



URBAN EDGE
ENVIRONMENTAL
CONSULTING

NATURAL PROGRESSION

Land at Pollards Farm, Ditchling Common, West Sussex

Preliminary Ecological Appraisal Report

March 2019

Land at Pollards Farm, Ditchling Common, West Sussex

Preliminary Ecological Appraisal Report

Client:	Dim South Ltd	
Report No.:	UE0263 PollardsFm2 PEA_1_190306	
Author: Olly Edmonds BSc(Hons) MSc Anna Douglas BSc(Hons) MSc GradCIEEM	Proofed: Becci Bond BSc(Hons) MCIEEM	Approved: Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM
Revision No.:	Status/Comment:	Date:
0	First issue to client	13 July 2018
1	Proposed layout plan added	6 March 2019
The information, advice and opinions provided in this report are true and were prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct . We confirm that the opinions expressed are our true and professional bona fide opinions.		

Contents

0	Executive Summary	i
0.1	Introduction	i
0.2	Results	i
0.3	Evaluation	i
0.4	Recommendations	ii
1	Introduction	1
1.1	Purpose of this Report	1
1.2	Objectives and Approach of the Study	1
1.3	Survey Area	1
1.4	Proposed Construction Activities	2
2	Survey Methodology	5
2.1	Desk Study	5
2.2	Preliminary Ecological Appraisal	5
2.3	Limitations	6
2.4	Personnel	7
3	Results	8
3.1	Desk Study	8
3.2	Phase 1 Habitats	14
4	Evaluation	23
4.1	Introduction	23
4.2	Designated Sites	23
4.3	Habitats	23
4.4	Species	23
5	Recommendations	28
5.1	Introduction	28
5.2	Protected Species Surveys	28
5.3	Precautionary Measures	29

5.4	Ecological Protection Measures	29
5.5	Ecological Enhancement	30
6	Conclusions	33
6.1	Summary	33
6.2	Results	33
6.3	Evaluation	33
6.4	Recommendations	34
	References and Bibliography	37
	Appendix I: Phase 1 Habitats Map	A
	Appendix II: Pond Map	C
	Appendix III: Habitat Suitability Indices	E
	Appendix IV: Legislation and Planning Context	I
	Legislation	I
	Planning context	K
	Appendix V: Legal and Technical Limitations	N

List of Tables and Figures

<i>Table 0.1: Summary of ecological constraints and opportunities</i>	<i>ii</i>
<i>Table 0.2: Summary of recommendations</i>	<i>iii</i>
<i>Table 3.1: Nature conservation sites within the desk study search area</i>	<i>8</i>
<i>Table 3.2: Records of protected, rare & notable species within the desk study search area</i>	<i>13</i>
<i>Table 5.1: Recommendations for further ecological surveys</i>	<i>28</i>
<i>Table 5.2: Recommended precautionary measures</i>	<i>29</i>
<i>Table 5.3: Recommended ecological protection measures</i>	<i>29</i>
<i>Table 5.4: Preliminary recommendations for ecological enhancement</i>	<i>30</i>
<i>Table 6.1: Summary of ecological constraints and opportunities</i>	<i>33</i>
<i>Table 6.2: Summary of recommendations</i>	<i>35</i>
<i>Figure 1.1: Site location plan</i>	<i>3</i>
<i>Figure 1.2: Proposed block plan</i>	<i>4</i>
<i>Figure 3.1: Statutory site designations within the desk study search area</i>	<i>10</i>
<i>Figure 3.2: Non-statutory site designations within the desk study search area</i>	<i>11</i>
<i>Figure 3.3: Priority habitats within the desk study search area</i>	<i>12</i>

Abbreviations

CHS	Conservation of Habitats and Species Regulations 2017
EPS	European Protected Species
GCN	Great crested newt
HSI	Habitat Suitability Index
LNR	Local Nature Reserve
LWS	Local Wildlife Site
NERC	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
PEA	Preliminary Ecological Assessment
PRF	Potential (bat) Roost Feature
SAC	Special Area for Conservation
SNCI	Site of Nature Conservation Interest
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SxBRC	Sussex Biological Records Centre
TN	Target Note
WCA	Wildlife & Countryside Act 1981 (as amended)

0 Executive Summary

0.1 Introduction

- 0.1.1 A Preliminary Ecological Appraisal was undertaken for a residential redevelopment at Land at Pollards Farm, Ditchling Common, West Sussex (Grid Reference: 533212,118313). Proposed works include demolition of an existing conservatory and garage, extension and renovation of the existing dwelling, and construction of a new garage. The report has been prepared to inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

0.2 Results

- 0.2.1 There are three statutory site designations within the 1km desk study search area, one Special Site of Scientific interest (SSSI), one National Park and one Country Park. There are also four non-statutory Local Wildlife Sites (LWS) and one Local Geological Site (LGS). There are records of a range of protected or notable species in the locality, including amphibians, birds, invertebrates, terrestrial mammals, flowering plants and reptiles, together with priority habitats including Ancient woodland, Deciduous woodland, Reedbed, Standing open water, Wood pasture and parkland.
- 0.2.2 The survey area lies to the east of the village of Burgess Hill in West Sussex. Brighton is the closest city, located approximately 13km to the south. The site comprises c.0.3ha of land comprising a central farm house, associated gardens, pond and dilapidated swimming pool, with bordering mature hedgerow. The site is dominated by improved grassland, with areas of scrub, introduced shrub and hedgerow. It is bounded to the north and west by arable fields and grazing pasture, to the south by a large wooden barn and further rural residential dwellings and associated gardens, and to the east by a mature treeline and ditch system. The wider rural landscape is dominated by pasture, woodland and arable farmland, and the settlement of Burgess Hill. At least 13 ponds lie within 500m of the survey area.

0.3 Evaluation

- 0.3.1 Table 0.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 0.1: Summary of ecological constraints and opportunities

Feature	Detail
<u>Constraints:</u>	
Designated sites	No impacts are predicted for the SSSI, National Park, Country Park, LWS or LGS as a result of the development proposals.
Priority habitats	Priority habitats within the survey area (hedgerows and pond) provide habitats suitable for a range of protected species, are of value in their own right and should be retained and protected during construction.
Scrub and shrub	Small areas of scrub and shrub will be lost under proposals for the site. These areas are of comparatively little intrinsic value but (particularly where connected to hedgerows) provide habitats suitable for a number of protected species.
Great crested newt (GCN) <i>Triturus cristatus</i>	Small areas of suitable terrestrial habitats (scrub, shrub, building foundations) will be lost under proposals for the site. It is anticipated that pond P1 will be retained and therefore no direct effects on aquatic habitats are predicted. A GCN survey has recently been completed and is reported separately.
Birds (nesting)	Small areas of nesting habitats (scrub, shrub and buildings) will be lost under proposals for the site.
Bats (roosting)	Building B2 is proposed for renovation and extension, is of moderate suitability for roosting bats, and is a confirmed bat roost due to the presence of bat droppings. A bat survey has recently been completed and is reported separately.
Bats (foraging/commuting)	There is scope for (mainly indirect) negative impacts to areas of low (grassland, scrub & hedgerow) suitability for foraging/commuting bats, including through increased artificial lighting.
Reptiles	Small areas of suitable terrestrial habitats (scrub, shrub) will be lost under proposals for the site. It is currently unknown whether reptiles are present on site.
<u>Opportunities:</u>	
Priority habitats	Priority habitats within the survey area (hedgerows and pond) could provide a focus for ecological enhancement measures.
Habitat creation / enhancement	Habitat creation and enhancement opportunities include wildflower meadow planting, hedgerow creation and/or restoration, pond restoration, hibernacula and bird/bat boxes. It is not currently known which of these can be accommodated within proposals for the site.

0.4 Recommendations

0.4.1 Recommendations are made for further protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction; these are summarised in Table 0.2. It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised

following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

Table 0.2: Summary of recommendations

#	Summary of recommendations
Protected species surveys	
R1	Presence / absence (pond) surveys for great crested newt, undertaken between mid-March and mid-June. A GCN survey has recently been completed and is reported separately.
R2	Roost characterisation surveys for bats, undertaken between May and August/September. A bat survey has recently been completed and is reported separately.
Precautionary measures	
R3	Removal of nesting bird habitats should be undertaken outside of the bird breeding season, which runs from 1 March to 31 August. It should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season.
R4	Removal of reptile habitats should be undertaken during the reptile active season (broadly March/April to September/October) and in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles.
Ecological protection measures	
R5	Priority habitats within the survey area (hedgerows, pond and stream) should be retained and protected during construction, and could also provide a focus for ecological enhancement measures.
R6	Standard site procedures to prevent impacts on trees should be adhered to during construction.
R7	Standard site procedures to prevent impacts on nearby aquatic environments should be adhered to during construction.
R8	The use of external lighting should be avoided or minimised to prevent impacts to nocturnal species such as bats.
R9	At the end of each working day excavations should be covered over and open pipework should be capped to prevent impacts on mammals, amphibians and other fauna.
R10	Small access gaps should be provisioned at the base of all new fence boundaries to enable continued dispersal of small mammals across the site.
R11	Rabbit warrens should be destroyed in accordance with the Mammals Act 1996 by a registered pest control company.
Ecological enhancements	
R12	Green spaces should be sown with a locally-sourced native wildflower and grass seed mix.
R13	Hedgerow creation and/or restoration should use a range of native fruit, seed, nut and nectar-bearing species shrub species of local provenance.
R14	Partial removal of submerged and floating vegetation to avoid choking of pond.

#	Summary of recommendations
R15	Hibernacula for reptiles and amphibians could be created within areas of retained rough grassland or marginal vegetation.
R16	The value of the site for birds could be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.
R17	The value of the site for bats could be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

1 Introduction

1.1 Purpose of this Report

- 1.1.1 This report presents a Preliminary Ecological Appraisal for a residential redevelopment at Land at Pollards Farm, Ditchling Common, West Sussex (Grid Reference: 533212,118313). The report has been prepared to inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

1.2 Objectives and Approach of the Study

- 1.2.1 The objectives of the Preliminary Ecological Appraisal were to:
- ▶ Identify features present on the site or adjacent which are ecologically significant and which may act as constraints or opportunities to the proposed development;
 - ▶ Consider the need for further ecological surveys which may be necessary; and
 - ▶ Make preliminary recommendations for the protection of ecological features, to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction, with the aim of achieving an overall net gain for biodiversity.
- 1.2.2 The approach to establishing the ecological baseline found within this report has been achieved through:
- ▶ A desk study involving a review of statutory and non-statutory nature conservation sites, and records of habitats and species from the local area (1km radius from the centre of the proposed development site);
 - ▶ An extended Phase 1 habitat survey identifying the main habitats on site and adjacent, and the presence of, or potential for, protected and/or notable species; and
 - ▶ A Preliminary Ecological Appraisal of the effects of development proposals with respect to the nature conservation value of the site.

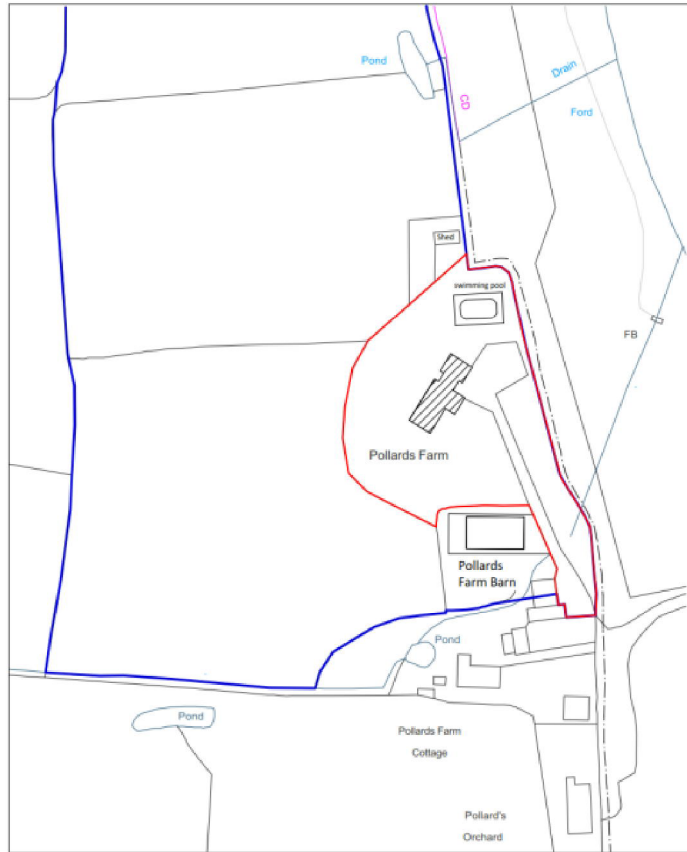
1.3 Survey Area

- 1.3.1 The survey area lies to the east of the village of Burgess Hill in West Sussex. Brighton is the closest city, located approximately 13km to the south. The site comprises c.0.3ha of land comprising a central farm house, associated gardens, pond and dilapidated swimming pool, with bordering mature hedgerow. The site is dominated by improved grassland. It is bounded to the north and west by arable fields and grazing pasture, to the south by a large wooden barn and further rural residential dwellings and associated gardens, and to the east by a mature treeline and ditch system. The extent of the survey area is outlined in red on Figure 1.1.

