

**LAND AT 178A WEST STREET, HAVANT,
HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document

July 2019

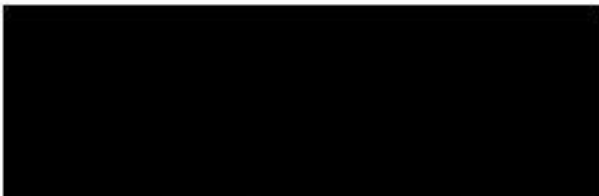
Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EcIA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

ECOSA, Ten Hogs House, Manor Farm Offices, Flexford Road, North Baddesley, Hampshire, SO52 9DF
Tel: 02380 261065 Email: info@ecosa.co.uk Web: www.ecosa.co.uk

Registered Office: 3-4 Eastwood Court, SO51 8JJ Registered in England No: 6129868

ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2016) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

Description:	Ecological Impact Assessment
Produced For:	PDP Architecture LLP
Issue:	Final
Report Reference:	4220.F0
Date of Issue:	17 th July 2019
Date of Survey Works:	Various dates between 1 st and 26 th October 2018
Author:	 Hugh Turner MSc GradCIEEM Ecologist
Checked by:	 Samantha Munslow BSc (Hons) MCIEEM CEnv Principal Ecologist
Reviewed by:	 Simon Colenutt BSc (Hons) MCIEEM CEnv Principal Ecologist

DISCLAIMER

This is a technical report which does not represent legal advice. You may wish to seek legal advice if this is required.

COPYRIGHT

© This report is the copyright of ECOSA Ltd. Any unauthorised reproduction or usage by any person is prohibited.

LAND AT 178A WEST STREET, HAVANT, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Table of Contents

EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION	2
1.1 Background.....	2
1.2 The Site	2
1.3 Aims and Scope of Report.....	2
1.4 Site Proposals.....	3
2.0 PLANNING POLICY CONTEXT	4
2.1 Introduction	4
2.2 National Policy	4
2.3 Local Policy.....	5
3.0 METHODS.....	6
3.1 Introduction	6
3.2 Zone of Influence	6
3.3 Scoping.....	6
3.4 Desk Study	6
3.4.1 <i>Multi-Agency Geographic Information for the Countryside</i>	6
3.4.2 <i>Other Sources of Information</i>	7
3.5 Field Survey.....	7
3.5.1 <i>Survey Methods</i>	7
3.5.2 <i>Survey Details</i>	8
3.5.3 <i>Field Survey Limitations</i>	8
3.6 Bat Survey	8
3.6.1 <i>Survey Methods</i>	8
3.6.2 <i>Survey Details</i>	9
3.6.3 <i>Survey Limitations</i>	9
3.7 Reptile Survey	9
3.7.1 <i>Survey Methods</i>	9
3.7.2 <i>Survey Details</i>	9
3.7.3 <i>Survey Limitations</i>	10
3.8 Criteria used to Assess Ecological Value	10
4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION	11
4.1 Introduction	11
4.2 Statutory Designated Sites	11
4.2.1 <i>Baseline Ecological Conditions</i>	11
4.2.2 <i>Evaluation</i>	11
4.3 Habitats.....	11
4.3.1 <i>Baseline Ecological Conditions</i>	11
4.3.2 <i>Evaluation</i>	14
4.4 Bats.....	14
4.4.1 <i>Baseline Ecological Conditions</i>	14
4.5 Otter.....	16
4.5.1 <i>Baseline Ecological Conditions</i>	16
4.6 Badger	17
4.6.1 <i>Baseline Ecological Conditions</i>	17
4.6.2 <i>Evaluation</i>	17
4.7 Hazel Dormouse.....	17
4.7.1 <i>Baseline Ecological Conditions</i>	17

4.8	Water Vole	17
4.8.1	Baseline Ecological Conditions	17
4.9	Birds.....	18
4.9.1	Baseline Ecological Conditions	18
4.9.2	Evaluation	18
4.10	Reptiles	18
4.10.1	Baseline Ecological Conditions	18
4.10.2	Evaluation	19
4.11	Great Crested Newt.....	20
4.11.1	Baseline Ecological Conditions	20
4.12	Invertebrates.....	20
4.12.1	Baseline Ecological Conditions	20
4.13	Other Relevant Species.....	20
4.13.1	Baseline Ecological Conditions	20
4.13.2	Evaluation	21
5.0	ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/	
	ENHANCEMENT MEASURES	22
5.1	Introduction	22
5.2	Scheme Design	22
5.3	Designated Sites	22
5.3.1	Potential Impacts and Effects	22
5.3.2	Mitigation Measures.....	23
5.3.3	Significance of Residual Effects	23
5.3.4	Compensation.....	23
5.3.5	Enhancement.....	24
5.4	Habitats.....	24
5.4.1	Potential Impacts and Effects	24
5.4.2	Mitigation Measures.....	24
5.4.3	Significance of Residual Effects	24
5.4.4	Compensation.....	24
5.4.5	Enhancement.....	24
5.5	Bats.....	24
5.5.1	Potential Impacts and Effects	24
5.5.2	Mitigation Measures.....	25
5.5.3	Significance of Residual Effects	25
5.5.4	Compensation.....	25
5.5.5	Enhancement.....	25
5.6	Badger	25
5.6.1	Potential Impacts and Effects	25
5.6.2	Mitigation Measures.....	25
5.6.3	Significance of Residual Effects	26
5.6.4	Compensation.....	26
5.6.5	Enhancements.....	26
5.7	Birds.....	26
5.7.1	Potential Impacts and Effects	26
5.7.2	Mitigation Measures.....	26
5.7.3	Residual Effects.....	26
5.7.4	Compensation.....	26
5.7.5	Enhancement.....	27
5.8	Reptiles.....	27
5.8.1	Potential Impacts and Effects	27
5.8.2	Mitigation Measures.....	27
5.8.3	Significance of Residual Effects	27
5.8.4	Compensation.....	27
5.8.5	Enhancements.....	27
5.9	Other Relevant Species.....	28
5.9.1	Potential Impacts and Effects	28
5.9.2	Mitigation Measures.....	28
5.9.3	Significance of Residual Effects	28

