RECOMMENDATIONS

8.1 Habitats

8.1.1 Hedgerows

- The proposals include the loss of hedgerow H1 and the creation of a new hedgerow along the eastern boundary. It is recommended that the existing hedgerow should be translocated, as whilst it was species-poor, the inclusion of already-mature species in the new hedgerow will reduce any interim period before the new hedgerow grows to a scale suitable for performing ecological functions such as providing light corridors for bats;
- The existing hedgerows would be enhanced with the planting of a range of locally native species such as english oak (*Quercus robur*), hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*), sycamore (*Acer pseudoplatanus*) and honeysuckle (*Lonicera periclymenum*);
- Proposed trees planted as part of the street scene should be native species. Suitable species include silver birch (*Betula pendula*), wild cherry (*Prunus avium*), fruit trees and rowan (*Sorbus aucuparia*) as they do not grow too large yet provide foraging habitat for a range of bird species;
- The hedgerow buffer along the eastern boundary would be sown with a species-rich seed mixture such as Emorsgate Seeds EH1 – hedgerow mixture which contains wild flowers and grasses that are tolerant of semi-shade and is suitable for sowing beneath newly planted or established hedges;
- The hedges would be managed with high basal density – this would be achieved by allowing bramble and other thorny species such as blackthorn and hawthorn to grow at the base of the hedgerows. ‘Neat’ hedgerows should be avoided; and,
- Infrequent cutting of hedgerows to allow fruit and nut production. Cutting should be carried out on rotation at no more frequently than every 5 years.

8.1.2 Open Space

- Areas of open space should be planted with a general purpose meadow seed mixture such as Emorsgate EM3 – special general purpose meadow mixture suitable for a wide range of soil types. The wild flowers are robust and showy, and the grasses are fine and slow growing;
- This grassland should be mown regularly to a height of 4 – 6cm during the first year, and then twice a year subsequently in mid-summer and late autumn.

8.1.3 SUDS

- Proposed drainage solutions should have gently sloping banks and undulating surfaces which allow wildlife to enter and exit the water easily as well as creating varying depths suitable for a range of aquatic life;
- A mosaic of habitats should be created around the edges of proposed SuDS and swales. These can include sowing of wildflower seed mixes suitable for pond edges, creation of log and habitat piles and planting of shrubs and trees;
- SuDS should either be left to colonise naturally with local plant species, or else be planted with native pond species appropriate to the local area, soil and hydrology. Plants should be bought from a reputable supplier to reduce the risk of introducing invasive species;
- The spoil from the excavation of the SuDs and swales can be used to vary ground levels and create banks which enhances the structural diversity of habitats on site. This in turn can create habitats for invertebrates, reptiles, amphibians and other faunal species; and
- Brash and wood from vegetation clearance (such as removal of a section of hedge 7) should be retained and used to create habitat piles around the edges of the SUDS. This will provide opportunities for a range of species including invertebrates, reptiles and amphibians.

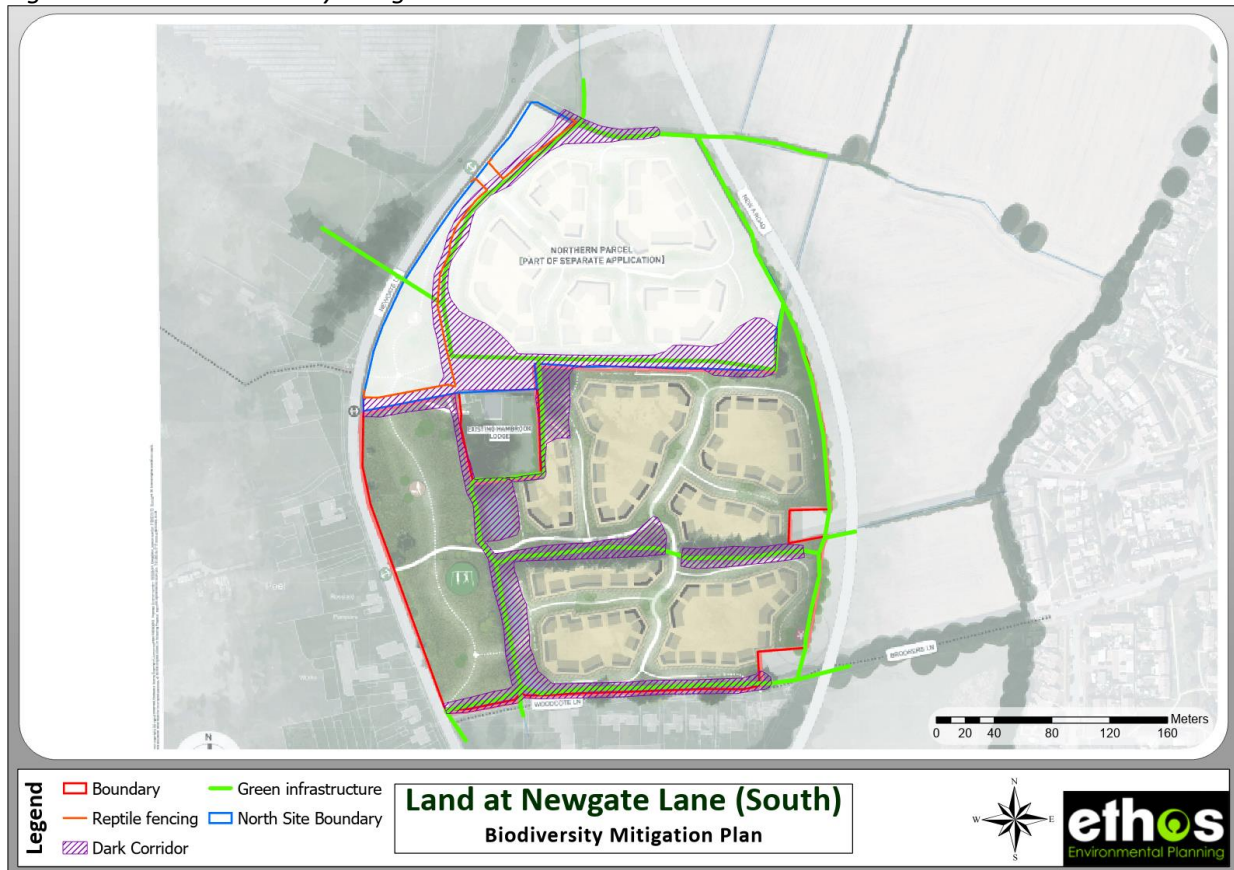
8.1.4 General Habitat Recommendations

- Proposed trees planted as part of the street scene should be native species. Suitable species include silver birch (*Betula pendula*), wild cherry (*Prunus avium*), fruit trees and rowan (*Sorbus aucuparia*) as they do not grow too large yet provide foraging habitat for a range of bird species.

8.2 Protected species

The development proposals have been designed to retain the best ecological features on site. Protecting the value of these features and the connectivity of the site to the wider environment are central to the mitigation strategy for protected species. Figure 14 shows a range of measures taken to protect species using the site and shows the green infrastructure designed into the development, retaining connectivity across the north and south sites.