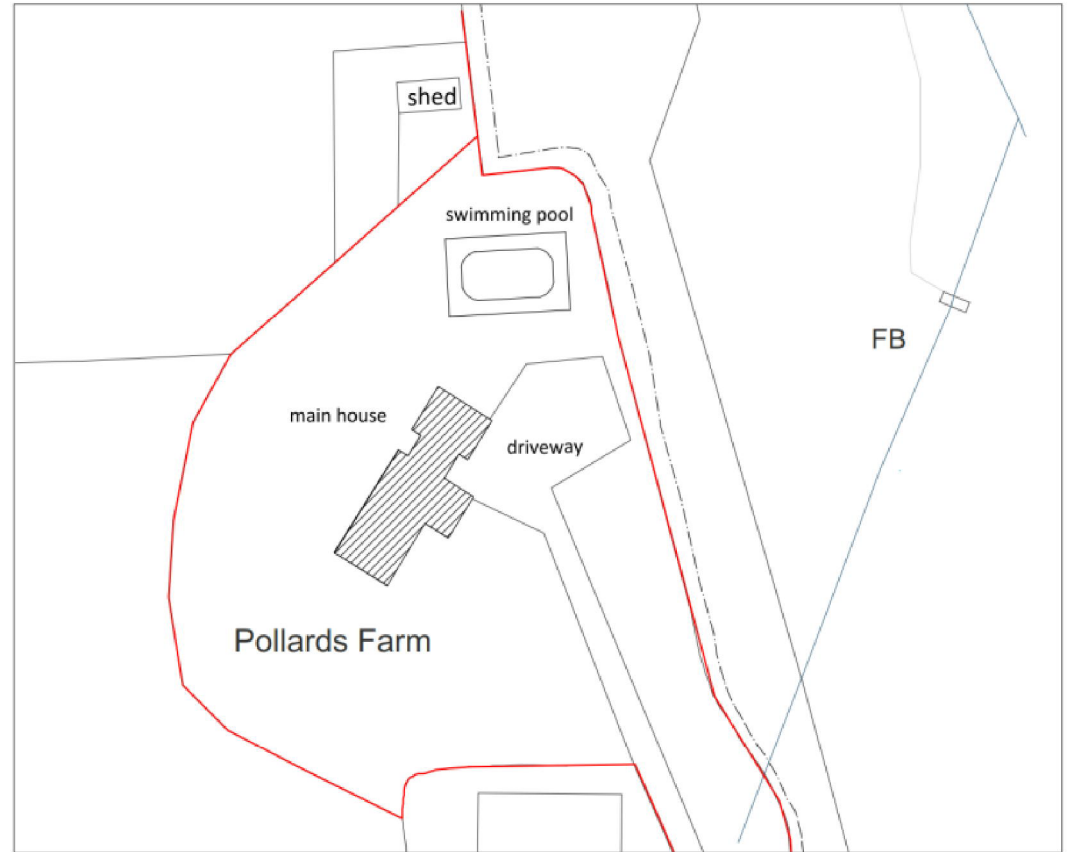
- 1.3.2 The wider rural landscape is dominated by pasture, woodland and arable farmland, and the settlement of Burgess Hill. At least 13 ponds lie within 500m of the survey area.

1.4 Proposed Construction Activities

- 1.4.1 Planning consent is being sought for demolition of an existing conservatory and garage, extension and renovation of the existing dwelling, construction of a new garage, and associated works. The proposed block plan is shown at Figure 1.2.



1 Scale: 1:1250
Location Plan



2 Block Plan
Scale: 1:500

Disclaimer:

This drawing is the copyright of Zincan Stickland Thomas Architects Ltd. (ZSTA Ltd.) and may not be reproduced or used except by written permission.

Figured dimensions to have precedence over scaling. Check all site dimensions prior to fabrication. Refer any discrepancies found to ZSTA.

Revisions:

Figure 1.1: Site location plan

Checked

mj

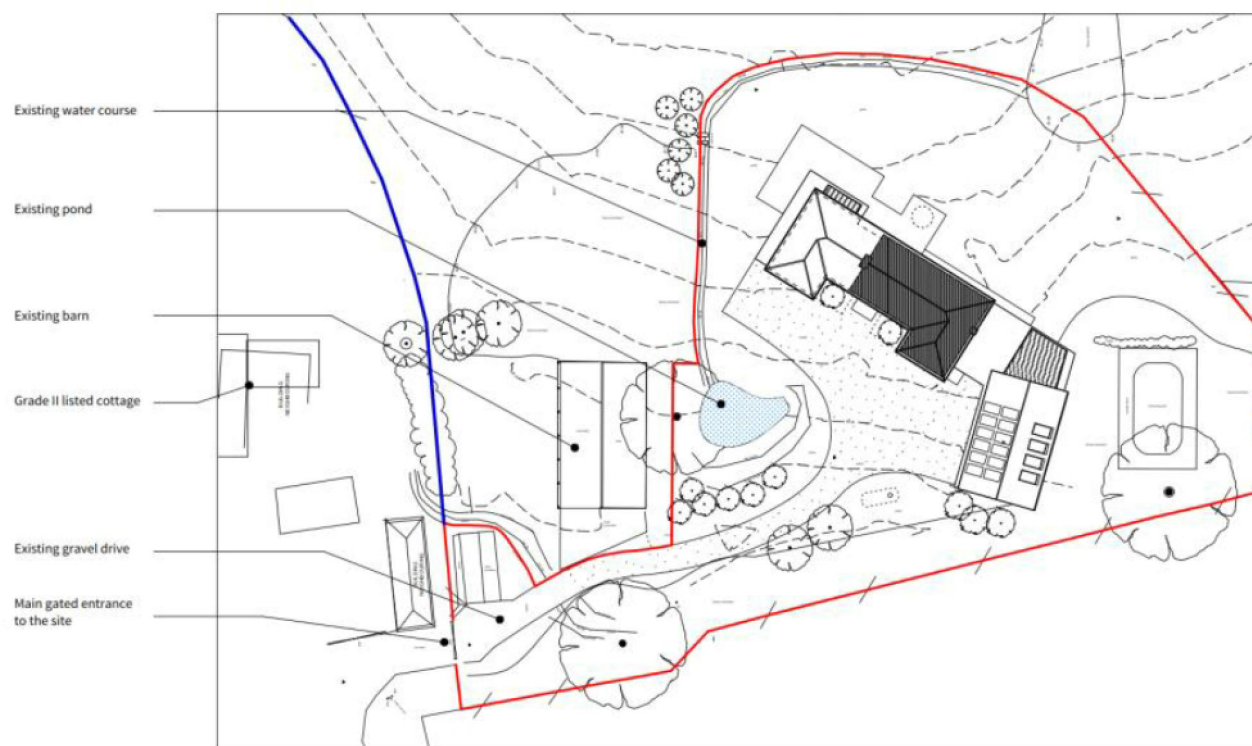


Dwg No. 17048-P-001

Drawing Title Location Plan and Block Plan
Address Pollards Farm, Ditchling Common
Client Patagonia Properties
Scale 1:1250 & 1:500@A3
Stage Planning
Drawn by JB
Checked by NS

ZSTA

Zincan Stickland Thomas Architects Ltd.
3 dorset place, brighton BN2 1ST
studio@zsta.co.uk, t: 01273 964051
Company registered in England No. 07558805
www.zsta.co.uk



Proposed Block Plan
Scale: 1:500

Figure 1.2: Proposed block plan

4 Gloucester Passage, Brighton BN1 4AS
e: studio@sticklandwright.co.uk
t: 01273 964051
Company registered in England No. 11222477

Disclaimer:

This drawing is the copyright of Stickland Wright Ltd. and may not be reproduced or used except by written permission. Figured dimensions to have precedence over scaling. Check all site dimensions prior to fabrication. Refer any discrepancies found to Stickland Wright.

Revisions:

		Checked
A	22/11/2018	Planning submission
	02/01/2019	Drawing updated

1:500 5m 10 20 30



2 Survey Methodology

2.1 Desk Study

2.1.1 A desk-based study was undertaken to examine published information and biological records from within the search area (site centroid plus 2km for bats, and 1km for all other data). The desk study established the presence of designated sites of nature conservation interest, or records of protected/notable habitats/species within the site and its surrounding area. This information was collected from the following sources:

- ▶ The 'MAGIC' (Multi-agency Geographic Information for the Countryside) website: www.magic.gov.uk; and
- ▶ Sussex Biological Records Centre (SxBRC).

2.2 Preliminary Ecological Appraisal

2.2.1 The Preliminary Ecological Appraisal (compliant to British Standard BS42020:2013) is based on a survey of the site undertaken on 23 April 2018 by an experienced ecologist. Weather conditions were warm (c.14°C), with a gentle south-westerly breeze (Beaufort Scale 2), it was overcast with some patchy sunshine.

2.2.2 Within the survey area every parcel of land was classified, recorded and mapped using standard colour codes, in accordance with a list of ninety habitat types specified within the methodology for Phase 1 habitat survey (Joint Nature Conservation Council, 2010). This allows rapid visual assessment of the extent and distribution of different habitat types. Target notes were used to provide supplementary information on features which are particularly interesting or significant to specific construction proposals, or too small to map, or to provide additional details, for example relating to species composition and structure.

2.2.3 This basic methodology was extended to provide more detail in relation to habitats with potential to support rare or protected fauna, as described by the Chartered Institute of Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2013). The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual* (Gent and Gibson, 2003) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collin (ed.), 2016). Where a species/group is not specifically evaluated, this indicates that no habitat of potential value for the species was identified during the survey.

Scope of the survey

2.2.4 The buffer zone for the desk study was set at 1km from the centre of the site (2km for bats) – a distance within which any notable ecological features likely to be affected by the proposed scheme would be identified.

- 2.2.5 All habitats within the survey area as indicated on Figure 1.1 were identified in order to identify any ecological constraints that would be likely to apply to the scheme from within this zone. Smaller areas of potential habitat or of floristic interest were target noted. Adjacent habitats were also surveyed where appropriate in order to identify constraints falling outside of the proposed development site and to place the survey area in its ecological context.

Evaluation criteria

- 2.2.6 Important ecological features were evaluated where possible in relation to a geographical frame of reference, i.e. international/European value being most important, then national, regional, metropolitan/county/district/borough, and lastly local (based on CIEEM, 2016).
- 2.2.7 Value judgements are based on various characteristics that contribute to the importance of ecological features. These include site designations (such as Sites of Special Scientific Interest (SSSI), or for undesignated features, the extent, naturalness, conservation status (locally, nationally or internationally important), and quality of the ecological resource. Quality can refer to habitats (for instance if they are particularly diverse, are a good example of a specific habitat type, or provide for the requirements of important species or assemblages), other features (such as connectivity provided by wildlife corridors or mosaics of habitats) or the richness and abundance of species populations or assemblages.

2.3 Limitations

- 2.3.1 Biological records gathered during the desk study can provide an indication of the likely presence of a species on or adjacent to a site, however, the absence of records for protected species does not equate to evidence of their absence from the locality. Data search accuracy is variable and records are often georeferenced to the nearest 1km grid square.
- 2.3.2 Time of year when the survey was carried out and other variations will influence the results of the survey. Botanical species vary considerably in their flowering, seeding and fruiting periods, and surveys outside of these periods can confound accurate species identification. Where this is the case plants have been identified to lowest possible taxonomic group, normally genus. The possibility nonetheless exists for other species to be present on the site which were not recorded or otherwise indicated by the survey. Ornamental species are not included in botanical listings.
- 2.3.3 The survey reported herein was carried out in spring, prior to flowering for many botanical species. Although diagnostic vegetative characteristics are often still discernible for some species, it should be noted that it was not possible to identify all species present onsite and there is the possibility that some species were not recorded due to their growth characteristics at this time of year. However, the timing of the survey is not considered to be a significant limitation to meeting the report objectives.
- 2.3.4 Only five of the 13 ponds within 500m of the survey area could be accessed to assess their suitability for breeding amphibians.

- 2.3.5 This report aims to provide general advice on the ecological constraints associated with development proposals for the site and includes recommendations for further survey where appropriate. It is not intended that this report should be submitted with a planning application for development of the site unless there is no scope for ecological impacts. Where impacts are likely or further ecological surveys are recommended, a more detailed Ecological Impact Assessment (EclA) of the effects of the proposed development should be carried out based on the results of recommended surveys. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures. This is in line with the latest guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016, 2017a and 2017b).
- 2.3.6 See Appendix V for general Legal and Technical Limitations which apply to this document.

2.4 Personnel

- 2.4.1 The site survey was carried out by Olly Edmonds BSc(Hons) MSc, who has over six years' experience in ecological field survey for a wide range of sites and development projects. Olly holds a Natural England Class Licence to survey for great crested newt (WML-CL08). Olly was assisted by Anna Douglas BSc(Hons) MSc GradCIEEM an ecologist with three years ecological survey experience. Anna holds a Natural England Class Licence to survey for great crested newt (WML-CL08). The report was extensively reviewed by Becci Bond BSc(Hons) MCIEEM, who has over seven years' experience in ecological field survey for a wide range of sites and development projects. Becci holds Natural England Class Licences to survey for great crested newt (WML-CL08) and dormouse (WML-CL10a). The report was then approved by Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM, director of Urban Edge Environmental Consulting, who has over twelve years' experience in leading survey and impact assessment teams for a wide range of ecology and environmental planning projects. Nick holds Natural England Class Licences to survey for bats (WML-CL18) and great crested newt (WML-CL08).

3 Results

3.1 Desk Study

Statutory and non-statutory site designations

- 3.1.1 There are three statutory site designations within the desk study search area; one Special Site of Scientific Interest (SSSI), one National Park and one country park. Four non-statutory Local Wildlife Sites (LWS) and one Local Geological Site (LGS) were also noted from within the desk study area. The information provided by SxBRC regarding these sites is presented in Table 3.1, while Figure 3.1 and Figure 3.2 show their locations in relation to the survey area.

Priority habitats

- 3.1.2 Priority habitats include those listed on local Biodiversity Action Plans and habitats of principal importance listed under section 41 of the Natural Environment and Rural Communities Act 2006. SxBRC returned data on priority habitats including, Reedbed, Deciduous woodland, Ancient woodland, Standing open water, Wood pasture and parkland. None of these are shown as present within the survey area, with the exception of standing open water in the form of pond P1, although an extensive area of Wood pasture and parkland is adjacent to the east; see Figure 3.3.

Records of protected, rare and notable species

- 3.1.3 Biological records were obtained from SxBRC for the desk study search area and are summarised in Table 3.2.