5.9.4	Compensation.....	28
5.9.5	Enhancement.....	28
5.10	Cumulative Effects.....	28
6.0	CONCLUSIONS	29
6.1	Conclusion.....	29
6.2	Updating Site Survey.....	29
7.0	REFERENCES	30

Map 1 Site Location Plan

Appendix 1 Proposed Site Layout

Appendix 2 Sites Designated for Nature Conservation

Appendix 3 Relevant Legislation

Appendix 4 Protected and Notable Species Appraisal Methods

Appendix 5 Appraisal Criteria for Bats

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by PDP Architecture LLP to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of land at 178A West Street, Havant. The site is located in Havant, Hampshire. The proposals entail redevelopment of the site for sheltered accommodation.

The main findings of the Ecological Impact Assessment are:

- The site supports approximately 0.35 hectares of broadleaved woodland, dense scrub and poor semi-improved grassland.
- During the Preliminary Ecological Appraisal survey, the site was assessed as having low suitability for foraging and commuting bats and suitability for badger, breeding birds, reptiles and European hedgehog. Subsequently further reptile surveys were carried out;
- During the reptile surveys a single juvenile slow-worm was recorded on-site;
- The proposals have potential to impact on designated sites, habitats and the species listed above. Potential impacts include direct harm, indirect disturbance from light spill and habitat loss.
- Mitigation and compensation measures have been recommended including financial contributions for off-site mitigation, additional ecological planting, a sensitive lighting scheme for bats, preventing badger from becoming trapped in excavations during works, sensitive timing of works for breeding birds and a translocation and supervised vegetation clearance to prevent harm to reptiles.
- Enhancement measures have been recommended in the form of additional roosting opportunities for bats, new foraging habitat for badger, additional nesting opportunities for breeding birds, hibernacula for reptiles and new foraging and sheltering opportunities for European hedgehog.
- Given the impacts identified, and the mitigation and compensation measures proposed it is considered that the proposals accord with all relevant local and national planning policy.
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by PDP Architecture LLP to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of land at 178A West Street, Havant, Hampshire PO9 1LR (hereafter referred to as the site).

1.2 The Site

The site is located in Havant, Hampshire, centred on National Grid Reference (NGR) SU 7095 0655 (**Map 1**).

The site comprises a small area of woodland, allotments and grassland. A single building is present on site in the south-east corner. The site is bounded by an active railway line to the north, residential development to the east, West Street to the south and by a car sale lot and Hermitage Stream to the west.

In the wider area, the immediate landscape is dominated by residential development with intermittent playing fields and parks. The site is located approximately 1.2 kilometres north of the coast.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between the 1st and 26th October 2018. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ on habitats and species and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the demolition of the building on site and subsequent vegetation clearance and levelling of the site, followed by the construction of new sheltered accommodation. Site access will be created off West Street on the southern boundary of the site.

The Ecological Impact Assessment is based on the proposals plan produced by PDP Architecture LLP, dated June 2018 (Drawing No. 17853-SK250) (**Appendix 1**).

Planning permission is being sought during 2018 with construction proposed to commence in 2019 after permission has been granted.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and 'Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Havant Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the revised NPPF published in July 2018. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF *"Plans and decisions should apply a presumption in favour of sustainable development"*. However, Paragraph 177 goes on to state that *"The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site³ is being planned or determined"*.

The general impetus of the NPPF in relation to ecology and biodiversity is for development proposals to not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by *"...minimising impacts on biodiversity and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..."*.

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats⁴. Where loss to irreplaceable habitats occur planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph 175 also states *"development whose primary objective is to conserve or enhance biodiversity should*

³ The NPPF defines a habitats site as *"Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites."*

⁴ The NPPF defines irreplaceable habitats as *"Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity". Protection of sites proposed as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *"the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat"*. Whilst paragraph 99 states *"it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted"*.

2.3 Local Policy

Local planning policy within Havant Borough is provided by the Havant Borough Core Strategy March 2011 with two policies referring in part ecology and biodiversity:

Policy CS11: Protecting and Enhancing the Special Environment and Heritage of Havant Borough.

This policy refers in part to biodiversity stating that planning permission will be granted for development that protects and where possible enhances the borough's statutory and non-statutory designated habitats and features of biological interest through appropriate adaptation and mitigation measures, has particular regard for nature conservation designations with international designations given the highest regard, protects wildlife habitats and corridors to prevent fragmentation and to allow species to adapt to climate change and acknowledges the emerging evidence from the Solent Disturbance and Mitigation Project and published recommendations and further research.

Policy DM9: Development in the Coastal Zone.