Figure 14 Biodiversity Mitigation Plan



8.2.1 NERC S. 41 Mammals & Badgers

As many NERC-listed mammals and badgers are known to forage in gardens, it is assessed that impacts from the development can be effectively mitigated by ensuring that any boundary features are permeable. The following recommendations are made:

- Hedgerows rather than fencing should be used where possible to separate residential gardens;
- Any proposed fencing should make use of permeable features that allow animals such as hedgehogs free movement around the site;
- Any excavations or trenches should be covered at night or include a ramp to enable hedgehogs and other species to escape;

- Any floodlights used during construction activities should be switched off at night to allow nocturnal animals to continue to forage and commute around the site;
- The newly created attenuation basin should have gently sloping banks to allow hedgehogs and other mammals to escape should they fall in; and
- The enhancement of the retained hedgerows should provide high quality habitat for these mammals.

8.2.2 Bats

To mitigate the impacts of development, it would be important to ensure that light levels remain low at the site boundaries, and in particular, hedgerow H3 following development. It is recommended that a lighting strategy for the site is developed, with particular focus on ensuring no significant light spill along the hedgerows, proposed attenuation basin and proposed bat roost features. The strategy should include:

- Ensuring the use of controlled light distribution, optimised optics (flat glass - controlled light distribution below the horizontal), shielding accessories and careful luminaire positioning / minimal heights are employed in the scheme design;
- Reducing column heights to the perimeter of the Application Site may create a requirement for an increased quantity of luminaire positions. However, this may be necessary to reduce the nature of the impact;
- Adopting a light quality of colour rendering in excess of Ra60 allows a notable reduction in light levels due to increased visual acuity. The scheme design should consider the use of high colour rendering lamp sources (white light) to minimise design criteria, energy usage and reduce resultant impacts;
- Adopting a light quality that minimises disruption to existing ecological systems. Possibly in the form of 'sodium' or 'LED' light sources which emit minimal UV light.
- Adopting an appropriate control strategy for the operational lighting so that, when not required and subject to Health and Safety assessment, non-essential lighting is dimmed or switched off in order to further reduce the impact;
- Column and luminaires to be of a colour and finish to 'blend' in to the day time landscape view;
- Wherever possible and subject to landscape design natural perimeter screening should be included to reduce obtrusive light to adjacent areas;

Figure 14 shows dark corridors which will be retained on the post-development site.

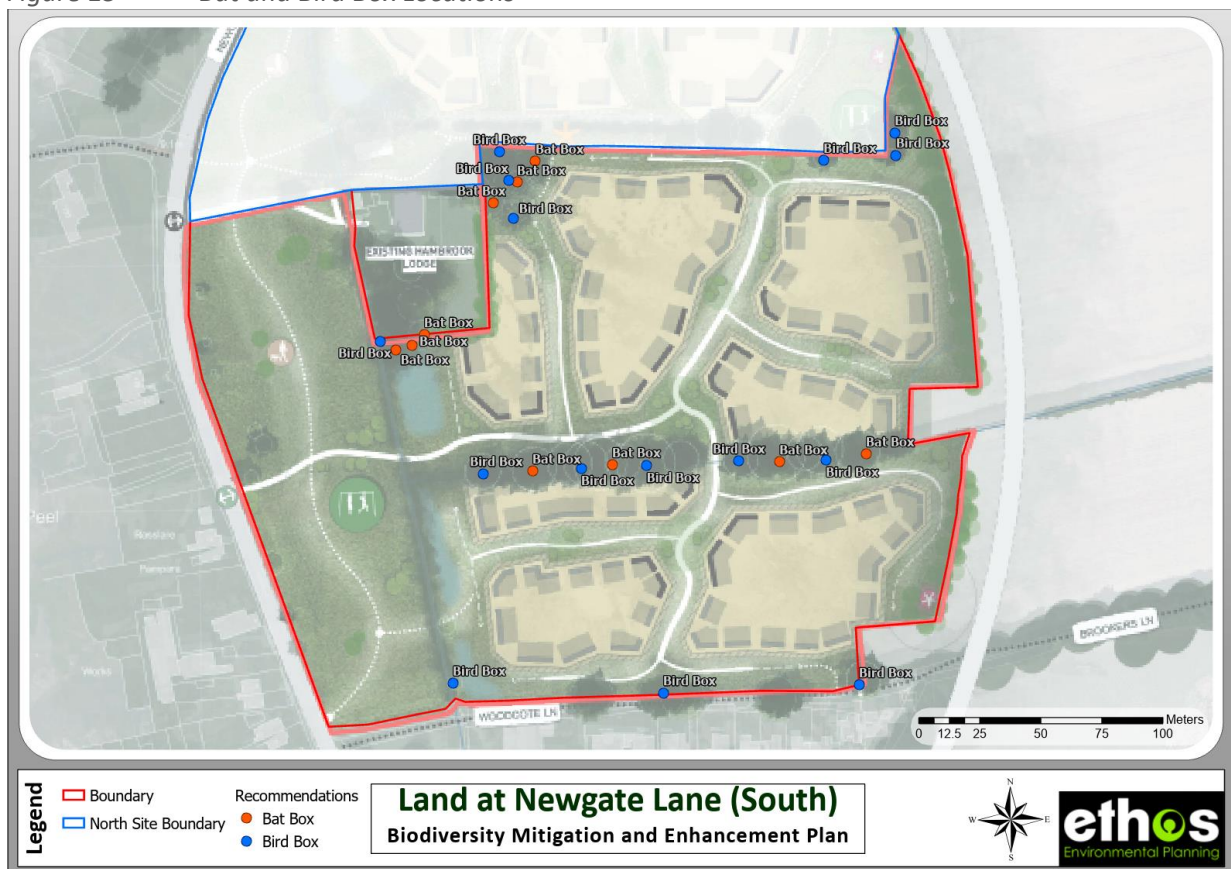
- It is assessed that bats will benefit from the enhancement and creation of hedgerows on site, and recommendations for hedgerow species have been chosen to be of particular benefit to these species;
- It is assessed that bats will benefit from the sympathetic creation and of the SuDS on site which will support an invertebrate population, providing high quality foraging habitats for these species;

- It is recommended that 10 bat boxes are installed at the site both in retained mature trees and integrally within proposed dwellings. The bat boxes should be of varying styles to be suitable for a range of bats species. Box locations are shown indicatively on figure 15.

8.2.3 Birds

- In order to protect breeding birds on site, it is recommended that any demolition of structures and clearance of vegetation is carried out outside of the bird nesting season (March to August inclusive) or else be subject to a pre-works check by a trained ecologist;
- It is assessed that birds will also benefit from the enhancement and creation of hedgerows on site;
- It is assessed that birds will benefit from the creation of SuDS on site as this will provide foraging habitat for these species;
- To further enhance the site for breeding birds it is recommended that 15 bird boxes are installed in trees and onto proposed dwellings at the site. These should be suitable for house sparrow (*Passer domesticus*), swift (*Apus apus*), starling (*Sturnus vulgaris*) and house martin (*Delichon urbicum*). Box locations are shown indicatively on figure 15.