Table 3.1: Nature conservation sites within the desk study search area

Site name	Location	Description
Ditchling Common SSSI	Adjacent east	This site on Weald Clay contains a range of grassland types which have resulted from the wide variation in drainage conditions. The flora includes a number of locally uncommon plants. Variable drainage and past management of the site have led to a diversity of habitats. An acidic heath grassland dominates but ungrazed areas consist of bracken, scrub and woodland. Streams dissect the site, although all but one are seasonally dry, and there is a small pond. Butterfly and moth populations are of importance and the site is locally valuable for breeding birds.
South Downs National Park	c. 250m south-east	The area, which covers more than 1600 square kilometres of countryside in Sussex and Hampshire, comprises a mosaic of habitats including chalk grassland, heathland, ancient woods, river valleys, greensands and clays. The South Downs Way spans the entire length of the park and is the only National Trail that lies wholly within a national park.
Ditchling Common	Adjacent east	Ditchling Common Country Park covers 76 hectares (188 acres). The site is managed as both a Site of Special Scientific Interest and a Country Park and

Site name	Location	Description
Country Park		includes coppiced woodlands, open grassy areas and lakes. The Country Park also includes a nature trail.
Ditchling Common Meadow LWS	c. 890m east	This small meadow is the only example of unimproved chalk grassland in the area. It is species rich, but has been allowed to grow rough due to only minimal grazing by donkeys. Consequentially scrub is invading. It is bisected by a stream which has been recently dug out, leading to a small pond, recently cleared.
St Georges Retreat LWS	c. 910m north east	The grassland forms part of the grounds of St George's Retreat, on the eastern edge of Ditchling Common. It occupies flat ground in front of the main building and is bisected by the driveway and crossed by a small stream. The site is an outstanding example of species-rich, unimproved grassland, supporting a remarkable assemblage of plant species (total species count: 83). It has a very large population of Green-winged Orchids and a number of other uncommon species, including Adder's Tongue Fern.
Brambleside Meadow LWS	c. 600m south	This is a small, linear meadow adjacent to the B2112, just north of St. George's Retreat. The sward has not recently been managed and as a result it has grown long and rough and is becoming overgrown in places by scrub and rank species. However there still remains a rich variety of plants
Keymer Tile Works LWS	c. 830m north west	This is a working clay pit on the eastern outskirts of Burgess Hill. Keymer Tile Works supports a matrix of successional habitats ranging from temporary pools and bare clay through unimproved grassland to dense scrub, deciduous woodland and willow carr. It is a very varied site of particular importance for breeding amphibians and is also of high geological interest.
Keymer Tileworks, Burgess Hill LGS	c. 830m north west	Large clay pit in final stages of operation, exposing a section at the top of the lower Weald Clay. This is the only site in Sussex where this level is exposed. Main recent excavation (lower pit) is about 100m long, 60m wide and 12m deep. Next to this is a shallower partly overgrown upper pit (Red Pit) of similar area. The site is well known for its vertebrate and insect fossils.

Map 1: Statutory site designations**Land at Pollards Farm, Ditchling Common + 1km radius**

Prepared for Anna Douglas (Urban Edge Environmental Consulting Ltd)

SxBRC/18/039 - 23/04/2018



**Sussex
Biodiversity
Record Centre**

Woods Mill, Henfield,
West Sussex BN5 9SD
www.sxbrc.org.uk
01273 497521

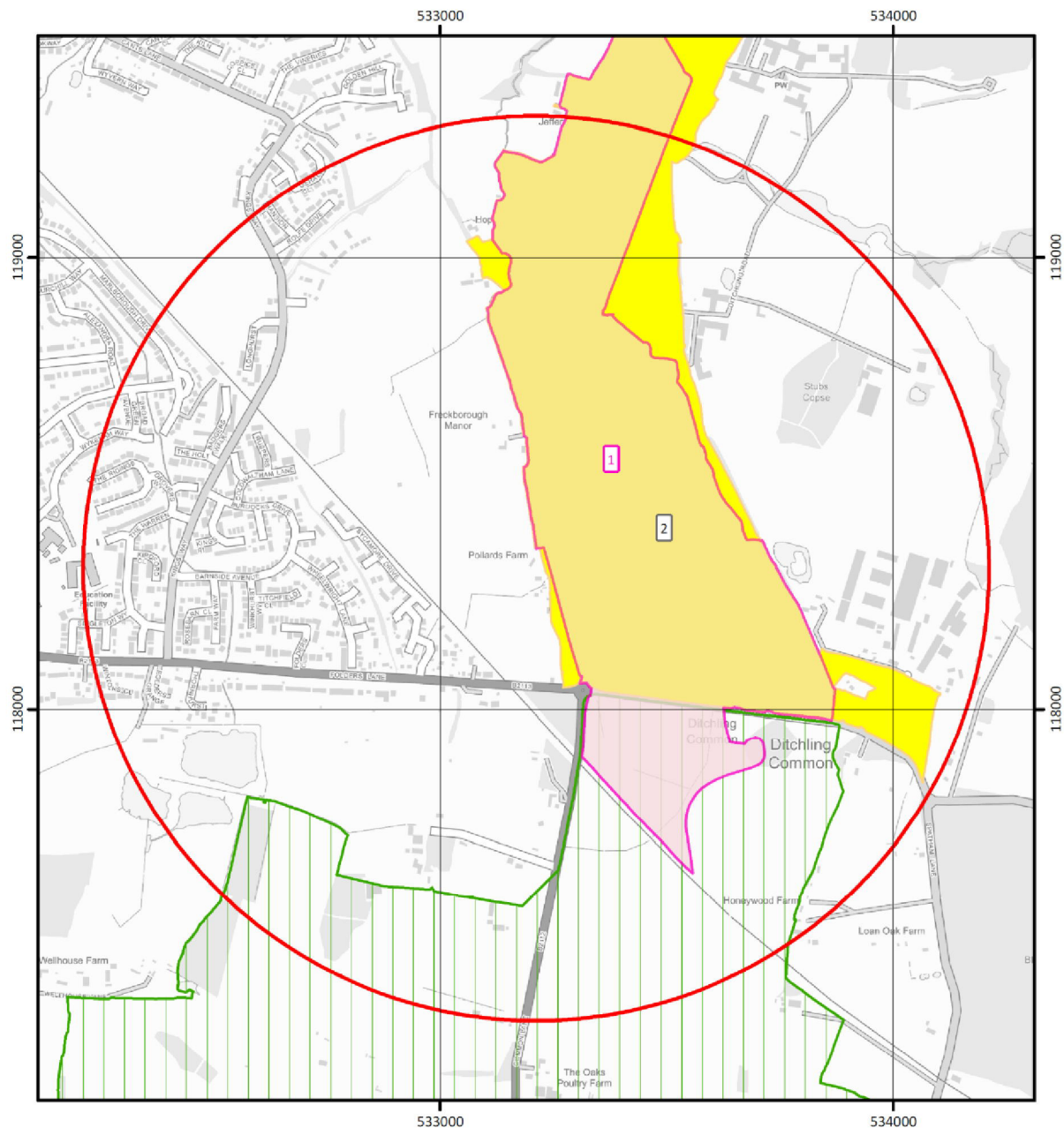


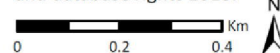
Figure 3.1: Statutory site designations within the desk study search area

Key to Map:

- Search Area
- Site of Special Scientific Interest
- National Park
- Country Park

Statutory designated site boundaries supplied by Natural England. Contains public sector information licensed under the Open Government Licence v3.0.

Contains Ordnance Survey data © Crown copyright and database rights 2018.



Map 2: Non-statutory site designations**Land at Pollards Farm, Ditchling Common + 1km radius**

Prepared for Anna Douglas (Urban Edge Environmental Consulting Ltd)

SxBRC/18/039 - 23/04/2018



Woods Mill, Henfield,
West Sussex BN5 9SD
www.sxbrc.org.uk
01273 497521

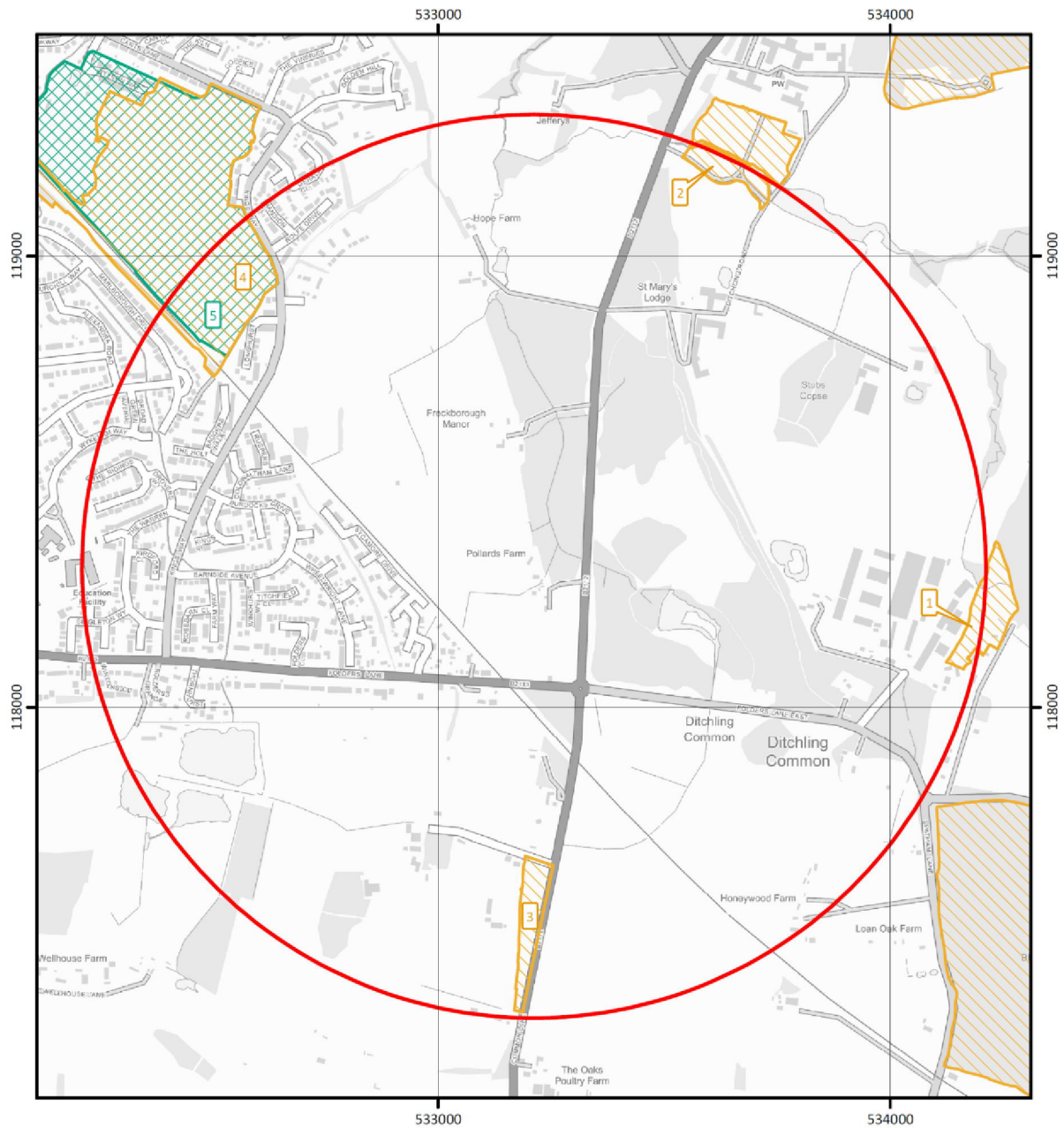


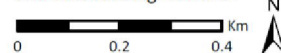
Figure 3.2: Non-statutory site designations within the desk study search area

Local Wildlife Site and Notable Road Verge data provided by local authorities. Local Geological Site data created by SxBRC in partnership with Sussex Geodiversity Group.

Key to Map:

- Search Area
- Local Wildlife Site
- Local Geological Site

Contains Ordnance Survey data © Crown copyright and database rights 2018.



Land at Pollards Farm, Ditchling Common + 1km radius
Prepared for Anna Douglas (Urban Edge Environmental Consulting Ltd)
SxBRC/18/039 - 23/04/2018



Woods Mill, Henfield,
West Sussex BN5 9SD
www.sxbrc.org.uk
01273 497521

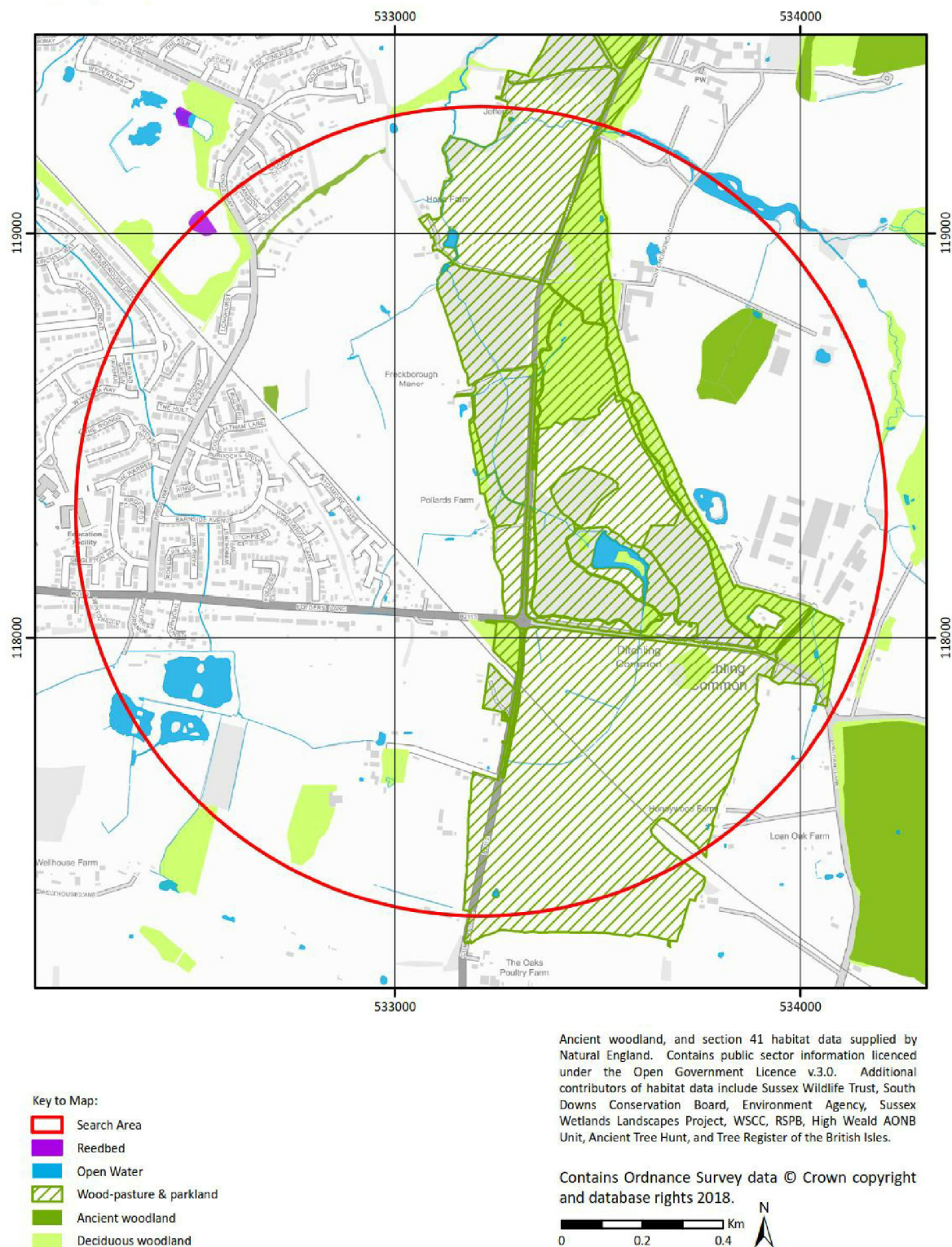


Figure 3.3: Priority habitats within the desk study search area

Table 3.2: Records of protected, rare & notable species within the desk study search area