This policy refers to the protection of the coastal zone. The relevant part of the policy with regards to ecology states that permission will only be granted in the coastal zone where it can be demonstrated that there will be no harmful effects on nature conservation within the Chichester and Langstone Harbour SSSIs and SPA, Solent Maritime SAC and Ramsar site, or any SINC and Local Nature Reserves.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

A full biological record centre desktop study was not undertaken as part of this assessment. This was not considered necessary given the limited scale of impacts and the nature of on-site and surrounding habitats.

3.4.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2017) was reviewed on 7th November 2018 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2016).

Appendix 2 for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences or Bat Low Impact Class Licences (BLICLs) have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

3.4.2 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010)⁶. This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each

⁶ The standard JNCC Phase 1 habitat survey methodology involves the production of a Phase 1 map showing the location and extent of habitat types, however, given the limited size and complexity of the site surveyed a Phase 1 habitat map has not been produced in this instance.

vegetation type was compiled and any invasive species⁷ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Hugh Turner, Ecologist of ECOSA on 1st October 2018. The weather conditions were sunny with 65% cloud cover, an ambient temperature of 16°C and a gentle wind.

During the survey, the surveyor was equipped with a ladder, a high-powered torch and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

3.6 Bat Survey

3.6.1 Survey Methods

Endoscope Survey

A targeted endoscope survey was undertaken of potentially suitable roosting features identified as part of the initial survey. An endoscope was used to inspect the small number of potential roosting features associated with the on-site building in the far north of the site, which were identified during the initial visual inspection. The purpose of the endoscope survey was to identify whether the features provide sufficient access/egress to provide suitability for roosting bats as well as look for evidence of roosting bats such as the presence of live or dead bats, droppings, feeding remains or urine stains. The survey conformed to current Bat Conservation Trust guidelines⁸.

⁷ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

⁸ Collins, J. (Ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Third Edition). The Bat Conservation Trust, London

3.6.2 Survey Details

Bat Endoscope Survey

The endoscope survey of the building was carried out by a qualified and licenced bat surveyor Brian Hicks, Field Ecologist (Natural England Bat Licence 2015-14880-CLS-CLS) and assisted by Hugh Turner, Ecologist (Natural England Bat Licence 2017-32632-CLS-CLS) of ECOSA on 26th October 2018. The weather conditions were overcast with 100% cloud cover, an ambient temperature of 10°C and a gentle breeze.

During the survey the surveyors were equipped with high powered torches, ladders and an endoscope.

3.6.3 Survey Limitations

There were no significant limitations to the endoscope survey.

3.7 Reptile Survey

3.7.1 Survey Methods

The reptile survey was undertaken in accordance with current best practice guidelines (Froglife, 2015).

The reptile survey consisted of the laying bitumen felt mats approximately 500mm x 500mm in areas of suitable habitat on the site. Typically, this included areas of suitable habitat with good exposure to the sun. The mats were distributed in all areas considered to offer suitable reptile habitat.

The use of such refugia is an effective way of surveying for all species of reptile and current survey guidance states that seven inspections are sufficient to confirm presence/likely absence. Survey visits were undertaken in marginal weather conditions such as cold but sunny weather or hazy and somewhat overcast conditions, as this will maximise the thermal value of the refugia for basking reptiles.

During each visit surveyors also undertook a visual inspection survey of other suitable refugia in the site and other suitable basking locations. During the survey a note was also made of any suitable hibernation features present within the site.

3.7.2 Survey Details

A total of 40 reptile refugia were distributed on 4th October 2018 with seven inspection visits undertaken between 8th and 26th October 2018. **Table 1** provides details of each reptile survey.

Table 1: Reptile survey details

Survey Date	Air Temperature (°C)	Weather Conditions
8 th October 2018	16°C	Overcast and cool, 100% cloud cover with a light wind
10 th October 2018	20°C	Warm and sunny, 0% cloud cover with a light wind
12 th October 2018	17°C	Overcast, 100% cloud cover with a light wind
15 th October 2018	16°C	Overcast and humid, 100% cloud cover with a light wind
19 th October 2018	17°C	Warm and sunny, 0% cloud cover with a light wind
23 rd October 2018	12°C	Sunny with cloud, 80% cloud cover with a light wind
26 th October 2018	10°C	Overcast, 100% cloud cover with a gentle breeze

The reptile survey was coordinated by Hugh Turner of ECOSA assisted by suitably experienced ECOSA surveyors.

3.7.3 *Survey Limitations*

The reptile surveys were undertaken outside of the peak reptile season during a single month with only a four-day bedding period for the refugia. However, weather was exceptionally mild during the month and reptiles were still active during this period. The surveys were undertaken in optimal weather conditions and the surveys were spread over the month meaning that the refugia were fully bedded in for the majority of the surveys.

3.8 **Criteria used to Assess Ecological Value**

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2016) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory Designated Sites

4.2.1 Baseline Ecological Conditions

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary.

The Solent Maritime SAC and Chichester and Langstone Harbour Ramsar Site and SPA are located approximately 1.2 kilometres to the west of the site. The desktop study area has been extended to include this site as the Solent Maritime SAC Chichester and Langstone Harbour Ramsar site and SPA has a 5.6 kilometre "consideration" buffer for development. The "consideration" buffer means that any development within 5.6 kilometres of the designated sites must contribute to off-site mitigation.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

4.2.2 Evaluation

The Solent Maritime SAC and Chichester and Langstone Harbour Ramsar Site and SPA are of international value.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced no records of notable habitats adjacent to or on site. There are areas of coastal and floodplain grazing marsh habitats located to the north and south of the site, associated with the adjacent Hermitage Stream.