Figure 15 Bat and Bird Box Locations



8.2.4 Reptiles

Recommendations made to extend and enhance existing habitat – particularly around the proposed SUDS will greatly benefit reptiles and therefore, the only recommendation required will be to safeguard populations during construction phase:

- Reptile fencing should be installed along as shown in figure 14 and retained for the duration of construction phase. Specification for this fencing are included in appendix V of this report.
- Vegetation within the development footprint should be maintained short prior to construction commencing to prevent the encroachment of any scrub following cessation of agricultural management and subsequent expansion of the suitable habitat for reptiles.

8.3 Habitat Regulations Assessment

8.3.1 Solent Recreation Mitigation

The site will result in net increase of 115 residential units within 5.6km of the Solent SPAs and therefore, in order to comply with the adopted join-mitigation planning policy agreed by the Solent Recreation Mitigation Partnership (SRMP). The client will therefore be required to pay a per-unit contribution to the local authority which operates a sliding scale as follows:

- £337 for 1 bedroom dwelling;
- £487 for 2 bedroom dwelling;
- £637 for 3 bedroom dwelling;
- £749 for 4 bedroom dwelling; and
- £880 for 5 bedroom dwelling.

8.3.2 Solent Waders and Brent Goose Strategy

The site has been identified as a “Low Use Site” (F15) in The Solent Waders and Brent Goose Strategy (SWBGS). This means that it has been identified as having potential to support the existing network of waders and brent geese and that its loss to development has the potential to negatively impact the resilience of the future of this network.

In their consultation response dated 12th Oct 2018, Natural England state that *“The level of mitigation and off-setting required is dependent on the importance of the site within the ecological network and how these non-designated sites support the wider designated Solent SPA network.”*

In the current case, whilst the site has been identified as “Low Use” – i.e. a site that has records of bird but only in low numbers, neither the wintering bird surveys carried out by Ethos in 2018,

nor those carried out by WSP in 2013/14 noted any sign of brent geese or wading birds associated with the Solent SPA and as can be seen in figure 13, most of the nearest identified sites are also classified as “low use”.

Whilst the site does not appear to be in any kind of current usage by brent geese, its classification indicates that it is considered to provide support to the current network and potentially provide alternative options for brent geese in the future. It is therefore recommended that the loss of this support should be offset through payment of £35,610 per hectare, to be secured through s.106 agreements, towards the management and enhancement of the wider waders and brent geese ecological network.

9.0 CONCLUSIONS

- Successful mitigation on site hinges on retaining connectivity across the site and to the wider environment. The retention and enhancement of the hedgerows and the creation of a lighting plan to retain dark corridors across the site will achieve this goal;
- The development will make an impact on the Solent & Southampton Water SPA Portsmouth Harbour SPA and contributions will therefore be required to offset the impact of the development;
- In addition to the recommendations made in section 8, a Biodiversity Net Gain Calculator has been completed which has been included in Appendix VII. The result of the calculator was a net gain of 32.65 biodiversity units to be achieved through the proposed development of the site.

References

CIEEM guidelines for ecological report writing, Chartered Institute of Ecology and Environmental Management (2015)

Guidelines for Accessing and Using Biodiversity Data, CIEEM (2016)

CIEEM Guidelines for Preliminary Ecological Appraisal, 2nd edition, CIEEM, Winchester (2017)

Handbook for Phase 1 Habitat Survey - a technique for environmental audit, JNCC 2010

Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000), Her Majesty's Stationary Office 1981

Solent Waders and Brent Goose Strategy – Interim Guidance on Mitigation and Off-setting Requirements, SWBGS Steering Group (July 2018)

The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitat Regulations), Her Majesty's Stationary Office 1994

The Wildlife and Countryside Act – Invasive Species [Online] Available from: <http://jncc.defra.gov.uk/page-1377> 1981

Relevant ecological reports

- WSP (2014) Stubbington Bypass and Newgate Lane South Ecological Desk Study,
- WSP (2015) Stubbington Bypass and Newgate Lane South Phase 1 Habitat Survey,
- WSP (2014) Newgate Lane South Great crested newt survey report,
- WSP (2014) Stubbington Bypass and Newgate Lane South Bat habitat appraisal,
- WSP (2015) Stubbington Bypass Bat report,
- WSP (2015) Stubbington Bypass and Newgate Lane South winter bird survey report,
- WSP (2015) Newgate Lane South Water Vole survey report,
- WSP (2015) Newgate Lane South botanical report (Lee on Solent SINC),
- WSP (2014) Newgate Lane South Dormouse survey report,
- WSP (2014) Newgate Lane South Reptile Survey Report,
- Wildlife Matters Consultancy (2012) Newlands Farm, Fareham, Hampshire, Phase 1 Habitats Survey (extended).

APPENDIX I LEGISLATION AND POLICY DETAILS

A1.1 Legislation - Species

This section outlines the key legislation related to the habitats and species considered within this survey report.

Bats

All British bats are fully protected under Section 9 Schedule 5 of the Wildlife and Countryside Act 1981 and amendments. Agreement, and are fully protected under The Conservation of Habitats and Species Regulations 2017. In addition, they are protected under the Berne Convention; they are given migratory species protection within the Bonn Convention. Regulation 43 (1) of The Conservation of Habitats and Species Regulation 2017 makes it an offence to:

- deliberately capture, injure or kill any species of bat;
- deliberately disturb any species of bat;
- damage or destroy a breeding site or resting place of any species of bat.

It is an offence to disturb any bat roosting site, whether the bats are there or not. Under Regulations 43 (2) disturbance includes in particular any disturbance which is likely:

- To impair their ability
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of a hibernating or migratory species, to hibernate or migrate; or
- To affect significantly the local distribution or abundance of the species to which they belong.

Presence of bats does not necessarily mean that development cannot go ahead, but that with suitable, approved mitigation, exemptions can be granted from the protection afforded to bats under regulation 43 by means of a licence. Natural England (NE) is the appropriate authority for determining licence applications for works associated with developments affecting bats, including demolition of their roost sites. In cases where licences are required, certain conditions have to be met to satisfy Natural England. Before the Statutory Nature Conservation Organisation (SNCO), in this case NE, can issue a licence to permit otherwise prohibited acts three tests have to be satisfied under the requirement of Regulation 55. These are:

1. Imperative Reasons of Overriding Public Interest [Reg 55(2)(e)];
2. No Satisfactory Alternative [Reg 55(9)(a)];
3. Maintenance of Favourable Conservation Status [Reg 55(9)(b)].

In order to meet the tests, SNCO usually expects the planning position to be fully resolved as this is necessary to satisfy tests 1 and 2. Full planning permission, if applicable, will need to have been granted and any conditions relating to bats fully discharged. ahead of any licence

application to the SNCO. The LPA have a legal duty under The Conservation of Habitats and Species Regulations 2017, to assess whether the application is likely to meet the Three Tests and therefore the requirements for Natural England licensing, prior to determination of an application. The Licence application process may take two months before a licence is issued. Planning Permission and granting of a bat licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

Reptiles

All reptile species in Great Britain receive some legal protection from legislation in the Wildlife and Countryside Act 1981 (as amended), and the two rarest species are afforded additional protection by European law (The Conservation of Habitats and Species Regulations 2017). Both the Wildlife and Countryside Act 1981 and Habitat Regulations 1994 provide mechanisms to protect species, their habitats and sites occupied by the species.