Group	Species	Protection
Amphibians	Great Crested Newt <i>Triturus cristatus</i>	Habs.Dir.Ax.2/4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Common toad <i>Bufo bufo</i>	WCA Sch.5 partial, NERC s41
	Common frog <i>Rana temporaria</i> , Smooth Newt <i>Lissotriton vulgaris</i> , Palmate Newt <i>Lissotriton helveticus</i>	WCA Sch.5 partial
Birds (species may appear more than once)	Kingfisher <i>Alcedo atthis</i> , Bittern <i>Botaurus stellaris</i> , Red Kite <i>Milvus milvus</i> ,	Birds Dir.Ax.1
	Barn owl <i>Tyto alba</i> , Kingfisher <i>Alcedo atthis</i> , Bittern <i>Botaurus stellaris</i> , Red Kite <i>Milvus milvus</i> , Hobby <i>Falco Subbuteo</i> , Little Ringed Plover <i>Charadrius dubius</i>	WCA s1
	Lapwing <i>Vanellus vanellus</i> , Cuckoo <i>Cuculus canorus</i> , Skylark <i>Alauda arvensis</i> , Yellow wagtail <i>Motacilla flava subsp. flavissima</i> , Yellowhammer <i>Emberiza citrinella</i> , Reed bunting <i>Emberiza schoeniclus</i> , Bittern <i>Botaurus stellaris</i> , Herring Gull <i>Larus argentatus</i> , Turtle Dove <i>Streptopelia turtur</i> , Lesser Spotted Woodpecker <i>Dendrocopos minor</i> , Grasshopper Warbler <i>Locustella naevia</i> , Dunnock <i>Prunella modularis</i> , , Song thrush <i>Turdus philomelos</i> , Spotted Flycatcher <i>Muscicapa striata</i> , Willow Tit <i>Poecile montana</i> , Marsh Tit <i>Poecile palustris</i> , Starling <i>Sturnus vulgaris</i> , House Sparrow <i>Passer domesticus</i> , Linnet <i>Linaria cannabina</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , Hawfinch <i>Coccothraustes coccothraustes</i> , Corn Bunting <i>Emberiza calandra</i>	NERC s41
	Lapwing <i>Vanellus vanellus</i> , Cuckoo <i>Cuculus canorus</i> , Skylark <i>Alauda arvensis</i> , Yellow wagtail <i>Motacilla flava subsp. flavissima</i> , Song thrush <i>Turdus philomelos</i> , Mistle thrush <i>Turdus viscivorus</i> , Yellowhammer <i>Emberiza citrinella</i> , Woodcock <i>Scolopax rusticola</i> , Herring Gull <i>Larus argentatus</i> , Turtle Dove <i>Streptopelia turtur</i> , Spotted Woodpecker <i>Dendrocopos minor</i> , Grasshopper Warbler <i>Locustella naevia</i> , Grey Wagtail <i>Motacilla cinerea</i> , Nightingale <i>Luscinia megarhynchos</i> , Spotted Flycatcher <i>Muscicapa striata</i> , Willow Tit <i>Poecile montana</i> , Marsh Tit <i>Poecile palustris</i> , Starling <i>Sturnus vulgaris</i> , House Sparrow <i>Passer domesticus</i> , Linnet <i>Linaria cannabina</i> , Corn Bunting <i>Emberiza calandra</i>	RL
	Mute Swan <i>Cygnus olor</i> , Mallard <i>Anas platyrhynchos</i> , Pintail <i>Anas acuta</i> , Bittern <i>Botaurus stellaris</i> , Kestrel <i>Falco tinnunculus</i> , Stock Dove <i>Columba oenas</i> , Tawny Owl <i>Strix aluco</i> , Swift <i>Apus apus</i> , Kingfisher <i>Alcedo atthis</i> , Willow Warbler <i>Phylloscopus trochilus</i> , House Martin <i>Delichon urbicum</i> , Meadow Pipit <i>Anthus pratensis</i> , Dunnock <i>Prunella modularis</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , Reed bunting <i>Emberiza schoeniclus</i> ,	AL

Group	Species	Protection
Invertebrates	Wall <i>Lasiommata megera</i> , Small heath <i>Coenonympha pamphilus</i> , White Admiral <i>Limenitis Camilla</i> , Grizzled Skipper <i>Pyrgus malvae</i> , Brown Hairstreak <i>Thecla betulae</i> , Greenweed Flat-body <i>Agonopterix atomella</i> , Powdered Quaker <i>Orthosia gracilis</i> , Cinnabar <i>Tyria jacobaeae</i>	NERC s41
Mammals (terrestrial)	Noctule <i>Nyctalus noctula</i> , Soprano pipistrelle <i>Pipistrellus pygmaeus</i> , Hazel Dormouse <i>Muscardinus avellanarius</i>	Habs.Dir.Ax.4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Daubenton's Bat <i>Myotis daubentonii</i> , Common Pipistrelle <i>Pipistrellus pipistrellus</i> , Natterer's bat <i>Myotis nattereri</i> , Whiskered/Brandt's <i>Myotis mystacinus/brandtii</i> , Brandt's <i>Myotis brandtii</i> , Brown Long-eared bat <i>Plecotus auritus</i>	Habs.Dir.Ax.4, CHS Sch.2, WCA Sch.5 full
	Water vole <i>Arvicola amphibious</i>	WCA Sch.5 full, NERC s41
	Hedgehog <i>Erinaceus europaeus</i> ,	NERC s41
Plants	Bluebell <i>Hyacinthoides non-scripta</i>	WCA Sch8
	Box <i>Buxus sempervirens</i>	NR
Reptiles	Slow-worm <i>Anguis fragilis</i> , Grass Snake <i>Natrix Helvetica</i> , Adder <i>Vipera berus</i> , Common Lizard <i>Zootoca vivipara</i> ,	WCA Sch.5 part, NERC s41

Birds Dir.Ax.1	Wild Birds Directive 2009/147/EC Annex 1
Habs.Dir.Ax.2/4	Habitats Directive 92/43/EEC Annex 2 or 4
CHS Sch.X	Conservation of Habitats & Species Regulations 2017 Schedules 2 (EPS animals) or 5 (EPS plants)
WCA s1/Sch.X	Wildlife and Countryside Act 1981 Section 1 / Schedules 1, 5 (fully or partially protected), 6 or 8
NERC s41	Natural Environment & Rural Communities Act 2006 Section 41 Species of Principal Importance
RL/AL	Red/Amber Listed (IUCN or Birds of Conservation Concern 4 (Eaton et al., 2015))
NR	Nationally Rare
	NS
	Nationally Scarce

3.2 Phase 1 Habitats

3.2.1 The following Phase 1 habitats were identified within or adjacent to the survey area and are shown on the Phase 1 habitats map at Appendix I. The habitats are described below broadly in the order of their extent.

- ▶ Improved grassland;
- ▶ Building and hard standing;
- ▶ Hedgerow, scrub and introduced shrub;
- ▶ Standing open water (pond); and
- ▶ Running water (ditch).

Improved grassland

3.2.2 The majority of the survey area is dominated by improved grassland; regularly mown the sward is generally uniform, at around c.10cm in length with occasional tussocky patches. Species that could be identified in the sward included frequent perennial rye grass *Lolium perenne*, fescues

Festuca spp., Yorkshire fog *Holcus lanatus*, common daisy *Bellis perennis*, dandelion *Taraxacum officinale*, and occasional spear thistle *Cirsium vulgare*, clovers *Trifolium* spp., broad leaved vetch *Vicia sativa*, creeping buttercup *Ranunculus repens*, selfheal *Prunella vulgaris*, and small timothy *Phleum bertolonii*.

- 3.2.3 A dry ditch bordered the grassland to the west, species noted within it included soft rush *Juncus effuses*, hard rush *Juncus inflexus* and bramble *Rubus fruticosus* agg. The grassland to the west of the ditch site was more diverse and had not undergone the same management as the grassland on site. It was more species rich, and structurally more varied, but outside of the survey area boundary.
- 3.2.4 An area of improved grassland to the east of the entrance trackway was more species diverse, and included: silver weed *Argentina anserina*, yarrow *Achillea millefolium*, ground ivy *Glechoma hederacea*, bristly ox-tongue *Helminthotheca echioides*, meadow buttercup *Ranunculus acris*, creeping buttercup *R. repens*, broadleaf dock *Rumex obtusifolius*, clover, cocksfoot *Dactylis glomerata*, dandelion, field forget me not *Myosotis arvensis*, and common daisy. Fine leaved fescues were also noted in this sward, although the dominant species remained Yorkshire fog and rye grass.
- 3.2.5 Continuing south there was an area of increased structural diversity. The species make up was similar to the majority of the site, however additions included tufted vetch *Vicia cracca* and dead nettle *Lamium purpureum*.



Improved grassland which dominates the site



Improved sward & dry ditch form west boundary



Mown improved grassland



Grassland with more diverse sward east of track



Area to the south where sward becomes more structurally diverse

Building and hardstanding

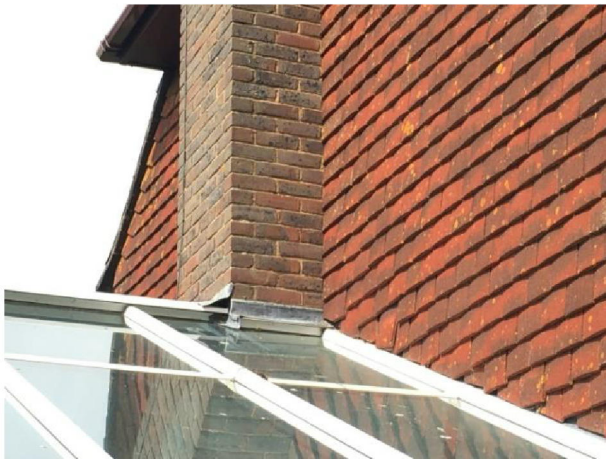
- 3.2.6 Hardstanding was present through the centre east of the survey area forming the entrance driveway and parking for the house.
- 3.2.7 The house (building B2) was a two storey brick built dwelling with a connected garage and conservatory. The brick work was sound and no observable gaps or cracks in the mortar that could provide roosting opportunities for bats. The upper storey was clad in hanging clay tiles which were in a generally sound condition, although there were occasional slipped and missing tiles that could allow entry for crevice roosting bat species such as pipistrelles *Pipistrellus spp.*
- 3.2.8 The pitched and hipped roof was tiled and in generally good condition. There were occasional gaps where lead flashing connected the wall to the conservatory and the roof to chimney. Lead flashing around the window features was generally sound however. The soffits were tightly fitted and presented no gaps and appeared recently fitted.
- 3.2.9 The internal roof void was accessed through a hatch in the central corridor on the first floor. The internal space was open and consisted of two connected voids. The first was shorter in length facing to the south east, the second running on a north-east to south-west alignment over the length of the house. The beams were rough-hewn and in good condition, with no evident gaps between the joists. The roof lining was a textured plastic, in good condition with no light coming through at any point. A high degree of cobwebbing throughout the void suggested that bats had not recently used the void as a flight space. Although the void space was generally uncluttered, there was a water tank to the north-east of the entrance hatch, below the ridge beam, and cross beams protruded through the centre of the void.
- 3.2.10 A number of bat droppings were found on top of the water tank, a mixture of old and fresh droppings were noted, and samples of the droppings were collected for DNA analysis. Around twenty droppings were found in total, scattered but primarily underneath the ridge beam. The size and shape were characteristic of pipistrelle and brown long eared *Plecotus auritus* bats. Occasional mouse droppings were also noted. A large inactive wasp nest was found towards the south west gable.