Field Survey Results

Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each

vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Broadleaved Woodland

Small areas of broadleaved trees are present to the north-east and east of the site

Figure 1. Tree species recorded in these areas include cherry *Prunus* species, sycamore *Acer pseudoplatanus*, fig *Ficus carica*, holly *Ilex aquifolium*, lesser burdock *Arctium minus*, plum *Prunus domestica*, hazel *Corylus avellana*, ash *Fraxinus excelsior*, elder *Sambucus nigra*, hawthorn *Crataegus monogyna*, dog rose *Rosa canina* and beech *Fagus sylvatica*. Other species recorded include ivy *Hedera helix* and honeysuckle *Lonicera periclymenum*.



Figure 1: Hazel stand in woodland

Dense Scrub

Areas of the site along the western boundary and within the understorey of the woodland are dominated by dense scrub (**Figure 2**). Species recorded in the scrub include stinging nettle *Urtica dioica*, bramble *Rubus fruticosus* aggregate, buddleia *Buddleja davidi*, hedge bindweed *Calystegia sepium*, colt's foot *Tussilago farfara* and creeping thistle *Cirsium arvense*.



Figure 2: Dense scrub at the western boundary of the site

Semi-improved Grassland

Small areas of unmanaged semi-improved grassland are located at the edges of the broadleaved woodland and allotments (**Figure 3**). Grass species recorded in these areas include Yorkshire fog *Holcus lanatus*, perennial rye-grass *Lolium perenne* and false oat-grass *Arrhenatherum elatius*. Herbaceous species recorded include dandelion *Taraxacum officinale* aggregate, creeping cinquefoil *Potentilla reptans*, cleavers *Galium aparine*, creeping buttercup *Ranunculus repens*, meadow buttercup *Ranunculus acris*, great plantain *Plantago major*, white clover *Trifolium repens* and common ragwort *Senecio jacobaea*.



Figure 3: Unmanaged semi-improved grassland at edge of woodland

Ephemeral/Short perennial

Areas of ephemeral and short perennial habitats are present at the edge of the sites, between areas of dense scrub, bare earth and present within the overgrown allotments (**Figure 4**). Species recorded in these areas include bristly ox-tongue *Picris echioides*, ribwort plantain *Plantago lanceolata*, Yorkshire fog, field speedwell *Veronica persica*, dandelion, groundsel *Senecio vulgaris*, red-dead nettle *Lamium purpureum*, scarlet pimpernel *Anagallis arvensis*, creeping cinquefoil, herb Robert *Geranium robertianum*, stinging nettle, bramble, buddleia, cleavers, garden strawberry *Fragaria × ananassa*, raspberry *Rubus idaeus*, creeping buttercup, meadow buttercup, rosebay willowherb *Chamaenerion angustifolium*, pendulous sedge *Carex pendula*, teasel *Dipsacus fullonum*, dove's-foot cranesbill *Geranium molle*, hogweed *Heracleum sphondylium* and wall barley *Hordeum murinum*.



Figure 4: Ephemeral species present at edge of site

Other Habitats

Other habitats on site include hardstanding and bare earth.

4.3.2 Evaluation

The habitats on site are common and widespread and are likely present in the wider area. Overall the habitats on site are considered to have local value.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced one record of a granted European Protected Species Mitigation (EPSM) licence with respect to bats within the desktop study area. The EPSM affects a resting place for common pipistrelle *Pipistrellus pipistrellus*. The record is located approximately 250 metres south-west of the site and was granted in 2014.

Field Survey Results

Building Assessment

The only building on site is in the far north and is an office building, single storey of brick construction with a pitched clay pan tile roof.



Figure 5: Office building at 178A West Street

Internally, the ceiling of the office building is plastered and there is no access to the roof void.

The building supports access features in the form of a gap under a raised vent (**Figure 6**). No evidence of roosting bats was recorded during the survey and only a single potential bat roosting feature was recorded. Therefore, the building is assessed as having low suitability to support roosting bats.



Figure 6: Gap under vent

Tree Assessment

The trees on site range in age from immature to semi-mature and appear to be in good condition. Light ivy cladding is present on some trees, however it is not thick enough to obscure potential bat roosting features or provide roosting opportunities itself. Overall, the site is assessed as having negligible suitability for tree roosting bats.

Foraging and Commuting Habitat

The habitats on site provide some foraging and commuting opportunities for bats and the site has some connectivity to off-site habitats via the adjacent railway line (north) and stream (west), however the suitable off-site habitats are limited within the local

area. Overall the site is considered to have moderate suitability for foraging and commuting bats.

Endoscope Survey Results

During the endoscope survey of the office building, no evidence of bats roosting in the gaps under the roof vent was recorded. The gaps were also recorded as being heavily cobwebbed. Therefore, it is assessed that bats are likely absent from the building.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced no records of otter *Lutra lutra* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

No evidence of otter was recorded on site during the survey. The Hermitage Stream adjacent to the western edge of the site has been artificially altered and is piled on each side (**Figure 7**). As a result there is no natural bank present adjacent to the site. The Hermitage Stream adjacent to the site offers no suitability for holt construction or lying up for otter. Although the stream has been piled at this point, it still provides suitability for otter in terms of a possible commuting corridor. The site itself does not offer any suitability for otter in terms of foraging/lying up habitat.



Figure 7: Artificial banks along Hermitage Stream abutting the western site edge

4.6 Badger

4.6.1 Baseline Ecological Conditions

Field Survey Results

No evidence of badger was recorded on site during the survey. The habitats on site provide foraging and sett construction opportunities for badger *Meles meles*. The site has some connectivity to off-site grassland habitats to the south-west via the adjacent railway. Overall the site is considered to have suitability for badger.