The two European protected species, **Sand lizards** (*Lacerta agilis*) and **Smooth snakes** (*Coronella austriaca*), receive all elements of protection in Section 9 of the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017:

These pieces of legislation prohibits the following on any of the above species:

- Deliberately or intentionally killing and capturing (taking) or intentional injuring.
- Deliberately disturbing
- Deliberately taking or destroying eggs
- Damaging or destroying a breeding site or resting place or intentionally damaging a place used for shelter or protection.
- Intentionally obstructing access to a place used for shelter; and keeping, transporting, selling or exchanging; offering for sale or advertising.

Under Regulations 43 (2) (The Conservation of Habitats and Species Regulations 2017) disturbance includes in particular any disturbance which is likely:

- To impair their ability
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of a hibernating or migratory species, to hibernate or migrate; or

To affect significantly the local distribution or abundance of the species to which they belong.

Species that receive protection against intentional killing, injuring and sale only from Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): **Slow-worm** (*Anguis fragilis*), **Common lizard** (*Lacerta vivipara*), **Adder** (*Vipera berus*) and **Grass snake** (*Natrix natrix*).

Both the Wildlife and Countryside Act 1981 and The Conservation of Habitats and Species Regulations 2017 apply to all life stages of the protected species: i.e. eggs and spawn, larvae, juveniles and adults are all protected.

Badgers

The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely and it is important for developers to know how this may affect their work. All the following are criminal offences:

- to wilfully kill, injure, take, possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett.

Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett. It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed.

Development should not be permitted unless it is possible to take steps to ensure the survival of the badgers in their existing range and at the same population status, with provision of adequate alternative habitats if setts and foraging areas are destroyed. Natural England will normally only issue a licence after detailed planning permission has been granted, where applicable, so that there is no conflict with the planning process.

Before the planning application is determined, the local planning authority should request a detailed ecological survey/report and developers should be prepared to provide the following information:

- The numbers and status of badger setts and foraging areas that are affected by the proposal;
- the impact that the proposal is likely to have on badgers and what can be done by way of mitigation;
- judgment on whether the impact is necessary or acceptable; and
- a recommendation on whether a licence will be required.

A badger survey usually requires assessment of the site and a 30-50m buffer area as tunnels can extend up to 20m from sett entrances. As badgers are not a European Protected species the Three Test do not need to be applied, however Planning Permission and badger licensing are separate legal functions. Thus receiving planning permission from the Local Authority is no guarantee that development operations will not breach the Protection of Badgers Act 1992. Similarly planning permission does not guarantee that a badger licence will be granted.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) and cannot be killed or taken, their nests and eggs taken, damaged or destroyed while their nest is in use or being built. It also prohibits or controls certain methods of killing or taking except under licence. Other activities that are prohibited include possession and sale. Activities such as killing or taking birds (including relocating) which would otherwise be illegal can be carried out under licence where there is suitable justification and the issue cannot be resolved by alternative means.

Specially protected or Schedule 1 birds receive full protection under the Wildlife and Countryside Act 1981 (as amended). Part I birds are protected at all times, Part II during the close season only. In addition to the protection from killing or taking that all birds, their nests and eggs have under the Act, Schedule 1 birds and their young must not be disturbed at the nest.

Hazel Dormouse

They are protected under both the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Dormice and their breeding sites and resting places are fully protected. Without a licence it is an offence for anyone to deliberately disturb, capture, injure or kill them. It is also an offence to damage or destroy their breeding or resting places, to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell a wild dormouse.

If it is not possible to avoid harming dormice or damaging or blocking access to their habitats, a derogation licence will be required. Planning permission is required to be in place before a licence application.

Planning Permission and granting of a mitigation licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

Great Crested Newts

Great crested newts are fully protected under UK and European legislation:

- Bern Convention 1979: Appendix III
- Wildlife & Countryside Act (as Amended) 1981: Schedule 5
- EC Habitats Directive 1992: Annex II and IV
- The Conservation of Habitats and Species Regulations 2017
- Countryside Rights of Way Act 2000 (CRoW 2000).

These pieces of legislation prohibit the following:

- Deliberately or intentionally killing and capturing (taking) or intentional injuring.
- Deliberately disturbing

- Deliberately taking or destroying eggs
- Damaging or destroying a breeding site or resting place or intentionally damaging a place used for shelter or protection.
- Intentionally obstructing access to a place used for shelter; and keeping, transporting, selling or exchanging; offering for sale or advertising.

Under Regulations 43 (2) (The Conservation of Habitats and Species Regulations 2017) disturbance includes in particular any disturbance which is likely:

- To impair their ability
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of a hibernating or migratory species, to hibernate or migrate; or

To affect significantly the local distribution or abundance of the species to which they belong. Paragraphs 43(1) and 43(2) ensure that protection applies to all stages of their life cycle.

GCN mitigation and licensing can be complex. Natural England have a rapid risk assessment tool which can be used for guidance to assist with determining whether a licence needs to be applied for, or if the development can proceed with Reasonable non-licensed Avoidance Measures (RAM). If a licence is required, the Favourable Conservation Test need to be met.

Otter

The European Otter is fully protected under UK and European law by the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitat and Species Regulations 2017. Otters and their breeding sites and resting places are fully protected. It is an offence for anyone to deliberately disturb, capture, injure or kill them; to deliberately damage or destroy their breeding or resting places; to disturb or obstruct access to any place used by them for shelter. It is also an offence to possess or sell an otter.

Under Regulation 43(2) of The Conservation of Habitats and Species Regulations 2017 the disturbance of otter includes in particular any disturbance which is likely to impair their ability to survive, breed or reproduce, or to rear or nurture their young; or to affect significantly the local distribution or abundance of the species to which they belong.

If it is not possible to avoid harming otter or damaging or blocking access to their habitats, a derogation licence will be required. Planning permission is required to be in place before a licence application.

Planning Permission and granting of a mitigation licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

Water vole

Water vole are protected from intentional harm or capture or killing, from deliberate damage or destruction to any structure or place used for protection or shelter; from obstruction of access to any structure or place used for protection or shelter or intentional disturbance whilst occupying a place of rest or shelter.

Mitigation and licensing is complex, and usually compensatory habitat will be required and maintenance of connectivity between populations is of key importance. If it is not feasible to avoid disturbing or damaging water vole and/or their habitats it may be possible to apply for a licence. However licences cannot be issued for the specific purpose of development. Natural England may issue a licence in some situations, if it is considered that the licence action of the development proposal will provide a conservation benefit for water vole.

White Clawed Crayfish

White clawed crayfish are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) however, though they are rare in the UK, they only receive protection under some sections making it an offence to take or sell the species only.

Under law, a licence is only necessary to survey for white clawed crayfish (at sites where there is an expectation for presence). The presence of white clawed crayfish is a material consideration in planning and development proposals, however, a mitigation licence is not needed if disturbance or harm cannot be reasonably avoided.

A1.2 Legislation – Habitats

European Designated Sites: Special Area of Conservation / Special Protection Area

The legal requirements relating to the designation, protection and management of SACs and SPAs in England are set out in the Conservation of Habitats and Species Regulations 2017 (SI No. 1012), often referred to as 'the Habitats Regulations'. The 2017 regulations encapsulate all the amendments since they were last consolidated in 2010. SACs are designated under the EC Habitats Directive and SPAs under the EC Birds Directive. Collectively this network of EU-wide nature conservation site is referred to as Natura 2000 sites.