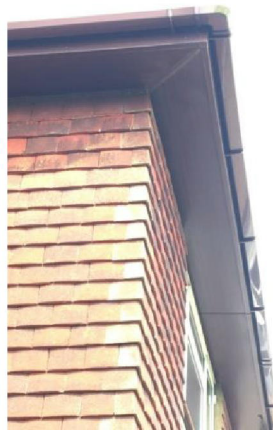
Main house, with associated shrub boundary



Tightly fitting lead flashing to the window, drainage pipe



Lifted lead flashing at join with conservatory



Tightly fitting soffits, no gaps



Many hanging tiles in good condition



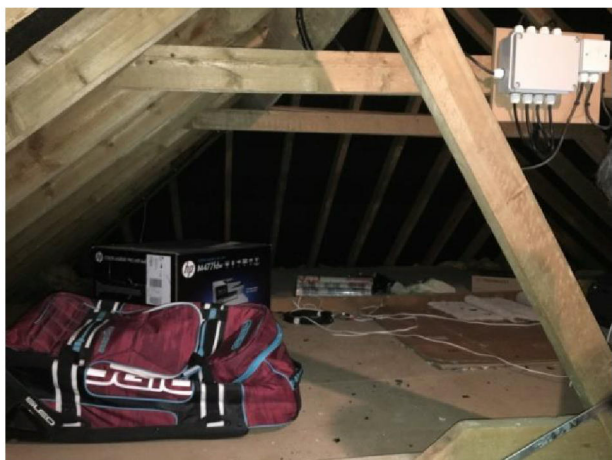
Occasional missing hanging tiles



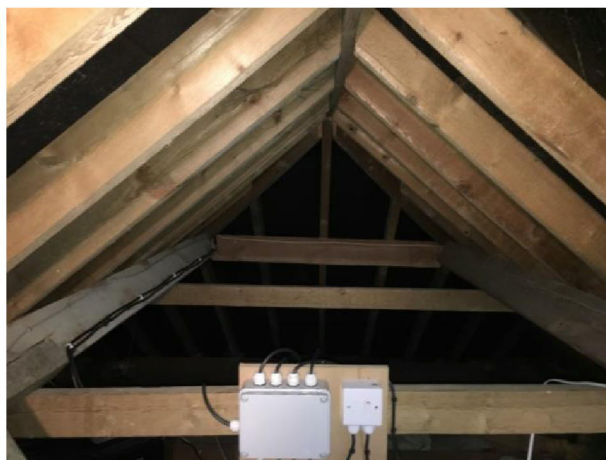
Brickwork in good condition



Garage in good condition, no access points for bats



Rough timber beams



South east void



Tightly fitting lining



Non cluttered space



Internal flight space, some cross beams



Bat droppings on top of water tank

Hedgerow, scrub and introduced shrub

- 3.2.11 The boundaries to the north, east and south were predominantly made up of a mixture of woody species, mostly in the form of hedgerow habitat, but including a small amount of scrub, coppice and a mature tree line.
- 3.2.12 Part of the northern boundary of the survey area is made up of a dense blackthorn *Prunus spinosa* hedge. It has minimal ground flora, but species include bramble and nettle *Urtica dioica*. Adjacent to this a semi mature intact beech *Fagus sylvatica* hedge projects into the site from the north east, screening the northern part of the garden from the entrance way. The hedge had not been recently managed and was beginning to overgrow.
- 3.2.13 Around the swimming pool there was an area of scrub dominated by bramble and nettle. The scrub was dense and it was not possible to enter the area. It was possible to view a large area of the scrub from above due to the height of the swimming pool surrounds; no visible signs of animal tracks into the area were noted.
- 3.2.14 The area of scrub adjoined the eastern boundary which comprised a mature hedgerow that had been left unmanaged for some time. In places it had become leggy but was mostly intact and formed a continuous corridor of dense vegetation. Dominant species consisted of blackthorn, hawthorn *Crataegus monogyna* and elder *Sambucus nigra*. Basal flora included nettle, lords and ladies *Arum maculatum*, and ground ivy. As the hedge continued south it became denser and even less managed, the species makeup remained of hawthorn, blackthorn and elder, however the ground flora was increasingly made up of nettle.
- 3.2.15 To the very south east, at the site entrance the hedge became shorter and included bamboo *Bambuseae* and crack willow *Salix fragilis* as part of its makeup. The understory was dense and consisted of bramble.
- 3.2.16 To the south of the pond and forming the southerly boundary of the survey area there was a species poor hedgerow with trees, a medium sized oak was present but was young and presented no potential bat roost features. Other species within the hedgerow included hawthorn, blackthorn and bramble.
- 3.2.17 The hedge continued west to form the south west boundary and was predominantly composed of blackthorn, this was dense and had little notable ground flora. Behind this hedge line was a small copse of dense young blackthorn. No animal tracks were noted running through this area, although due to its density the whole area was not surveyed. No signs of badger were noted within the area surveyed however.
- 3.2.18 To the west of the blackthorn copse a line of coppiced hazel *Corylus avellana* was present under a line of black poplar *Populus nigra* trees. The ground flora in this area was bare, with occasional mossy areas.
- 3.2.19 The house (building B2) was surrounded on all side by a border of introduced shrub formed of ornamental species. All areas of hedgerow, scrub and shrub were suitable for nesting birds though no active nests were noted.



Easterly hedge boundary



Scrubby hedge line to the west



Blackthorn coppice to the south west



Line of poplar and hazel coppice



Hedgerow and mature tree mix, south boundary



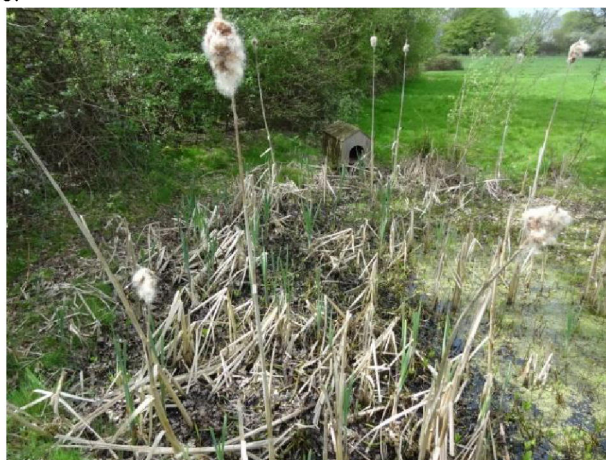
Coppice, to the south west

Open water

- 3.2.20 The dominant aquatic feature on site was a small pond (Pond P1) which measured approximately c.10m x 4m. The pond was choked with species including, bulrush *Typha latifolia*, rush *Juncus* spp., and moss. Around twenty percent of the surface had open water. There was evidence of water fowl in the form of a duck house, although no water fowl were present at the time of the survey. The pond bank was grassy and tussocky with occasional bramble, sorrel *Rumex acetosa*, broad leaved dock, dandelion, meadow foxtail *Alopecurus pratensis* and cocksfoot. This area had good potential to support reptiles, and provides suitable aquatic and terrestrial habitat for amphibians.



Pond P1



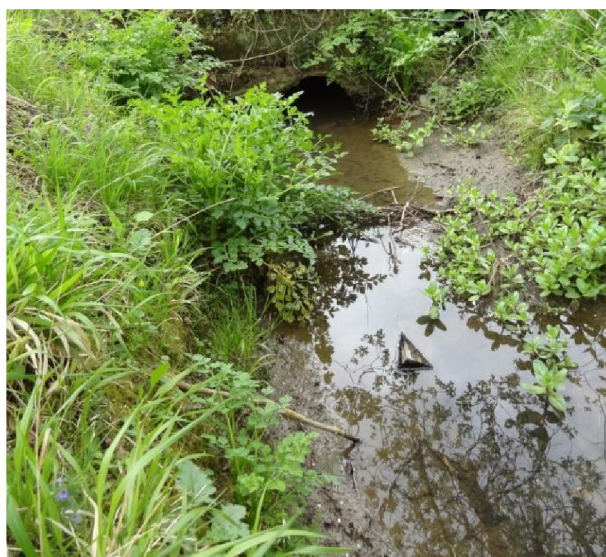
Pond P1

Running water

- 3.2.21 A ditch entered the survey area at the south-east corner under the tree and hedge line. This was predominantly dry at the time of survey but there was a stretch of around 20m towards the south that was wet. The water was clear and deep enough for some small fish to be present. No evidence of water vole or otter was observed. The banks were vegetated with a more diverse flora than the surrounding sward including: tufted vetch, greater stitchwort *Stellaria holostea* and red dead nettle *Lamium purpureum*. The ditch continued offsite to the south-west to feed ponds P2 and P3.



Wet ditch at the boundary



ditch with increased botanical interest

4 Evaluation

4.1 Introduction

- 4.1.1 This section evaluates the survey area in terms of the habitats and species present or potentially present on site or its immediate vicinity, in the context of relevant legislation and planning policy. See Appendix IV for a review of the legislation and planning context.

4.2 Designated Sites

- 4.2.1 The adjacent SSSI and Country Park within the desk-study search zone are unlikely to be affected due to the small scale nature of the proposals for the survey area, which are limited to renovation and extension of the existing dwelling.
- 4.2.2 Furthermore, the four LWS, LGS, National Park and areas of ancient woodland within the desk-study search zone are unlikely to be affected due to the nature of the proposals for the survey area and its distance from the designated sites.

4.3 Habitats

- 4.3.1 Priority habitats present within the survey area or at its boundaries include:
- ▶ Hedgerows; and,
 - ▶ Standing open water (pond).
- 4.3.2 It is currently anticipated these features will be retained and protected during construction.

4.4 Species

Amphibians (excluding great crested newt)

- 4.4.1 Habitats within the survey area such as the pond, hedgerow and scrub are potentially suitable habitats for common and widespread amphibian species such as common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *Lissotriton helveticus* (which have been recorded in the desk-study search zone). However, due to the limited nature of the works, the retention of the pond on site, and habitats of similar suitability being widely available in the surrounding area; common amphibians are not considered to present a constraint to the development proposals. No further surveys for this group are required; however, recommendations are made to for ecological enhancement this species group in Section 5.5.

Great crested newt

- 4.4.2 SxBRC returned 17 records of great crested newt (GCN) *Triturus cristatus* from within the desk-study search zone during a date range of 1988 to 2016.
- 4.4.3 The survey area contains suitable terrestrial habitat for GCN, including scrub which provides foraging and shelter opportunities, hedgerow which could be used for shelter, hibernation and dispersal, and buildings and hard-standing which could potentially provide shelter and hibernation opportunities within the foundations. The grassland was generally sub-optimal, being too short and uniform in structure, but could provide foraging opportunities.
- 4.4.4 There is one pond within the survey area, and analysis of Ordnance Survey maps and aerial photography indicated that twelve further ponds are present within 500m of the site; see Appendix II for a pond map. Ponds P1, P2, P3, P4 and P6 were accessible and assessed for their suitability to support breeding great crested newts using field observations supported by a Habitat Suitability Index (HSI; Oldham et al, 2000); the full results are listed at Appendix III. Ponds P5 and P7 to P13 were all 250m or more from the survey area and could not be accessed.
- 4.4.5 The pond onsite, P1, was of average suitability to support breeding GCN, being of a small size, sometimes drying, and with moderate water quality, with an HSI value of 0.62.
- 4.4.6 Pond P2 was of poor suitability to support breeding GCN, being of small size, and containing large levels of fish, with an HSI value of 0.37.
- 4.4.7 Ponds P3, P4 and P6 were of good suitability to support breeding GCN, with little shade, no signs of fish, good quality terrestrial habitats and some emergent vegetation suitable for egg-laying. The HSI values between of 0.72 – 0.74 were at the lower end of the 'good' category range.
- 4.4.8 In conclusion, areas of terrestrial habitat suitable for GCN are present within the survey area and ponds P1, P3, P4 and P6 provide potentially suitable breeding habitat. Although focused on renovation and extension of the house, construction works would likely involve some vegetation clearance, creation of access tracks and materials storage compounds, vehicle movements and groundworks, which together could result in destruction of GCN habitats or present a risk of killing, injury or disturbance for GCN if present within the survey area. Further surveys for great crested newt are recommended at section 5.2. These surveys are now complete and the findings are reported separately. In summary, it was concluded that the risk of great crested newts being present within the application site is low and it will not be necessary to obtain a European Protected Species Mitigation Licence from Natural England prior to commencing the works. However, mitigation should be implemented in accordance with a Non-Licensed Method Statement.

Birds (nesting)

- 4.4.9 SxBRC returned 414 records of 119 notable bird species from within the desk-study search zone during a date range of 1981 to 2016. The survey area's hedgerows, trees, scrub and introduced shrub are suitable for nesting birds such as wren *Troglodytes troglodytes*, dunnoek *Prunella modularis* (an Amber-listed bird of conservation concern (BoCC4); Eaton et al., 2015), robin

Erithacus rubecula and chaffinch *Fringilla coelebs*, while the buildings provide some limited suitability for species such as house sparrow *Passer domesticus* (BoCC4 Red-listed). Precautionary measures for nesting birds are recommended at section 5.3.

Invertebrates

- 4.4.10 SxBRC returned 76 records of protected/notable invertebrates from within the desk-study search zone, during a date range of 1980 to 2017. The improved grassland and scrub which dominate the survey area are largely unsuitable for these species and is unlikely to support a diverse or abundant invertebrate fauna in general. Invertebrates are not considered to present a constraint to the development proposals and no further surveys for this group are required.

Mammals (terrestrial)

Badger

- 4.4.11 SxBRC does not supply records of badger *Meles meles*. The survey area provides suitable foraging habitat for badger but limited sett creation potential. Sett building habitats were restricted to pockets of scrub.
- 4.4.12 A search for badger setts and signs of their presence was undertaken within a 30m radius of the site boundary, but did not include areas of impenetrable scrub. No evidence of badger activity was observed within or around the survey area, such as badger paths, footprints, latrines, badger hairs caught at fence lines, scratching posts or evidence of foraging (snuffle holes), however, this was based on a Phase 1 walkover survey rather than a comprehensive search for badger field signs. Badger is considered unlikely to present a constraint to the development proposals and no further surveys for this species are required at present.

Bats

- 4.4.13 SxBRC returned 146 records of eight species of bat from within 2km of the survey area, during a date range of 1983 to 2015, including serotine *Eptesicus serotinus*, Daubenton's *Myotis Daubenton's*, Whiskered/Brandt's *Myotis mystacinus/brantii*, noctule *Nyctalus noctula*, Natterer's *Myotis nattereri*, Brown Long-eared Bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *P. pygmaeus* bats.
- 4.4.14 Building B2 within the survey area, although generally well-maintained, presented a number of features suitable for roosting bats including missing and slipped hanging tiles, small sections of lifted lead flashing and a large and relatively uncluttered roof void. It is positioned in a rural area surrounded by large areas of favourable foraging habitat. In conclusion B2 is considered to be of moderate suitability for bats, and droppings found in the loft confirm it has been used as a roost in the past. Further surveys for roosting bats are recommended at section 5.2. These surveys are now complete and the findings are reported separately. In summary, the survey found that building B2 supports six occasionally used summer day roosts for low numbers of common pipistrelle bats. Mitigation should be implemented in accordance with an agreed Method Statement which will form part of a Natural England European Protected Species Mitigation (EPSM) Licence.