4.6.2 Evaluation

The habitats on site represent a small portion of the available habitats for badger in the wider area. Overall the site is considered to have site value for badger.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced one record of a granted EPSM licence in respect of hazel dormouse *Muscardinus avellanarius* within the desktop study area. The licence was granted in 2014 and is located approximately 1.75 kilometres to the north-east.

Field Survey Results

The scrub and woodland habitats support plant species preferred by this species, however the habitats are limited in extent and the site is isolated from off-site habitats by surrounding residential development, roads and river. The suitable habitats along the adjacent railway are isolated by gaps at bridges immediately to the east and west of the site. Therefore, the habitat on site is unsuitable for hazel dormouse and therefore the species is not considered further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Field Survey Results

The Hermitage Stream adjacent to the site has been artificially altered and is piled on each side. As a result, there is no natural bank present adjacent to the site. The Hermitage Stream adjacent to the site offers no suitability for foraging or nesting for water vole *Arvicola amphibius*. The habitat on site is unsuitable for water vole and therefore the species is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Field Survey Results

During the survey a number of bird species were recorded on site, including herring gull *Larus argentatus*, collared dove *Streptopelia decaocto* and robin *Erithacus rubecula*. The woodland and dense scrub habitats on site provide good foraging and nesting opportunities for breeding birds.

The site offers only limited habitat suitable for supporting wintering birds and may support small numbers of overwintering thrushes such as redwing and fieldfare *Turdus pilaris*. It is unlikely to be used by wintering waders or wildfowl as it does not support the open space or foraging opportunities required by these species. Therefore, wintering birds are not considered further in this report.

4.9.2 Evaluation

The scrub and tree habitats on site represent a small portion of the available nesting and foraging habitats for breeding birds in the local area. Therefore, the site is considered to have site value for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced no records of reptiles within the desktop study area, however, this does not confirm the absence of this species group in the local area.

Field Survey Results

The unmanaged grassland habitats on site provide good foraging and sheltering opportunities for reptiles and the site is well connected to suitable off-site habitats via the adjacent railway. The site has suitability for common and widespread reptiles such as slow-worm *Anguis fragilis* and grass snake *Natrix natrix*.

Reptile Survey Results

A peak count of one adult slow-worm was recorded during the reptile surveys. No other species were encountered. A summary of the reptile surveys at the site is provided in **Table 2**.

Table 2: Summary of reptile survey results

Survey Date	Number of Individuals Recorded
	Slow-worm
8 th October 2018	0
10 th October 2018	1
12 th October 2018	0
15 th October 2018	0
19 th October 2018	0
23 rd October 2018	0
26 th October 2018	0
Peak Count	1

4.10.2 Evaluation

Population Class Size Assessment

Table 3 shows the current guidance (Froglife, 1999) for assessing the population size of reptiles based on a refugia density of 10 per hectare. A density of 80 refugia per hectare was used at the site and therefore the population size assessment has been adjusted accordingly.

Table 3: Criteria for population size assessment based upon a refugia density of 10 per hectare

Species	Low Population	Good Population	Exceptional Population
Slow-worm	<5	5-20	>20

Given the peak count of one juvenile, and the refugia density used, the site can be said to support a low population of slow-worm. Given that a juvenile slow-worm was found, it is possible that a larger breeding population is present on site.

Evaluation

Slow-worm is common and widespread in both England (Wilkinson & Arnell, 2013) and Hampshire (Kernohan, 2017).

Given that low population of slow-worm recorded on site, and that the site comprises a small extent of the suitable habitat available in the wider area, the site is of value at the site level.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced no records of great crested newt within the desktop study area, however, this does not confirm the absence of the species in the local area.

A review of aerial and OS photography revealed a total of four waterbodies within 500 metres of the site including Hermitage stream adjacent to the site, St Chad's Well adjacent to Chadswell Meadows and Bedhampton Springs located approximately 300 metres to the south-west. None of these waterbodies are considered suitable to support great crested newt *Triturus cristatus* due to flowing currents, steep artificial banks and the presence of waterfowl and fish. ECOSA previously carried out great crested newt surveys at Bedhampton Springs in 2014 when great crested newt were recorded as being absent from the ponds.

Field Survey Results

The grassland and scrub habitats provide sheltering and foraging opportunities for great crested newt, however the site is isolated from off-site habitats by the adjacent watercourse and busy road with high curbs and there are no suitable breeding ponds within 500 metres of the site. The habitat on site is unsuitable for great crested newt and therefore the species is not considered further in this report.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Field Survey Results

The site is likely to support a range of common and widespread invertebrate assemblages but is limited in extent and lacks any features that would support protected or notable invertebrate species. The habitat on site is unsuitable for protected or notable invertebrates and therefore this species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Field Survey Results

The grassland and scrub habitats provide foraging and commuting habitats for European hedgehog *Erinaceus europaeus*. The site has good connectivity to off-site

habitats via the adjacent railway line. Overall the site is assessed as having suitability for European hedgehog.