All SACs and SPAs in England are also Sites of Special Scientific Interest (SSSIs). The additional SAC/SPA designation is recognition that some or all of the wildlife habitats and species within a SSSI are particularly valued in a European context and require additional protection.

The Habitats Regulations require that any plans, projects or activities that is likely to significantly affect a SAC/SPA, either alone or in combination with other plans or project, must be subject to an assessment. This is irrespective of whether planning permission or other consent is required. The plan or project can only be consented or proceed if strict conditions are met to ensure protection of the site / favourable conservation status of qualifying species is met with no net negative impacts. The assessment must include consideration of potential off-site impacts to

populations for which the sites are designated (for example loss of key foraging habitat beyond the SAC/SPA boundary), and in-direct impacts such as recreational pressure to SAC/SPA habitats and species.

The process is known as a Habitat Regulations Assessment (HRA) and comprises four stages:

- i) Screening – Test of Likely Significant Effect (TOLSE)
- ii) Appropriate Assessment and the Integrity Stage
- iii) Alternative Solutions
- iv) Imperative Reasons of Overriding Public Interest and Compensatory Measures.

The first stage is for the Competent Authority, usually the Local Authority, to carry out a TOLSE, or to request that a shadow HRA is completed to be adopted by the Competent Authority. The screening stage can take the form of an iterative process, whereby potential Likely Significant Effects are designed out or mitigated for. Whilst not a legal requirement until Stage 2 of the HRA process, this stage of the assessment is usually carried out in consultation with Natural England. Mitigation measures must be sufficiently detailed to inform the screening assessment and then secured through condition if it is for a planning proposal. In some situations, this may mean that the Competent Authority may request details for the screening process that would not usually be presented or submitted until the later stages of a proposal.

The decision-making authority may only permit or undertake the proposals if the screening assessment concludes that there would no adverse effect on the integrity of the SAC. Where it cannot reach this conclusion, the project can then only proceed by undertaking an 'Appropriate Assessment' of the adverse effect(s) which could not be screened out. This must be detailed, objective, based on best available scientific evidence and carried out in on-going consultation with Natural England, a legal requirement under the Habitat Regulations. If, with additional assessment and additional mitigation measures, the Competent Authority can still not ascertain that an adverse effect on the SAC/SPA habitats or favourable conservation status of qualifying species cannot be protected/maintained, permission to proceed with the plan or project should not be granted – subject to the provisions of Regulations 64 and 68: i) Overriding Public Interest (in the absence of alternative solutions) and ii) Secure Compensatory Measures (to ensure overall coherence of Natura 2000 is protected) respectively.

. The HRA process allows those proposals which clearly will not impact upon the special European wildlife interest of a SAC to proceed. Natural England is able to provide advice to authorities on how proposed activities can avoid adverse impacts on a SAC/SPA.

Under the Habitats Regulations planning authorities must also require that any permitted development normally carried out under a general planning permission but which may affect a SAC requires further approval before being undertaken.

As the statutory nature conservation body in England, Natural England is duty bound to ensure that SACs/SPAs are protected and managed favourably for conservation in line with the requirements of the Habitats Directive. Our experience is that it is usually possible to find mutually acceptable solutions where sustainable land use and wildlife can flourish.

UK Designated Sites – National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) Nationally protected sites are designated under the Wildlife and Countryside Act 1981 (as amended), reinforcing protection provided by the National Parks and Access to the Countryside Act 1948. SSSIs may also form component units of SACs. Natural England have a statutory duty to protect NNRs and SSSIs and must be consulted for activities or applications where there is risk of damage to the SSSI. Consent from Natural England ('Request permission for works or activity on a SSSI') may be required for certain activities within or near to a SSSI.

A1.3 Policy considerations

This section considers key policies that are relevant to ecology and development of the site.

National Planning Policy

NPPF policy 109: Conserving and enhancing the natural environment

The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

APPENDIX II OPINION SCREENING RESULTS

Date: 22 May 2018
Our ref: 246642
Your ref: P/18/0488/EA

Jean Chambers
Fareham Borough Council

BY EMAIL ONLY



Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

Dear Jean

Screening consultation: P/18/0488/EA EIA Screening - Residential development up to 200 dwellings

Location: Land at Newgate Lane, Fareham

Thank you for your consultation on the above dated 10 May 2018 which was received by Natural England on the same date. Natural England provided advice at the pre-application stage on the 28th March 2018. We would advise that any forthcoming application addresses all the issues raised in this response (Your ref Q/0058/18, Our ref 241548).

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

Environmental Impact Assessment

As you know, the EIA Regulations 2017 introduces the opportunity to avoid EIA by front loading the assessment and committing to mitigation and monitoring early in the process. We have checked our records and based on the information provided, it is Natural England's view that this would be possible in this situation provided a mitigation strategy is agreed.

SRMP / Bird Aware Contribution

The application site is within 5.6km of the Solent and Southampton Water Special Protection Area (SPA) and will lead to a net increase in residential accommodation. To address any potential significant effects, any forthcoming planning application will need to comply with adopted planning policy to mitigate against adverse effects from recreational disturbance on the Solent SPA sites, as agreed by the Solent Recreation Mitigation Partnership (SRMP) Definitive Strategy.

Provided there is commitment to this mitigation early in the process and an appropriate planning condition or obligation is attached to any forthcoming planning permission to secure this measure, this will ensure this potential effect has been appropriately addressed.

Solent Waders and Brent Goose Strategy

The site is identified in the updated Solent Waders and Brent Goose Strategy as a Low Use site. The Solent Waders and Brent Goose Strategy (SWBGS) aims to protect the network of non-designated terrestrial wader and brent goose sites that support the Solent Special Protection Areas (SPA) from land take and recreational pressure associated with new development. All Low Use sites have the potential to be used by waders or brent geese and these sites have the potential to support the existing network and provide alternative options and resilience for the future network. The in-

combination loss of these sites would impact on the continued ecological function of the wader and brent goose network and proportionate mitigation, off-setting and/or enhancement measures will be required.

Natural England is concerned that, without appropriate mitigation, the proposed development could have significant direct impacts upon the qualifying features of the aforementioned designated site due to impacts on the Solent Waders and Brent Goose ecological network. Where impacts cannot be avoided or adequately mitigated on-site, proportionate mitigation would comprise off-setting or enhancement measures via payment towards the management and enhancement of the wider waders and brent geese ecological network.

An agreed and deliverable mitigation strategy could address the potential for significant effects arising from the development on the qualifying features of the Solent and Southampton Water SPA. Draft guidance on the off-setting and mitigation requirements has been issued to local planning authorities and this sets out the necessary measures to avoid impacts. Securing early commitment to this mitigation will ensure the potential significant effects have been addressed.

Natural England would be happy to advise on the level of mitigation required under our [Discretionary Advice Service](#).

Protected species

Natural England does not hold information on the location of significant populations of protected species, so is unable to advise whether this proposal is likely to affect such populations to an extent sufficient to require an EIA. It remains the case, however, that the developer must provide information supporting this application sufficient for your authority to assess whether protected species are likely to be affected and, if they are, whether sufficient mitigation, avoidance or compensation measures will be put in place.