- 4.4.15 The trees within the hedgerow along the northern boundary of the site were not of sufficient size and age to present potential roost features for bats.
- 4.4.16 The improved grassland and scrub habitat within the survey area is unlikely to host an abundant invertebrate fauna and is considered to have low suitability as foraging habitat for bats, but the boundary hedgerows may serve as a navigation route or foraging feature for bats. It is currently anticipated that all of these features will be retained and protected during construction. However, it is possible that the boundary hedgerows may experience an increase in artificial lighting following development, which may render it less suitable for foraging/commuting in future. No bat activity surveys are required; however, recommendations are made for ecological protection measures for foraging and commuting bats with regard to lighting in section 5.4.

Dormouse

- 4.4.17 SxBRC returned two records of hazel dormouse *Muscardinus avellanarius* within the desk study search area, both c.820m north west of the site in 2015. Due to the lack of food plants present within the species-poor boundary hedgerows and the small extent of scrub, the survey area is unlikely to provide a year-round source of food. In any case, the hedgerows are currently expected to be retained under proposals for the site. Dormouse is not considered to present a constraint to the development proposals and no further surveys for this species are required.

Plants, native

- 4.4.18 SxBRC returned 102 records of 27 protected or notable botanical species from within the desk-study search zone during a date range of 1989 to 2015.
- 4.4.19 No rare or protected species of flora were recorded within the survey area. Botanical species are not considered to present a constraint to the development proposals and no further surveys for this group are required.

Plants – non-native invasive species and injurious weeds

- 4.4.20 SxBRC returned 10 records of non-native botanical species from within the 1km desk-study search zone during a date range of 2004 to 2013.
- 4.4.21 No invasive plant species (i.e. species listed on Schedule 9 of the Wildlife and Countryside Act) were located during the survey. No significant stands of injurious weed species were noted (ragwort *Senecio jacobea*, spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, curled dock *Rumex crispus*, and broad-leaved dock *Rumex obtusifolius*).

Reptiles (terrestrial)

- 4.4.22 SxBRC returned 44 records of four reptile species from within the 1km desk-study search zone during a date range of 1991 to 2015.
- 4.4.23 The survey area contains suitable reptile habitats, including scrub which provides foraging and shelter opportunities, and hedgerow which could be used for shelter, hibernation and dispersal.

The grassland was generally sub-optimal, being too short and uniform in structure, but could provide foraging opportunities. To the west of the site (off site) was a large area of rough grassland which could provide basking and foraging habitat adjacent to the site, while the large area of wood pasture and parkland adjacent (off site) to the east is also suitable.

- 4.4.24 Taken together, the habitats within the survey area, provide limited areas shelter and foraging habitat for species such as slow worm *Anguis fragilis* and common lizard *Zootoca vivipara*, while the pond provides potential hunting grounds for grass snake *Natrix natrix*. Although focused on renovation and extension of the house, construction works would likely involve some vegetation clearance, creation of access tracks and materials storage compounds, vehicle movements and groundworks, which together could present a risk of killing or injury for reptiles if present within the survey area. Precautionary measures for reptiles are recommended at section 5.3.

Other protected, rare or notable species

- 4.4.25 SxBRC returned 12 records of hedgehog *Erinaceus europaeus* from within the desk-study search zone during a date range of 2005 to 2017, with the majority recorded in the last 3 years. . The survey area contains habitats suitable for this species, including hedgerow and scrub. Hedgehog is listed as a species of principal importance under the NERC Act 2006 and is undergoing a significant population decline. Measures should be taken to continue accommodating this species on the site post-development (see sections 5.4 and 5.5).

5 Recommendations

5.1 Introduction

- 5.1.1 With regard to the objectives of this Preliminary Ecological Appraisal, recommendations are made below for further botanical and/or protected species survey where necessary. Preliminary recommendations are also made for the protection of important ecological features, and/or to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction, with the aim of achieving an overall net gain for biodiversity.
- 5.1.2 It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

5.2 Protected Species Surveys

- 5.2.1 The following species / groups (Table 5.1) will require additional surveys prior to refining development designs and formulating a suitable avoidance and mitigation strategy (if required).

Table 5.1: Recommendations for further ecological surveys

#	Recommendations for further ecological survey
R1	Presence / absence (pond) surveys for great crested newt, undertaken between mid-March and mid-June.
R2	Roost characterisation surveys for bats, undertaken between May and August/September.

Great crested newt

- 5.2.2 A great crested newt survey is recommended to establish whether the species is present in ponds within 250m of the proposed construction site, and if so in what numbers and whether they are breeding. The survey has recently been completed and is reported separately¹.

Roosting bats

- 5.2.3 The proposed development will require the demolition or alteration of building B2, which is of moderate suitability for roosting bats and is a confirmed bat roost. Roost characterisation surveys have recently been completed and are reported separately².

¹ Urban Edge Environmental Consulting (2019): *Land at Pollards Farm, Ditchling Common, West Sussex: Great Crested Newt Survey*.

5.3 Precautionary Measures

- 5.3.1 The following species/ groups (Table 5.2) require specific precautionary measures to be adhered to prior to and during construction to ensure that an offence under the relevant legislation is avoided. These measures may need to be added to or amended following completion of the protected species surveys described above.

Table 5.2: Recommended precautionary measures

#	Recommended precautionary measures
R3	Suitable bird nesting habitat occurs throughout the site in scrub, hedgerows, trees, introduced shrub and building. Negative impacts on breeding birds should be avoided by undertaking clearance and demolition works which would result in removal of potential nesting habitats (including vegetation and buildings) outside of the bird breeding season, which runs from 1 March to 31 August. Removal of nesting bird habitats should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season. Any construction works undertaken within the bird breeding season where suitable bird breeding habitat exists will require a site check for nesting birds by a suitably qualified ecologist. This should take place no more than two days prior to works commencing. This is to ensure that no disturbance to active bird nests occurs. If a nest is found it must be cordoned off and works adjacent to the nest must be delayed until such time that the chicks have fledged from the nest. This should be supervised by a suitably qualified ecologist.
R4	Removal of reptile habitats should be undertaken in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles. The Method Statement will specify reasonable avoidance measures including timing restrictions (works to be carried out during the reptile active season, broadly March/April to September/October), progressive reduction of vegetation height to displace any reptiles present, and will be carried out under the supervision of a suitably qualified ecologist.

5.4 Ecological Protection Measures

- 5.4.1 The following protection measures (Table 5.3) should be carried out as part of the proposed scheme, alongside any specific measures that are recommended following the protected species surveys described above.

Table 5.3: Recommended ecological protection measures

#	Recommended ecological protection measures
R5	Priority habitats within the survey area (hedgerows and pond) provide habitats suitable for a range of protected species, are of value in their own right and should if possible be retained and protected during construction, and could also provide a focus for ecological enhancement measures (see below).

² Urban Edge Environmental Consulting (2019): Land at Pollards Farm, Ditchling Common, West Sussex: Bat Survey.

#	Recommended ecological protection measures
R6	British Standard BS 5837:2012 and/or National Joint Utilities Group Guidelines (NJUG, 1995) should be followed at all times during construction when working in close proximity to trees or shrubs which are to be retained. According to NJUG Guidelines the root protection zone or precautionary area is 4x the circumference of the trunk (circumference is measured around the trunk at a height of 1.5m above ground level). The distance is measured from the centre of the trunk to the nearest part of any excavation or other work. If a separate tree survey is carried out for the proposed development, works should be undertaken in accordance with the recommendations therein.
R7	Standard site procedures, as recommended by the Environment Agency (such as <i>Pollution Prevention Guidelines 5 – Works and Maintenance in or Near Water</i> ; 2007), will be required to ensure that no contaminants or effluent are released into nearby aquatic environments.
R8	Avoid the use of external lighting, or keep its use to the minimum required for its intended purpose, during both construction and operation. This will be of benefit to nocturnal species e.g. bats. Where external lighting is to be provided, it should be low-level, directional lighting with minimal spill and glare, and consideration should be given to reduced hours of operation and/or a movement responsive system of control. Use narrow-spectrum bulbs and light sources that emit minimal UV light, avoiding white and blue wavelengths of the spectrum. Use glass lantern covers instead of plastic to filter UV light.
R9	
R10	To enable continued dispersal of hedgehogs (which require large territory sizes) and other small mammals across the site and within the local area following development, small access gaps to measure c.13x13cm are recommended to be provisioned at the base of all new fence boundaries. These will allow easy passage for small mammals to continue foraging in the area while still being small enough to contain pets.
R11	Where rabbit warrens are to be damaged or destroyed as part of the proposed works, this should be done in accordance with the Mammals Act 1996 by a registered pest control company.

5.5 Ecological Enhancement

- 5.5.1 The following biodiversity enhancements (Table 5.4) could be considered for the site but should be reviewed and specified further following the completion of recommended protected species surveys.

Table 5.4: Preliminary recommendations for ecological enhancement

#	Preliminary recommendations for ecological enhancement
R12	It is recommended that new green spaces are sown with a locally-sourced native wildflower and grass seed mix (i.e. wildflower meadow). This should be particularly targeted towards retained habitat features such as hedgerow and pond, and if possible be included towards the

#	Preliminary recommendations for ecological enhancement
	margins of private gardens. A wildflower meadow treatment would provide a greater botanical diversity than currently present, and will benefit local populations of invertebrates such as butterflies and bees and their predators. Even if planted only at the margins of areas of amenity grassland, particularly if adjacent to other features such as hedgerows and ditches, this would provide a habitat enhancement for reptiles, small mammals and invertebrates.
R13	Hedgerow creation and/or restoration as part of the landscaping plan for the site could use a wide range of native shrub species of local provenance. Fruit, seed, nut and nectar-bearing species should be used preferentially when selecting a palette of species for landscape planting, so that food sources are available throughout most of the year (e.g. hazel <i>Corylus avellana</i>, hawthorn <i>Crataegus monogyna</i>, blackthorn <i>Prunus spinosa</i>, rowan <i>Sorbus aucuparia</i> and honeysuckle <i>Lonicera periclymenum</i>). If an evergreen hedge is required for landscape screening, suitable native species include holly <i>Ilex aquifolium</i>, holm oak <i>Quercus ilex</i> although both can be rather slow growing, ivy <i>Hedera helix</i> and privet <i>Ligustrum vulgare</i>. Beech <i>Fagus sylvatica</i> and hornbeam <i>Carpinus betulus</i> are also widely used as hedging plants and, although not evergreen, these will keep their brown leaves through winter if trimmed in late summer.
R14	The partial removal of submerged and floating vegetation will avoid choking of the pond. It is desirable to retain a fringe of marginal and emergent vegetation around at least half of a pond's edge.
R15	The creation of hibernacula within areas of vegetation, at the edges of the site or close to the pond and hedgerow, and would provide an additional resource for reptiles and amphibians. These can be created by partially burying logs or rubble and covering with earth or turf.
R16	The value of the site for birds could be enhanced by installing a range of artificial nest boxes. It is recommended that these are placed on trees within the retained hedgerow at the northern site boundary, or incorporated within building facades. For instance: ▪ New building: nest boxes could be installed under the eaves for birds that utilise buildings for nesting, e.g. house martin <i>Delichon urbica</i>, house sparrow <i>Passer domesticus</i>, and swift <i>Apus apus</i>. These species are of principal importance, of conservation concern and/or are notable in Wiltshire. ▪ Trees: nest boxes with entrance holes suitable for tit species, and open-fronted boxes suitable for spotted flycatcher <i>Muscicapa striata</i> or song thrush <i>Turdus philomelos</i>, and treecreeper <i>Certhia familiaris</i> boxes.
R17	The value of the site for bats could be enhanced by installing a range of artificial roost boxes. It is recommended that these are placed within the hedgerow on the northern boundary, or incorporated within the building facade which face vegetated areas. Boxes suitable for a wide range of species should be used, for instance: ▪ New building: integral bat tubes could be installed within of the new house. Bat tubes can be incorporated into the design of the building so that only the access holes are visible from the exterior of the building. The Schwegler 1FR or 2FR Bat Tube is designed to meet the characteristic requirements of the types of bats that inhabit buildings such as pipistrelles <i>Pipistrellus spp.</i> or serotines <i>Eptesicus serotinus</i>. It is designed to be installed on the external walls of buildings, either flush or beneath a rendered surface. ▪ Bat boxes should ideally be located south-facing (between south-east and south-west) and above 5m from ground level. If possible they should be installed facing

#	Preliminary recommendations for ecological enhancement
	vegetation features such as hedgerows, but with a clear line of flight for bats entering or leaving the roost, and away from sources of artificial light.

6 Conclusions

6.1 Summary

- 6.1.1 A Preliminary Ecological Appraisal was undertaken for a residential redevelopment at Land at Pollards Farm, Ditchling Common, West Sussex. Proposed works include demolition of an existing conservatory and garage, extension and renovation of the existing dwelling, and construction of a new garage. The report has been prepared to inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

6.2 Results

- 6.2.1 There are three statutory site designations within the 1km desk study search area, one SSSI, one National Park and one Country Park. There are also four non-statutory LWS and one LGS. There are records of a range of protected or notable species in the locality, including amphibians, birds, invertebrates, terrestrial mammals, flowering plants and reptiles, together with priority habitats including Ancient woodland, Deciduous woodland, Reedbed, Standing open water, Wood pasture and parkland.
- 6.2.2 The survey area lies to the east of the village of Burgess Hill in West Sussex. Brighton is the closest city, located approximately 13km to the south. The site comprises c.0.3ha of land comprising a central farm house, associated gardens, pond and dilapidated swimming pool, with bordering mature hedgerow. The site is dominated by improved grassland, with areas of scrub, introduced shrub and hedgerow. It is bounded to the north and west by arable fields and grazing pasture, to the south by a large wooden barn and further rural residential dwellings and associated gardens, and to the east by a mature treeline and ditch system. The wider rural landscape is dominated by pasture, woodland and arable farmland, and the settlement of Burgess Hill. At least 13 ponds lie within 500m of the survey area.