4.13.2 Evaluation

The scrub and grassland habitats represent a small portion of the available foraging and sheltering hedgehog habitat available in the wider area. Overall the site is considered to be of local value for hedgehog.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy⁹ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the clearance of vegetation and levelling of the site and subsequent construction of a total of 20 one-bedroom flats with 10 car parking spaces and hardstanding driveway and access road. Access to the site will enter the site along the southern boundary of the site from West Street. An ecological garden will be planted to the north of the site.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

The proposal will lead to a net increase in the number of residents on site. It has been identified that residents within 5.6 kilometres of the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA are likely to make use of the site for recreation (Bird Aware Solent, 2017), this has potential to result in an increase in recreational impacts on nearby designated sites causing disturbance of wintering birds and degradation of habitats for which the sites are designated.

As the Hermitage Stream adjacent to the site flows into the Solent Maritime SAC, the Chichester and Langstone Ramsar site and SPA, and the Langstone Harbour SSSI site drainage will be designed to ensure there are no impacts on the nearby designated

⁹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and 'Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

habitats. It is recommended that a Construction Environmental Management Plan (CEMP) be produced, with input from an ecologist, to outline measures to avoid/reduce construction-related impacts. The CEMP will include guidance on reducing the risk of pollution incidents during construction including appropriate storage of materials and machinery and provision of spill kits on site. A buffer zone of no less than five metres should be in place between the development and the Hermitage Stream.

5.3.2 Mitigation Measures

Habitats Regulations Assessment (HRA) is the process that competent authorities must undertake to consider whether a proposed development plan or programme is likely to have significant effects on a European designated site (i.e. SACs and SPAs). Where impacts on relevant European designated sites cannot be ruled out (and therefore screened out), Appropriate Assessment is required. The purpose of the Appropriate Assessment is to determine whether there will be an adverse effect on the integrity of any site either alone or in combination with other plans or projects. The Appropriate Assessment takes proposed mitigation and compensation measures into account. If it is concluded that there will be no adverse impact the HRA is considered complete, if adverse impacts cannot be ruled out further assessment against the three 'derogation tests' under article 6(4) of the Habitats Directive 92/43/EEC is required. As impacts on the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA cannot be ruled out, Appropriate Assessment is required. It is understood that Appropriate Assessment in relation to the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA will be undertaken by the local authority.

Where a net gain in dwellings is proposed within the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA buffer (a 5.6 kilometre buffer), in accordance with the Solent Recreation Mitigation Strategy, a contribution should be made towards off-site mitigation measures. The contribution required will be determined based on the number of bedrooms within the new sheltered accommodation development (Bird Aware Solent, 2017). If this financial contribution is secured, it is considered that the local authority will conclude that there will be no adverse impact on the integrity of the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA and the HRA can be concluded.

5.3.3 Significance of Residual Effects

Following mitigation, no impacts have been identified and therefore there are no residual effects anticipated.

5.3.4 Compensation

As there are no residual effects anticipated, no compensation measures are considered necessary in relation to designated sites.

5.3.5 Enhancement

Following mitigation, no impacts have been identified and therefore there are no enhancement recommendations in relation to designated sites.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The proposals will result in the loss of approximately 0.35 hectares of grassland, dense scrub and woodland habitats.

5.4.2 Mitigation Measures

Proposed ecological landscaping will incorporate additional tree and hedgerow planting. This landscaping will comprise native tree and shrub species rather than cultivars including pedunculate oak *Quercus rober*, hazel, holly, hawthorn, guelder rose *Viburnum opulus* and dogwood *Cornus sanguinea*.

New areas of grassland around the new development will comprise a native wildflower lawn mix (E.g. Emorsgate EL1 Flowering Lawn Mixture). Areas of grassland within the ecological gardens should comprise a wetlands wildflower mix (e.g. Emorsgate EM8 Meadow Mixture for Wetlands).

5.4.3 Significance of Residual Effects

Following mitigation, no impacts have been identified and therefore there are no residual effects anticipated.

5.4.4 Compensation

As there are no residual effects anticipated, no compensation measures are considered necessary in relation to habitats.

5.4.5 Enhancement

Following mitigation, no impacts have been identified and therefore there are no enhancement recommendations in relation to habitats.

5.5 Bats

5.5.1 Potential Impacts and Effects

New external lighting may cause disturbance to foraging and commuting bats on site and in the adjacent habitats. No lighting will be introduced within the ecological garden area to the north of the site. Vegetation clearance will lead to a loss of foraging and commuting habitats.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected

under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

Lighting to be installed on the new development will comprise hooded luminaires. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife¹⁰. The new lighting will be motion-activated and task related, associated with specific entrance/exit points of the property. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels published by the Chartered Institution of Building Services Engineers (CIBSE)¹¹ will be followed. Lighting of adjacent the adjacent stream will be avoided.

5.5.3 Significance of Residual Effects

Following mitigation, the loss of foraging and commuting habitat cannot be mitigated for.

5.5.4 Compensation

The additional planting recommended in Paragraph 5.4.2 will create new foraging and commuting habitats for bats.

5.5.5 Enhancement

Two 1FR Schwegler bat tubes (or bat tubes of a similar design) will be installed on the new development to provide additional roosting opportunities post-development.

5.6 Badger

5.6.1 Potential Impacts and Effects

The proposals will result in the loss of suitable badger foraging habitat. Foraging badger may become trapped in excavations during construction works.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

To prevent badger from becoming trapped in excavations, timber ramps should be inserted into any excavations left open overnight to allow the animal to escape of its own accord.

¹⁰ Wildlife and Artificial Lighting Seminar, 21st – 22nd March 2014, Arup London, Bat Conservation Trust.

¹¹ CIBSE (1992) *Lighting Guide 6: The Outdoor Environment*; CIBSE (2002) *Code for Lighting*, Butterworth-Heinemann, UK.