Natural England recommends that the application is supported by a Biodiversity Mitigation and Enhancement Plan (BMEP) that has been agreed by a Hampshire County Council (HCC) Ecologist. This will ensure the proposal meets the requirements of the standing advice and the additional requirements for biodiversity enhancement as set out in National Planning Policy Framework paragraphs 7, 109 and 118.

Notwithstanding this advice, Natural England does not routinely maintain locally specific data on all potential environmental assets. As a result this application may raise environmental issues that we have not identified on local or national biodiversity action plan species and/or habitats, local wildlife sites or local landscape character that may be sufficient to warrant an EIA.

We therefore recommend that advice is sought from your own ecological and/or landscape advisers, local record centre, recording society or wildlife body on the local landscape, geodiversity and biodiversity receptors that may be affected by this development before determining whether an EIA is necessary.

Should you determine that an EIA is not required in this case, you should still ensure that the application is supported by sufficient biodiversity and landscape information in order for you to assess the weight to give these material considerations when determining the application.

Please note that Natural England reserves the right to provide further comments on this proposal beyond this EIA screening opinion, should your authority seek our views on the planning application. This includes any third party appeal against any screening decision you may make.

Yours sincerely

Rachel Jones
Lead Advisor, Solent
Dorset, Hampshire and Isle of Wight Team

Subject: P/18/0488/EA - Land at Newgate Lane Fareham

Sent: 14 May 2018 15:52
To: Chambers, Jean <JChambers@Fareham.Gov.UK>
Subject: P/18/0488/EA - Land at Newgate Lane Fareham

Dear Jean,

P/18/0488/EA - Land at Newgate Lane Fareham - Request For Screening Opinion Under The Town & Country Planning (Environmental Impact Assessment) Regulations 2017 - Proposed Residential Development Of Up To 200 Dwellings On Land At Newgate Lane, Fareham

Thank you for consulting me in relation to EIA screening advice for this site.

It is evident that the proposed development would fall within Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017. It is therefore necessary to consider the proposal in the light of the criteria set out in Schedule 3 of the Regulations. In summary, I do not consider that the likely ecological impacts to habitats, protected species or designated sites are such that full EIA is required. My detailed comments are set out below:

The site comprises arable fields with hedge lined boundaries. River Alver also runs in the western section of the site with a network of ditches along some of the other boundaries. The new relief road forms the eastern boundary of the site.

The supporting information submitted as part of this application states that the site is an 'uncertain' site for Brent Geese and Waders. This unfortunately is no longer a valid classification as the Solent Wader and Brent Goose Strategy (SWBGS) was updated in March 2018 and the application site has now been re-classified as a 'Low Use' site. These sites have the potential to support the existing network and provide alternative options and resilience for the future network. The in-combination loss of these sites would impact on the continued ecological function of the wader and Brent goose network. Whilst the guidance on mitigation and off-setting requirements of the SWBGS is to be adopted soon, in all cases, proportionate mitigation, off-setting and/or enhancement measures will be required. It is likely that where impacts cannot be avoided or adequately mitigated on-site, proportionate mitigation would comprise off-setting or enhancement measures via payment towards the management and enhancement of the wider waders and Brent geese ecological network.

Review of the available biological data confirms the presence of numerous records of badgers, along with records of reptiles particularly slow worms in the area. It is considered that the arable field margins are suitable for reptiles and provide suitable sett making and foraging habitat for badgers. A network of ditches are located on site, along with a pond immediately outside the application boundary and therefore the presence/likely absence of great crested newts should be assessed. Similarly, due to the presence of waterbodies on site and numerous records of water voles in the area (in relation to the Stubbington bypass scheme), I would advise that any future application is supported by a thorough assessment of the value of the habitats on site for this species and further surveys where necessary. It is worth noting that whilst waterbodies may superficially appear to be sub-optimal for water voles, this group of species have been recorded to be expanding rapidly in this area, utilising less suitable habitats. The river on site and hedgerows with mature trees provide a high quality foraging/commuting habitat for bats. Therefore, it is

strongly advised that bat activity surveys in line with current good practice guidelines are carried out and an assessment of the impact of the proposals (e.g. lighting, fragmentation, etc.) with any mitigation measures required is included in any future submissions. The hedgerows on site are also likely to support dormice. Due to the presence of arable fields on site, any future submission is recommended to be supported by a breeding bird survey as linnets and skylarks are known to be present in the area.

Any future ecological reports should also provide clarification in relation to the scheme's SUDs proposals and the impacts of surface water being discharged to the watercourses located on site (e.g. River Alver) and any impacts on this catchment including downstream designated sites (such as The Wild Grounds SSSI located 1.7km south-east) will need to be addressed.

Due to the scale of this development, assessment of impacts on designated sites arising as a result of recreational pressure should also be carried out on sites such as Portsmouth Harbour SPA, Ramsar & SSSI, Tichfield Haven SSSI, NNR, LNR and non-statutory sites such as the SINCs in the area. Assessment of impacts should not be limited to the site only but assess the cumulative impacts arising as a result of other development proposals in the area. Liaison with Natural England in relation to designated sites is considered essential.

Furthermore, the development will result in a net increase in residential dwellings within 5.6km of the Solent Special Protection Areas (SPAs), therefore developer contribution to the Solent Recreation Mitigation Partnership is required.

Overall, I consider that the proposal is unlikely to trigger the requirement for EIA on ecological grounds only. However, regardless of an EIA being required or not, due to the various sensitive receptors mentioned above, and potential for the development to affect ecological receptors, the application will need to be supported by full ecological information including survey, assessment, and mitigation details, particularly in relation to the new classification of the site as a 'Low Use' site under the updated Solent Waders and Brent Goose Strategy.

I will be happy to comment on any such details when necessary. Please do contact me if you need any further information.

Kind regards,
Maral

Maral Miri (MSc, CEnv, MCIEEM)

**Senior Ecologist
Ecology Team**

Economy, Transport and Environment Department
Hampshire County Council
Elizabeth II Court, 1st Floor West, Winchester, Hampshire SO23 8UD
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Telephone: 01962 832265

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APPENDIX III BREEDING BIRD SURVEY DATA