6.3 Evaluation

- 6.3.1 Table 6.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 6.1: Summary of ecological constraints and opportunities

Feature	Detail
Constraints:	
Designated sites	No impacts are predicted for the SSSI, National Park, Country Park, LWS or LGS as a result of the development proposals.
Priority	Priority habitats within the survey area (hedgerows and pond) provide habitats

Feature	Detail
habitats	suitable for a range of protected species, are of value in their own right and should be retained and protected during construction.
Scrub and shrub	Small areas of scrub and shrub may be lost under proposals for the site. These areas are of comparatively little intrinsic value but (particularly where connected to hedgerows) provide habitats suitable for a number of protected species.
Great crested newt	Small areas of suitable terrestrial habitats (scrub, shrub, building foundations) may be lost under proposals for the site. It is anticipated that pond P1 will be retained and therefore no direct effects on aquatic habitats are predicted. A GCN survey has recently been completed and is reported separately.
Birds (nesting)	Small areas of nesting habitats (scrub, shrub and buildings) may be lost under proposals for the site.
Bats (roosting)	Building B2 is proposed for renovation and extension, is of moderate suitability for roosting bats, and is a confirmed bat roost due to the presence of bat droppings. A bat survey has recently been completed and is reported separately.
Bats (foraging/commuting)	There is scope for (mainly indirect) negative impacts to areas of low (grassland, scrub & hedgerow) suitability for foraging/commuting bats, including through increased artificial lighting.
Reptiles	Small areas of suitable terrestrial habitats (scrub, shrub) may be lost under proposals for the site. It is currently unknown whether reptiles are present on site.
<u>Opportunities:</u>	
Priority habitats	Priority habitats within the survey area (hedgerows and pond) could provide a focus for ecological enhancement measures.
Habitat creation / enhancement	Habitat creation and enhancement opportunities include wildflower meadow planting, hedgerow creation and/or restoration, pond restoration, hibernacula and bird/bat boxes. It is not currently known which of these can be accommodated within proposals for the site.

6.4 Recommendations

- 6.4.1 Recommendations are made for further protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction; these are summarised in Table 6.2. It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

Table 6.2: Summary of recommendations

#	Summary of recommendations
Protected species surveys	
R1	Presence / absence (pond) surveys for great crested newt, undertaken between mid-March and mid-June. A GCN survey has recently been completed and is reported separately.
R2	Roost characterisation surveys for bats, undertaken between May and August/September. A bat survey has recently been completed and is reported separately.
Precautionary measures	
R3	Removal of nesting bird habitats should be undertaken outside of the bird breeding season, which runs from 1 March to 31 August. It should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season.
R4	Removal of reptile habitats should be undertaken during the reptile active season (broadly March/April to September/October) and in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles.
Ecological protection measures	
R5	Priority habitats within the survey area (hedgerows and pond) should be retained and protected during construction, and could also provide a focus for ecological enhancement measures.
R6	Standard site procedures to prevent impacts on trees should be adhered to during construction.
R7	Standard site procedures to prevent impacts on nearby aquatic environments should be adhered to during construction.
R8	The use of external lighting should be avoided or minimised to prevent impacts to nocturnal species such as bats.
R9	At the end of each working day excavations should be covered over and open pipework should be capped to prevent impacts on mammals, amphibians and other fauna.
R10	Small access gaps should be provisioned at the base of all new fence boundaries to enable continued dispersal of small mammals across the site.
R11	Rabbit warrens should be destroyed in accordance with the Mammals Act 1996 by a registered pest control company.
Ecological enhancements	
R12	Green spaces should be sown with a locally-sourced native wildflower and grass seed mix.
R13	Hedgerow creation and/or restoration should use a range of native fruit, seed, nut and nectar-bearing species shrub species of local provenance.
R14	Partial removal of submerged and floating vegetation to avoid choking of pond.
R15	Hibernacula for reptiles and amphibians could be created within areas of retained rough grassland or marginal vegetation.
R16	The value of the site for birds could be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.

#	Summary of recommendations
R17	The value of the site for bats could be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

References and Bibliography

Amphibian and Reptile Groups of the UK (ARG UK; 2010): *Advice Note 5: Great Crested Newt Habitat Suitability Index*. Adapted from Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* **10**(4), 143-155.

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014): *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA*. Freshwater Habitats Trust, Oxford.

Botanical Society of the British Isles (2004): *UK Plant List*.

Bright P., Morris P. and Mitchell-Jones T. (2006): *The Dormouse conservation handbook; Second Edition*. English Nature, Peterborough.

British Standards Institution (BSI; 2012): *BS5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations*. BSI Standards Limited, London.

British Standards Institution (BSI; 2013): *BS42020:2013 Biodiversity – Code of practice for planning and development*. BSI Standards Limited, London.

Chanin P. (2003): *Ecology of the European Otter*. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.

Chartered Institute of Ecology and Environmental Management (CIEEM, 2016): *Guidelines for Ecological Impact Assessment in the UK and Ireland*. 3rd Edition, CIEEM, Winchester.

CIEEM (2017a): *Guidelines for Ecological Report Writing*. 2nd Edition, CIEEM, Winchester.

CIEEM (2017b): *Guidelines for Preliminary Ecological Appraisal*. 2nd Edition, CIEEM, Winchester.

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

Dean M., Strachan R., Gow D. and Andrews R. (2016): *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds. Fiona Matthews and Paul Chanin. The Mammal Society, London.

Defra (2007): *Hedgerow Survey Handbook*. Department for Environment, Food and Rural Affairs.

Drake, C.M., Lott, D.A., Alexander, K.N.A. & Webb, J. (2007): *Surveying terrestrial and freshwater invertebrates for conservation evaluation*. Natural England Research Report NERR005, Natural England, Sheffield.

Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015): Birds of Conservation Concern 4 ("BoCC4"): the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* **108**, 708–746.

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

Environment Agency (2007): *Pollution Prevention Guidelines 5 – Works and Maintenance in or Near Water*.

Froglife (1999): *Reptile Survey: An Introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10, Froglife, Halesworth.

Froglife (2001): *Surveying for Great Crested Newt Conservation*. Froglife Advice Sheet 11, Froglife, Halesworth.

Froglife (2001): *Great Crested Newt Conservation Handbook*. Froglife, Halesworth.

Gent, A.H. and Gibson, S.D., eds. (2003): *Herpetofauna Workers' Manual*. Joint Nature Conservation Committee, Peterborough.

Gilbert G., Gibbons D.W. and Evans J. (1998): *Bird Monitoring Methods*. RSPB, Sandy, Beds.

Gunnel K., Grant, G. and Williams, C. (2012): *Landscape and Urban Design for Bats and Biodiversity*. Bat Conservation Trust.

Gunnel K., Murphy B., Williams C. (2013): *Designing for biodiversity: A technical guide for new and existing buildings*. RIBA Publishing and Bat Conservation Trust.

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

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001): *Great Crested Newt Conservation Handbook*, Froglife, Halesworth.

Maddock A. (ed.) (2008): *UK Biodiversity Action Plan: Priority Habitat Descriptions*. UK Biodiversity Reporting and Information Group.

Multi-agency Geographic Information for the Countryside (MAGIC) (www.magic.gov.uk)

National Joint Utilities Group (April 1995): *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*.

Natural England (2011): *Badgers and Development: A guide to best practice and licensing*. Interim Guidance.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000): Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* **10**(4), 143-155.

Peay S. (2000): *Guidance on works affecting White-clawed Crayfish*. Report to English Nature.

Rodwell J.S. (2006): *National Vegetation Classification: Users' Handbook*. Joint Nature Conservation Committee, Peterborough.

Roper T.J. (1992): Badger *Meles meles* setts—architecture, internal environment and function. *Mammal Review* **22** (1), 43–53.

Rose F., revised and updated by O'Reilly C. (2006): *The Wild Flower Key*. Penguin, London.

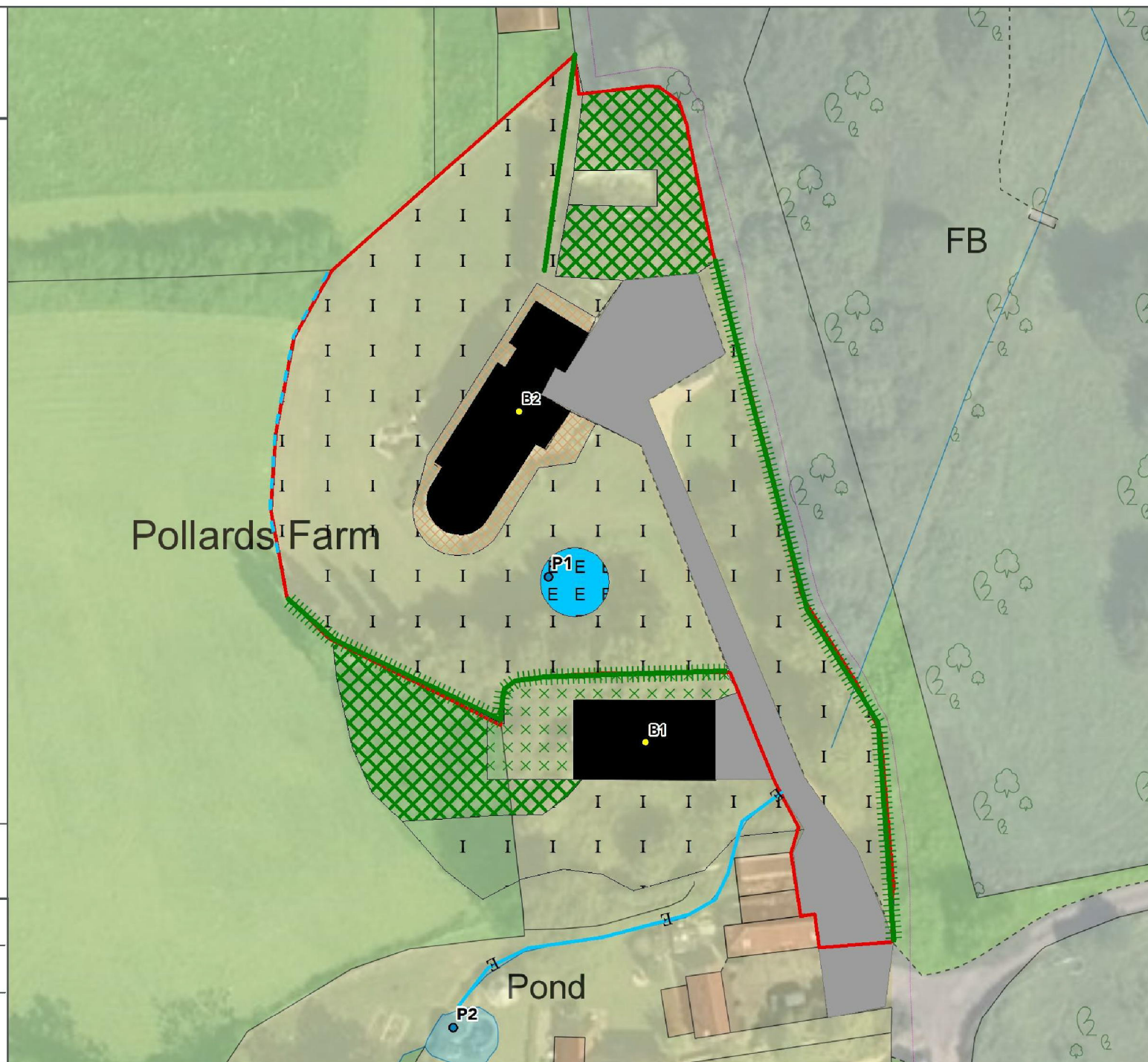
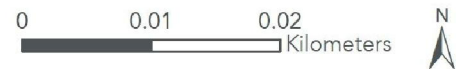
Snow D.W. & Perrins C.M. (1998): *Birds of the Western Palearctic: Concise Edition*. Oxford University Press.

Appendix I: Phase 1 Habitats Map

Please see insert.

Pollards Farm, Ditchling Common

-  Hard-standing
-  Dense scrub
-  Scattered scrub
-  Improved grassland
-  Eutrophic standing water
-  Introduced shrub
-  Building
-  Eutrophic running water
-  Spp-poor hedge
-  Spp-poor hedge w/ trees
-  Dry ditch
-  Survey area 2
-  Pond numbers
-  Building numbers



Appendix II: Pond Map

Please see insert.