A badger survey should be undertaken at least six months prior to works commencing, to check the status of badger activity at the site and to allow sufficient time for mitigation measures to be put in place if necessary.

5.6.3 Significance of Residual Effects

In order to accommodate the scheme, the loss of foraging habitat cannot be suitably mitigated for.

5.6.4 Compensation

The additional planting recommended in Paragraph 5.4.2 will create new foraging habitats for badger.

5.6.5 Enhancements

Following compensation measures, no enhancement is considered necessary with regards to badger.

5.7 Birds

5.7.1 Potential Impacts and Effects

Nesting birds may be disturbed and/or harmed during vegetation clearance works, if undertaken during the breeding season, March to August inclusive. The proposals will result in the loss of nesting bird habitats.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

Vegetation clearance should be undertaken outside the breeding bird season of March to August, inclusive, or if not possible, an ecologist should be present immediately prior to clearance to check vegetation. Active nests should be left with a suitable buffer until nesting ends.

5.7.3 Residual Effects

In order to accommodate the scheme, the loss of nesting habitat cannot be suitably mitigated for.

5.7.4 Compensation

The additional planting recommended in Paragraph 5.4.4 will create new nesting habitats for breeding birds.

5.7.5 Enhancement

Three type 26 Schwegler Brick Nest Boxes (or bird nest boxes of a similar design) will be incorporated into the building to provide additional nesting opportunities post development.

5.8 Reptiles

5.8.1 Potential Impacts and Effects

The proposals may result in harm to reptiles during ground clearance works and will lead to a net loss of reptile habitat post-development.

Widespread reptile species (slow-worm, common lizard *Zootoca vivipara*, grass snake *Natrix natrix* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.8.2 Mitigation Measures

To avoid harm to reptiles, the site will be subject to a low scale translocation exercise. A high density of reptile refugia will be placed on site. Following a bedding in period, ten translocation visits will be undertaken. Any reptiles found during the visits will be translocated to retained habitat to the north of the site. Once the translocation has been completed, careful progressive strimming of the grassland and scrub habitats will be undertaken to encourage reptiles away from the works area. The grassland should be cut to a sward length of 10 centimetres and maintained at this length to prevent reptiles from re-colonising the work areas. An experienced ecologist will supervise the site clearance works. This exercise should be completed when reptiles are fully active between April and October. If any reptiles are encountered during the supervised vegetation clearance, they will be moved to retained suitable habitat on site.

5.8.3 Significance of Residual Effects

In order to accommodate the scheme, the loss of suitable reptile habitat cannot be suitably mitigated for.

5.8.4 Compensation

The additional planting recommended in Paragraph 5.4.2 will create new habitats for reptiles and compensate for the loss of suitable habitat during construction.

5.8.5 Enhancements

As a measure of enhancement, one reptile log pile hibernacula will be installed to the north of the site within the ecological garden area.

5.9 Other Relevant Species

5.9.1 Potential Impacts and Effects

The proposals will result in the loss of suitable hedgehog foraging habitats. European hedgehog may be harmed during vegetation clearance.

5.9.2 Mitigation Measures

Prior to vegetation clearance, a toolbox talk shall be given to contractors by a suitably qualified ecologist to make contractors aware of the possible presence of European hedgehog on site. Any European hedgehog found on site during vegetation clearance should be safely removed to suitable off-site habitats.

Fencing should be avoided to prevent isolating the site from hedgehog.

5.9.3 Significance of Residual Effects

In order to accommodate the scheme, the loss of foraging habitat cannot be suitably mitigated for.

5.9.4 Compensation

The additional planting recommended in Paragraph 5.4.2 will create new sheltering habitats for European hedgehog.

5.9.5 Enhancement

Two hedgehog houses should be installed within the grounds of the new development to provide nesting and hibernation opportunities for European hedgehog.

5.10 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

The site supports and a low population of slow-worm and has suitability for foraging and commuting bats, badger, breeding birds and European hedgehog. The site is also located within the 5.6 kilometre buffer zone of the Solent Maritime SAC and the Chichester and Langstone Ramsar site and SPA. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. No residual or cumulative impacts are anticipated. Post-development the site will be enhanced for bats through the installation of additional bat roosting features, bird nesting features and hedgehog houses resulting in an overall net gain for biodiversity. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including policies CS11 and DM9 of the Core Strategy and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

7.0 REFERENCES

Bird Aware Solent, 2017. *Bird Aware Solent - Development Contributions*. [Online]
Available at: <http://www.birdaware.org/article/28101/Developer-contributions>

CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2017. *Chartered Institute of Ecology and Environmental Management Website*. [Online]
Available at: www.cieem.net

CIEEM, 2017. *Guidelines for Ecological Report Writing*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

Collins, J., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: Bat Conservation Trust.

DEFRA, 2017. *Multi-Agency Geographic Information for the Countryside (MAGIC) Map Application*. [Online]
Available at: www.defra.magic.gov.uk

English Nature, 2001. *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature.

Froglife, 1999. *Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. *Froglife Advice Sheet 10*. Halesworth: Froglife.

Froglife, 2015. *Surveying for Reptiles: Tips, techniques and skills to help you survey for reptiles*. Peterborough: Froglife.