Table A1 Survey 1 – 24th April 2018

BTO Species Code	Species	BTO Breeding Status Code	Count	Comments
BT	Blue Tit	H	1	
D.	Dunnock	P	1	
G.	Green Woodpecker	F	2	Probably nesting in gardens just outside boundary
B.	Blackbird	H	1	
D.	Dunnock	S	1	
C.	Carrion Crow	H	1	
WR	Wren	S	1	
BT	Blue Tit	H	1	
B.	Blackbird	H	1	
BT	Blue Tit	A	1	
WR	Wren	S	1	
D.	Dunnock	S	1	
WP	Woodpigeon	P	2	
WP	Woodpigeon	H	1	
C.	Carrion Crow	P	2	
WP	Woodpigeon	N	1	
WH	Whitethroat	S	1	
WR	Wren	S	1	
R.	Robin	P	1	
GT	Great Tit	H	1	
WR	Wren	S	1	
WP	Woodpigeon	H	1	
SL	Swallow	H	1	
M.	Mistle Thrush	F	2	
WH	Whitethroat	S	1	
SL	Swallow	H	1	
GO	Goldfinch	P	2	
GT	Great Tit	P	2	
ST	Song Thrush	S	1	
CD	Collared Dove	H	1	
SL	Swallow	H	1	
WR	Wren	S	1	
S.	Skylark	S	1	Singing above northern corner of site
R.	Robin	H	1	
HS	House Sparrow	H	2	
SG	Starling	F	4	
B.	Blackbird	S	1	
WP	Woodpigeon	H	6	
B.	Blackbird	P	2	
ST	Song Thrush	S	1	
GO	Goldfinch	P	2	
GR	Greenfinch	D	1	
D.	Dunnock	S	1	
GS	Great Spotted Woodpecker	H	1	
D.	Dunnock	S	1	
R.	Robin	S	1	
MG	Magpie	H	1	
R.	Robin	S	1	
Other bird species recorded				
JD	Jackdaw	?	5	Gathering nesting material for use elsewhere
BH	Black-headed Gull	?	6	Not suitable habitat
LW	Lesser Whitethroat	H	1	Other side of Newgate Lane. Could be a migrant.
SD	Stock Dove	S	1	Heard near Newgate Lane.

Table A2 Survey 2 – 8th May 2018

BTO Species Code	Species	BTO Breeding Status Code	Count	Territory	Comments
B.	Blackbird	H	1		
D.	Dunnock	P	2	T	
B.	Blackbird	H	1		
GO	Goldfinch	H	1		
WP	Woodpigeon	H	1		
WP	Woodpigeon	H	2		
B.	Blackbird	H	1		
GR	Greenfinch	S	1		
WP	Woodpigeon	H	1		
WH	Whitethroat	S	1		
WR	Wren	S	1		
WP	Woodpigeon	N	1	(T)	
B.	Blackbird	S	1		
WH	Whitethroat	S	1	T	
R.	Robin	FF	1	(T)	
MG	Magpie	P	2		
S.	Skylark	S	1		
WR	Wren	S	1	T	
GO	Goldfinch	P	2	T	
WH	Whitethroat	H	1	T	
R.	Robin	S	1		
WH	Whitethroat	S	1		
R.	Robin	S	1		
WR	Wren	S	1	T	
LI	Linnet	H	1		
S.	Skylark	S	1	T	Above northern limit of site again
GR	Greenfinch	D	1	(T)	
GO	Goldfinch	S	1	T	
B.	Blackbird	S	1		
ST	Song Thrush	S	1	T	
WR	Wren	S	1		
R.	Robin	S	1	T	
R.	Robin	S	1		
SL	Swallow	H	1		
WP	Woodpigeon	S	1		
Other bird species recorded					
M.	Mistle Thrush	?	1		
HS	House Sparrow	?	2		
LW	Lesser Whitethroat	H	1		Other side of Newgate Lane again
SH	Sparrowhawk	?	1		Carrying prey item away from site

Table A3 Survey 30th May 2018

BTO Species Code	Species	BTO Breeding Status Code	Count	Territory	Comments
GO	Goldfinch	S	1	T	
B.	Blackbird	H	1		
BZ	Buzzard	H	1		
B.	Blackbird	S	1		
MG	Magpie	H	1	T	
B.	Blackbird	S	1	T	
WR	Wren	S	1	T	
GT	Great Tit	FF	1	(T)	
GO	Goldfinch	S	1	T	
WH	Whitethroat	S	1		
B.	Blackbird	H	1		
C.	Carrion Crow	P	2	T	
B.	Blackbird	S	1		
R.	Robin	H	1	T	
WR	Wren	P	2		
WP	Woodpigeon	H	4		
SL	Swallow	H	3		
MA	Mallard	P	2		
BT	Blue Tit	FF	1		
GT	Great Tit	FY	3		
B.	Blackbird	H	1		
GO	Goldfinch	S	1		
WH	Whitethroat	S	1	T	
R.	Robin	S	1		
WR	Wren	S	1	T	
S.	Skylark	S	1	T	
B.	Blackbird	H	1		
GO	Goldfinch	H	2		
BT	Blue Tit	H	1		
MG	Magpie	H	1	T	
WP	Woodpigeon	H	12		
JD	Jackdaw	H	2		
Other bird species recorded					
M.	Mistle Thrush	?	1		
HS	House Sparrow	?	6		
LW	Little Egret	?	1		

APPENDIX IV STATIC BAT SURVEY DATA

Table A4 Detector 1, 16th May - 29th May 2018, 13 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Common pipistrelle	811	135.1666667	21:16:31	399	18	134
Soprano pipistrelle	29	4.833333333	21:33:19	8	1	4.833333
Noctule	7	1.166666667	21:09:29	3	0	1.166667
Leisler's	3	0.5	22:07:17	1	0	0.166667
Brown long-eared	1	0.166666667	22:22:53	1	0	0.166667

Table A5 Detector 2, 16th May – 8th June 2018, 23 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Common pipistrelle	10807	469.8695652	21:08:28	852	80	441.3636
Soprano pipistrelle	38	1.652173913	21:18:15	5	0	1.565217
Nathusius's pipistrelle	420	18.26086957	21:14:16	63	2	18.08696
Noctule	2	0.086956522	21:48:59	1	0	0.086957

Table A6 Detector 3, 29th July – 6th August 2018, 8 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Common pipistrelle	14537	1118.230769	21:11:45	2074	315	1015.167
Soprano pipistrelle	46	3.538461538	21:19:37	14	0	3.538462
Nathusius's pipistrelle	1574	121.0769231	21:29:17	601	0	120.1538
Noctule	12	0.923076923	20:34:17	4	0	0.923077
Leisler's	5	0.384615385	21:24:15	4	0	0.384615

Table A7 Detector 5, 8th August – 6th September 2018, 29 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Common pipistrelle	21	1.105263158	20:57:21	7	0	1.166667

Soprano pipistrelle	4	0.210526316	21:19:46	2	0	0.210526
Noctule	2	0.105263158	21:22:52	1	0	0.105263

Table A8 Detector 6, 6th Sep – 7th Sep 2018, 2 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Common pipistrelle	50	50	20:15:33	50	50	50
Soprano pipistrelle	1	1	04:18:31	0	0	0
Noctule	2	2	05:29:24	0	0	0
Brown long-eared	4	4	02:38:48	0	0	0

Table A9 Detector 7, Sep 6th – Sep 11th, 6 nights

Bat Species	No. recordings	Records / night	First recording	Maximum	Minimum	Mean
Noctule	3	0.6	19:55:20	1	0	0.4
Leisler's	1	0.2	00:48:22	1	0	0.2

Appendix V Reptile Fencing Specifications

Specification for installation of reptile exclusion fencing

Installation of polythene sheet barrier reptile fence, to exclude reptiles from a construction zone:

- 1) Excavate a trench to 200mm. Hand digging is preferable, otherwise use a machine that will cause minimum disturbance to the site. The spoil should be placed along the outside line of the trench.
- 2) Lay the polythene in the trench with the outer edge to the outside of the site.
- 3) Backfill the trench and compact the soil, taking care to leave no gaps (to ensure that reptiles do not burrow underneath).
- 4) Fold the polythene back over to the outside of the site then drive in the stakes (spacings should be no more than 1800mm).
- 5) Attach the polythene sheet to the posts using clout nails through a nylon washer (this spreads the load over a wider area).
- 6) Allow for a minimum 100mm underlap of polythene in the base of the trench. Along the top line, allow 150-200mm of polythene to create a top roll. This adds strength to the top fixing point, and creates an overlap which cannot be scaled by reptiles. The overall height of the fence should be approximately 500mm above ground level.
- 7) A minimum of three fixings per post with washers should be allowed for.