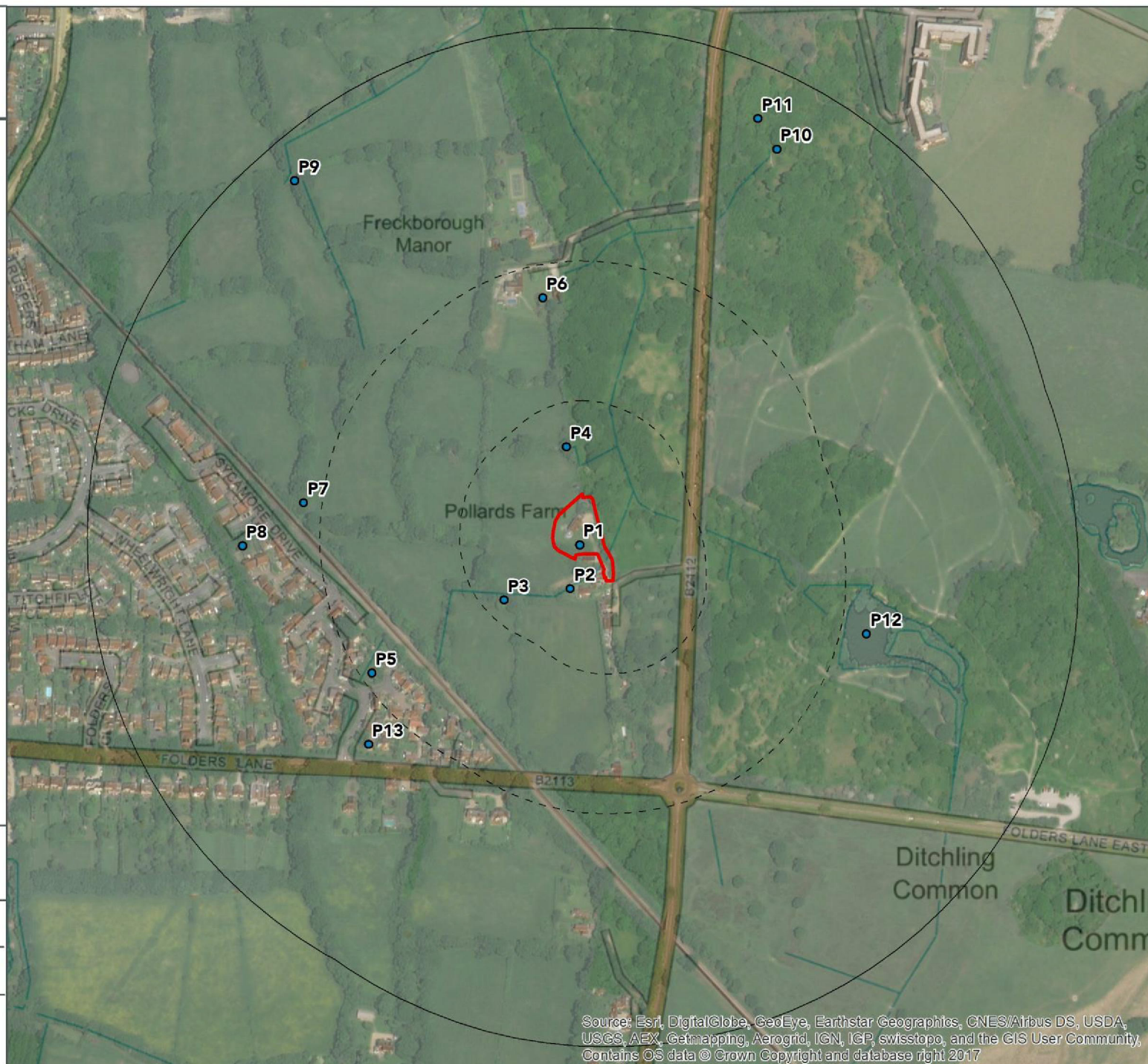
Pollards Farm, Ditchling Common

-  Survey area 2
-  Survey area 2 100m buffer
-  Survey area 2 250m buffer
-  Survey area 2 500m buffer
-  Pond numbers



**ENVIRONMENTAL
CONSULTING**
Unit 5 Westergate
Business Centre
Brighton
BN2 4QN

Scale 1:5,500	Date Jul 2018
Created by NP	Reviewed by NP
Drawing number UE0263ECO-Ponds2_180713	



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Contains OS data © Crown Copyright and database right 2017

Appendix III: Habitat Suitability Indices

The Habitat Suitability Index (HSI; Oldham *et al*, 2000) is a tool used to assess ponds on the basis of their suitability to support breeding great crested newts (GCN). The HSI incorporates ten suitability indices which are considered to affect GCN distribution. These are:

- ▶ Location (in Britain);
- ▶ Pond area;
- ▶ Desiccation rate (years out of ten that pond dries);
- ▶ Water quality (subjective assessment);
- ▶ Percentage of pond shaded (% of pond margin shaded 1m from the bank);
- ▶ Number of waterfowl;
- ▶ Fish population (subjective assessment);
- ▶ Number of ponds within 1km;
- ▶ Terrestrial habitat quality; and
- ▶ Percentage macrophyte cover.

The results of the HSI calculation can then be compared to categorised HSI scores used by the National Amphibian and Reptile Recording Scheme (Oldham *et al*, 2000) to identify the probability of a pond supporting great crested newts, as follows:

Habitat Quality	HSI Score
Poor	Below 0.5
Below Average	0.5 – 0.59
Average	0.6 – 0.69
Good	0.7 – 0.79
Exceptional	Above 0.8

The HSI gives an indication of whether a pond is suitable for breeding great crested newts, however, it should be noted that a low score does not preclude the possibility that GCN are using the pond. A survey of ponds carried out to test the HSI (ARG UK, 2010) found that 20% of ponds which were scored as 'below average' still contained great crested newts, although this increased to an occupation rate of 93% for those ponds scored as 'excellent'. Another important consideration when using the HSI is that pond scores can vary at different times of year, for example, if emergent vegetation is not present (and therefore under recorded) at the time of the HSI assessment.

HSI results for all accessible waterbodies potentially suitable for GCN within 500m of the site are shown below.

Variable	Field score	SI value
Pond P1		
Location	A	1
Pond area (m2)	40	0.05
Pond permanence	Sometimes	0.5
Water quality	Moderate	0.67
% shaded 1m from bank	20	1
Fowl	Poss	0.67
Fish	Absent	1
Pond density (per km ²)	5	1.59
Terrestrial habitat	Good	1
Macrophyte cover %	80	1
HSI value		0.62
Suitability		Average

Variable	Field score	SI value
Pond P2		
Location	A	1
Pond area (m2)	20	0.05
Pond permanence	Rarely	1
Water quality	Poor	0.33
% shaded 1m from bank	10	1
Fowl	Absent	1
Fish	Major	0.01
Pond density (per km ²)	5	1.59
Terrestrial habitat	Moderate	0.67
Macrophyte cover %	10	0.3
HSI value		0.37
Suitability		Poor

Variable	Field score	SI value
Pond P3		
Location	A	1
Pond area (m2)	300	0.6
Pond permanence	Rarely	1
Water quality	Poor	0.33
% shaded 1m from bank	95	0.3

Fowl	Absent	1
Fish	Absent	1
Pond density (per km ²)	5	1.59
Terrestrial habitat	Good	1
Macrophyte cover %	10	0.4
HSI value		0.72
Suitability		Good

Variable	Field score	SI value
Pond P4		
Location	A	1
Pond area (m ²)	400	0.8
Pond permanence	Rarely	1
Water quality	Poor	0.33
% shaded 1m from bank	90	0.3
Fowl	Absent	1
Fish	Absent	1
Pond density (per km ²)	5	1.59
Terrestrial habitat	Good	1
Macrophyte cover %	5	0.35
HSI value		0.73
Suitability		Good

Variable	Field score	SI value
Pond P6		
Location	A	1
Pond area (m ²)	30	0.05
Pond permanence	Rarely	1
Water quality	Good	1
% shaded 1m from bank	40	1
Fowl	Minor	0.67
Fish	Absent	1
Pond density (per km ²)	5	1.59
Terrestrial habitat	Good	1
Macrophyte cover %	60	0.9
HSI value		0.74
Suitability		Good

This page is intentionally blank.

Appendix IV: Legislation and Planning Context

Legislation

General

The main legislative instruments for ecological protection in England and Wales are the Wildlife and Countryside Act 1981 (WCA; as amended), Countryside and Rights of Way Act 2000 (CROW; as amended), Natural Environment and Rural Communities Act 2006 (NERC) and the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

WCA 1981 consolidated and amended pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitats Regulations, offering protection to a wider range of species than the latter. The Act also provided for the designation and protection of nationally important conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSI). Schedules of the act list protected species of flora and fauna, as well as invasive species, and detail the possible offences that apply to these species.

The CROW Act 2000 amended and strengthened existing wildlife legislation detailed in the WCA. It placed a duty on government departments and the National Assembly for Wales to have regard for biodiversity, provided increased powers for the protection and maintenance of SSSI, and created a right of access to parts of the countryside. The Act contained lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The NERC Act 2006 consolidated and replaced aspects of earlier legislation. Section 40 of the Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CROW Act 2000. These species and habitats are a material consideration in the planning process.

The Habitats Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010 and all its various amendments. The Regulations are the principal means by which Council Directive 92/43/EEC (The Habitats Directive) is transposed into English and Welsh law, and place a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states.

The Habitats Regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of Council Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively (European Protected Species (EPS)). Schedule 2

includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade in these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations. Under the Habitats Regulations disturbance includes any activity which is likely to: impair the ability of a EPS to survive, breed, reproduce, or rear/nurture its young; impair the ability of a EPS to migrate or hibernate; or significantly affect the local distribution or abundance of the species.

Bats (Chiroptera)

Bats and their roosts are fully protected by protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a bat.
- ▶ Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not.
- ▶ Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- ▶ Make a false statement in order to obtain a licence for bat work.

Birds

Birds are protected by the Wildlife and Countryside Act, 1981 (as amended). This legislation makes it an offence to intentionally kill, injure or take away any wild bird. It is also an offence to take, damage or destroy the nest of any wild bird while it is in use or being built or to take or destroy the egg of any wild bird. In addition, certain species are listed on Schedule 1 of the WCA (such as kingfisher *Alcedo atthis*). This makes it an additional offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young. Such species are considered to be in greater need of legal protection or of high nature conservation priority.

Birds of Conservation Concern ("BoCC4") are included on Red and Amber lists (Eaton *et al.*, 2015). Birds on the Red list are those of highest conservation priority due significant and sustained population decreases and/or range contractions (e.g. house sparrow *Passer domesticus* and starling *Sturnus vulgaris*). Birds on the Amber list are the next most critical group and include species whose population/range have shown moderate declines, or which have recovered to some extent from historical decline, such as duncock *Fringilla monticola*.

Dormouse (*Muscardinus avellanarius*)

Dormouse is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*:

- ▶ Intentionally kill, injure or take a dormouse.
- ▶ Possess or control a live or dead dormouse, any part of, or anything derived from a dormouse.

- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a dormouse uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a dormouse while it is occupying a structure or place that it uses for shelter or protection.

Great crested newt (*Triturus cristatus*; GCN) (and natterjack toad *Bufo calamita*)

GCN is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a GCN (including its eggs).
- ▶ Possess or control a live or dead GCN, any part of, or anything derived from a GCN.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a GCN uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a GCN while it is occupying a structure or place that it uses for shelter or protection.

Reptiles

The four common species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*) are partially protected under the WCA. They are protected, *inter alia*, against intentional killing and injuring. The handling and translocation of these reptiles does not require a licence.

Smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a smooth snake or sand lizard.
- ▶ Possess or control a live or dead smooth snake or sand lizard, any part of, or anything derived from a smooth snake or sand lizard.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a smooth snake or sand lizard uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place that it uses for shelter or protection.

Weeds Act 1959 / Ragwort Control Act 2003

This legislation provides for orders to be made for control where notifiable weed species such as ragwort are said to be a problem. The act does not make it illegal to have ragwort (or other weed species) on your land, make it illegal to allow ragwort to spread, or force landowners automatically to control it. However, if DEFRA is satisfied that there are injurious weeds to which this Act applies growing upon any land it may serve upon the occupier of the land a notice in writing requiring them, within the time specified in the notice, to take such action as may be necessary to prevent the weeds from spreading.

Planning context

National Planning Policy Framework (Section 11: Conserving and enhancing the natural environment)

The National Planning Policy Framework (NPPF), published in July 2018, outlines the Government's commitment to the conservation of wildlife and natural features. It is concerned with:

- ▶ *Protecting and enhancing valued landscapes, sites of biodiversity or geological conservation value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

- ▶ *Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- ▶ *Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- ▶ *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current & future pressures;*
- ▶ *Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- ▶ *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The NPPF requires that local plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

To protect and enhance biodiversity and geodiversity, the NPPF states that planning policies should:

- ▶ *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- ▶ *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

When determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles:

- ▶ *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- ▶ *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- ▶ *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- ▶ *development whose primary objective is to conserve or enhance biodiversity should 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.*

The following wildlife sites should be given the same protection as habitats sites:

- ▶ *potential Special Protection Areas and possible Special Areas of Conservation;*
- ▶ *listed or proposed Ramsar sites; and*
- ▶ *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined. The policies within the NPPF (and additional guidance contained within Circular 06/2005) are a material planning consideration.

UK/Local Biodiversity Action Plan Designations and Birds of Conservation Concern and Red Data Book Listings

Note that BAP designations and status as RSPB Birds of Conservation Concern or Red Data Book species does not offer any further legal protection, but planning authorities are required to prevent these species from being adversely affected by development in accordance with National Planning Policy and the CROW and NERC Acts.

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, was a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contained a list of priority habitats and species of conservation concern in the UK, and outlined biodiversity initiatives designed to enhance their conservation status.

However, as a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK lists of priority habitats and species nonetheless remain an important reference source and were used to draw up statutory lists of priority habitats and species in England, Northern Ireland, Scotland and Wales. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. Where they exist, Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Appendix V: Legal and Technical Limitations

- This report has been prepared by Urban Edge Environmental Consulting Ltd (UEEC Ltd) with all reasonable skill, care and diligence within the terms of the contract made with the Client to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
- UEEC Ltd disclaims any responsibility to the Client and others in respect of any matters outside the scope of this contract. This report is confidential to the Client and is not to be disclosed to third parties. If disclosed to third parties, UEEC Ltd accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any third party relies upon the contents of this report at their own risk and the report is not to be relied upon by any party, other than the Client without the prior and express written agreement of UEEC Ltd.
- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon UEEC Ltd's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. UEEC Ltd does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- Where this report presents or relies upon the findings of ecological field surveys (including habitat, botanical or protected/notable species surveys), its conclusions should not be relied upon for longer than a maximum period of two years from the date of the original field surveys. Ecological change (e.g. colonisation of a site by a protected species) can occur rapidly and this limitation is not intended to imply that a likely absence of, for instance, a protected species will persist for any period of time;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by UEEC Ltd for the accuracy of such information;
- Every effort has been made to accurately represent the location of mapped features, however, the precise locations of features should not be relied upon;
- Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. Time of year when the survey was carried out, weather conditions and other variables will influence the results of an ecological survey (e.g. it is possible that some flowering plant species which flower at other times of the year were not observed). Every effort has been made to accurately note indicators of presence of protected, rare and notable species within and adjacent to the site but the possibility nonetheless exists for other species to be present which were not recorded or otherwise indicated by the survey;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.



Urban Edge Environmental Consulting Ltd

Unit 5 | Westergate Business Centre | Brighton | BN2 4QN

T: 01273 68 67 66 | E: enquiries@ueec.co.uk

www.ueec.co.uk |  [@UrbanEdgeEnviro](https://twitter.com/UrbanEdgeEnviro)

© Urban Edge Environmental Consulting Ltd 2019

Urban Edge Environmental Consulting Ltd

Unit 5 | Westergate Business Centre | Brighton | BN2 4QN

T: 01273 68 67 66 | E: enquiries@ueec.co.uk

www.ueec.co.uk |  @UrbanEdgeEnviro

© Urban Edge Environmental Consulting Ltd 2019



NATURAL PROGRESSION