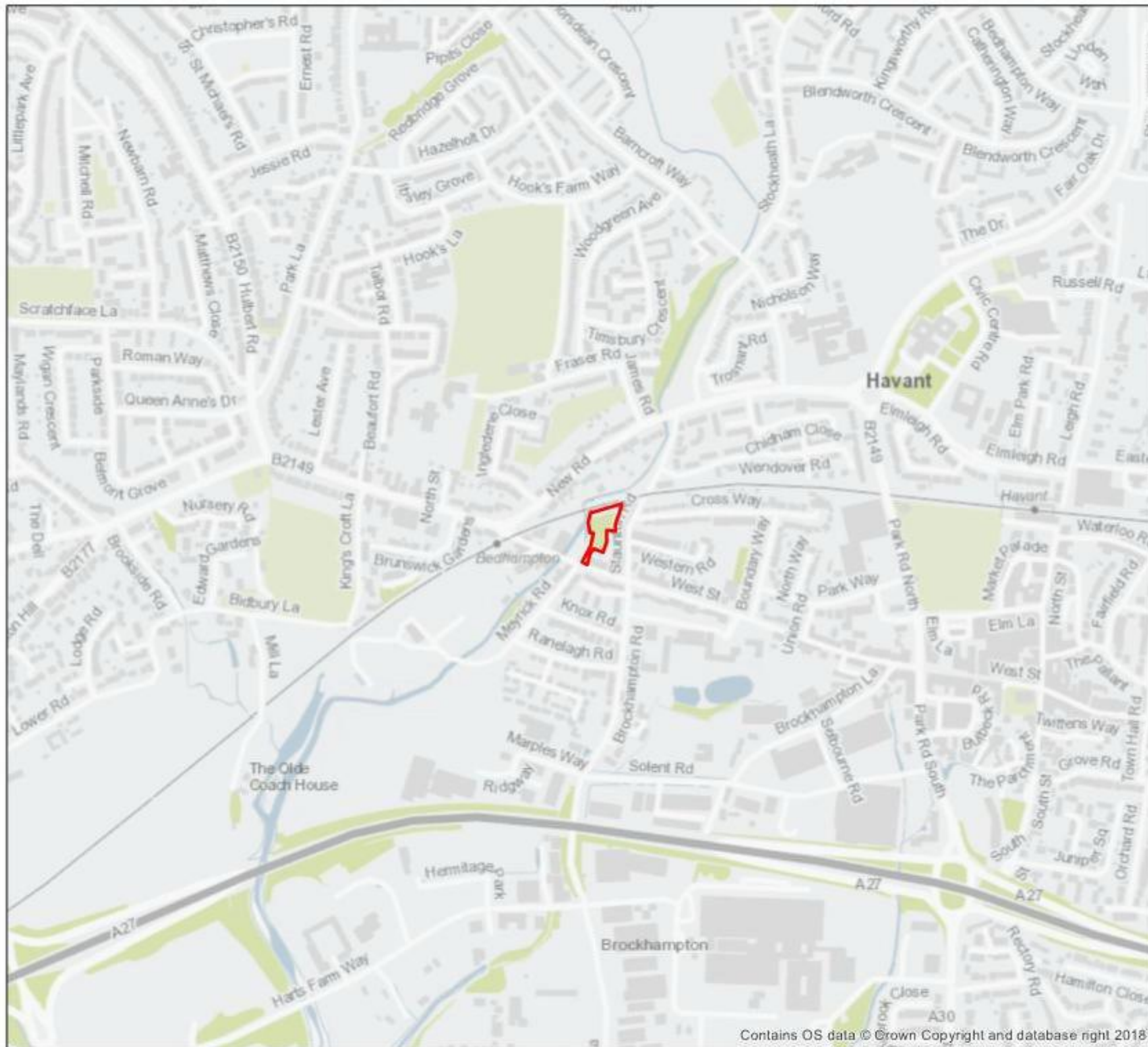
JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. Peterborough: Joint Nature Conservation Committee.

Kernohan, R., 2017. *Hampshire Amphibian & Reptile Recording Network: Herpetofauna Report 2006 to 2016*. Curdridge: Hampshire and Isle of Wight Wildlife Trust.

Ratcliffe, D., 1977. *A Nature Conservation Review*. Cambridge: Cambridge University Press.

Wilkinson, J. W. & Arnell, A. P., 2013. *NARRS Report 2007 - 2012: Establishing the Baselines (HWM Edition)*. ARC Research Report 13/01, Bournemouth: Amphibian and Reptile Conservation.

Map 1 Site Location Plan



**LAND AT 178A WEST STREET,
HAVANT, HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	PDP Architecture LLP
Date:	September 2018
Status:	Final

KEY

 Site Boundary



Scale at A4: 1:10,000

0 100 200 400 Metres

N

ECOSA
Ecological Survey & Assessment

ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DF
Telephone: 02380 261065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

Appendix 1 Proposed Site Layout

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPA) and Special Areas of Conservation (SAC) form a network of protected sites across the European Union called Natura 2000 sites. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to Natura 2000 sites.

SACs are sites which support intentionally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds listed in the annexes of the Birds Directive. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on Natura 2000 sites or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an "Appropriate Assessment" to fully assess the plan or project against the site's conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a Natura 2000 site or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
- To impair its ability to survive, breed, or rear or nurture their young;
- To impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and

the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees. A detailed external and internal inspection of accessible structures was undertaken to compile information on potential and actual bat entry/exit points; potential and actual bat roosting locations; any evidence of bats found.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side

vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.2), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹², specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 4**¹³.

Table 4: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch of scrub.

¹² LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

¹³ Table adapted from (Collins, 2016)

	seen with only very limited roosting potential.	
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.