Appendix VI Shadow HRA Assessment

Table A10 Shadow HRA Assessment

Type of permission	Full
Planning Application Ref	P/18/1118/OA
Site Location	Land at Newgate Lane (North) Fareham
Grid reference	SU 57143 03311
Related documents, plans	<ul style="list-style-type: none"> Land at Newgate Lane (North) - Extended Phase 1 - Ethos September 2018; Land at Newgate Lane (North) Ecological Appraisal – Ethos November 2018;
Description of proposal	Proposals for the site include development for residential use with demolition of the existing built structures and removal of the majority of low-quality habitats within the site with the planting of a new hedgerow and creation of areas of open space and SUDS.
European site name(s)	<ul style="list-style-type: none"> Solent & Southampton Water SPA – 2.3km NE of The Site Portsmouth Harbour SPA – 1.3km SW of The Site
List of interest features:	<p>Solent & Southampton Water</p> <p>The site comprises a series of estuaries and harbours with extensive mud-flats and saltmarshes together with adjacent coastal habitats including saline lagoons, shingle beaches, reedbeds, damp woodland and grazing marsh. In winter, the SPA holds a large and diverse assemblage of waterbirds, including geese, ducks and waders. Dark-bellied Brent Goose <i>Branta b. bernicla</i> also feed in surrounding areas of agricultural land outside the SPA.</p> <p>Annex 1 Species during the breeding season:</p> <p>Common Tern <i>Sterna hirundo</i>, 267 pairs representing at least 2.2% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p> <p>Little Tern <i>Sterna albifrons</i>, 49 pairs representing at least 2.0% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p> <p>Mediterranean Gull <i>Larus melanocephalus</i>, 2 pairs representing at least 20.0% of the breeding population in Great Britain (5 year peak mean, 1994-1998)</p> <p>Roseate Tern <i>Sterna dougallii</i>, 2 pairs representing at least 3.3% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p> <p>Sandwich Tern <i>Sterna sandvicensis</i>, 231 pairs representing at least 1.7% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p>

	<p>Annex 1 Species Over winter:</p> <p>Black-tailed Godwit <i>Limosa limosa islandica</i>, 1,125 individuals representing at least 1.6% of the wintering Iceland - breeding population (5 year peak mean, 1992/3-1996/7)</p> <p>Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population (5 year peak mean, 1992/3-1996/7)</p> <p>Ringed Plover <i>Charadrius hiaticula</i>, 552 individuals representing at least 1.1% of the wintering Europe/Northern Africa - wintering population (5 year peak mean, 1992/3-1996/7)</p> <p>Teal <i>Anas crecca</i>, 4,400 individuals representing at least 1.1% of the wintering Northwestern Europe population (5 year peak mean, 1992/3-1996/7)</p> <p>Portsmouth Harbour SPA</p> <p>Portsmouth Harbour is a large industrialised estuary and includes one of the four largest expanses of mud-flats and tidal creeks on the south coast of Britain. The site supports important numbers of wintering Dark-bellied Brent Goose <i>Branta b. bernicla</i>, which feed also in surrounding agricultural areas away from the SPA.</p> <p>Annex 1 Species Over winter:</p> <p>Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, 2,847 individuals representing at least 0.9% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)</p>
<p>Is the proposal directly connected with or necessary to the management of the European site for nature conservation?</p>	<p>No</p>
<p>What potential effects are likely to affect the interest features?</p>	<ul style="list-style-type: none"> • Increase in recreational visitors: New home owners adding to recreational visitor pressures on the Solent SPAs, resulting in an increase of disturbance events to the overwintering wildfowl populations; • Increase in number of dog walkers: New home owners potentially adding to number of dog walkers on Solent SPAs. Dogs may disrupt/disturb normal breeding and nesting behaviour of Annex 1 ground nesting bird species, which could impact on number of breeding pairs and favourable conservation status. • Loss of an identified dark-bellied brent goose low-use site: Development of an area identified as having potential for this

	<p>species could reduce the adaptability of local populations to future pressures;</p>
<p>Is the potential scale or magnitude of any effect likely to be significant?</p>	<ul style="list-style-type: none"> • Increase in recreational visitors: Not significant The proposals include the construction of 115 new dwellings situated over 1 km from any SPA resulting in a likely increase in the local population by 180 residents. Whilst this could be a significant number, only a percentage of these will access the Solent. Additionally, the local area is already heavily urbanised with the population centres of Gosport, Portsmouth, Fareham and Portchester and the incremental increase of 180 residents will not have any significant increase to either the local population, or its resulting pressure on the Solent SPAs; • Increase in number of dog walkers: Not significant For the same reasons as stated above and the creation of areas of open space and parkland within the proposed development will provide potential for the majority of dog walkers to exercise locally without leaving the red line. • Loss of an identified dark-bellied brent goose low-use site: indeterminable Current surveys show that dark-bellied brent geese have not used the site over recent years and therefore, for the foreseeable future, loss of these fields is assessed as having a negligible impact on this species. However, it is possible that unforeseen circumstances in the future could alter the value of this area for geese.

10.0 Appendix VII Biodiversity Net Gain Calculator

Table A11 Biodiversity Net Gain Calculator Detail

Phase 1 habitat	Existing Score	Proposed Score	Difference
Woodland and Scrub	4.755	13	9
Scrub - scattered	4.315	13	9
Parkland/scattered trees - broadleaved	0.44	0.44	0
Grassland and Marsh	2.478	11	8
Improved grassland	2.478	0	-2
Marsh/marshy grassland	0	11	10.95
Open Water	0	0.4608	0.4608
Standing water - eutrophic	0	0	0
Standing water - mesotrophic	0	0.4608	0.4608
Hedgerows	0	1	1
Species rich hedgerow	0.00	0.71	0.71
Speceis poor hedgerow (with bank or ditch)	0.19	0.11	-0.08
Miscellaneous	9	23	14
Bare ground	0.09	0.00	-0.09
Built Environment: Buildings/harstanding	0.01	1.47	1.46
Gardens	0.00	13.77	13.77
Cultivated/disturbed land - arable	8.48	0.00	-8.48
Cultivated/disturbed land - amenity grassland	0.00	7.80	7.80

Table A12 Biodiversity Net Gain Calculator Summary

Phase 1 habitat	Loss / Gain
Woodland and Scrub	8.63
Grassland and Marsh	8.47
Tall Herb and Fern	0.00
Heathland	0.00
Mire	0.00
Swamp, Marginal and Inundation	0.00
Open Water	0.46
Rock Exposure and Waste	0.00
Hedgerows	0.63
Miscellaneous	14.46
Total biodiversity units	32.65