



Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU

Tel: 01798 861 800 – E-Mail: info@ecologyco-op.co.uk – www.ecologyco-op.co.uk

Preliminary Ecological Appraisal

**Land at Redlands House, 38-40 Long Copse Lane,
Emsworth, PO10 7UR**

Author: Briony Hill BSc GradCIEEM

Reviewed by: Paul Whitby BSc, MCIEEM, CEcol

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The Ecology Co-operation Ltd
Registered Office: Greens Court, West Street, Midhurst, West Sussex, GU29 9NQ
Company number: 8905527



Report Summary

1. The Ecology Co-op has been commissioned by Mr and Mrs Gilraine to undertake a Preliminary Ecological Appraisal on Land at Redlands House. A site walkover survey visit was carried out by Briony Hill GradCIEEM on the 5th March 2018, to evaluate the site for habitats potentially suitable to support EU and UK protected species. The purpose of this report is to record the findings of the survey and identify potential ecological constraints to a proposed construction of two residential properties.
2. The site is located south of Long Copse Lane, Emsworth on land associated with Redlands House. It includes two plots, the first is the western strip of the Redlands House garden space, measuring approximately 0.12 Ha. The second is the south east corner of the Redlands House garden space and a portion of The Coach House's garden space, measuring approximately 0.06Ha. The site is comprised of lawn, scattered trees, mixed woodland habitat, a garden pond, a vegetable patch and laurel hedgerows. A garage building is located within the second plot. Along the northern boundary of Plot 1, where the proposed access is to be situated, at least six trees, which appeared to include semi mature and mature specimens have very recently been cleared.
3. Demolition of the garage located within Plot 2 was approved as part of planning application Havant BC Nov 2017 ref:APP/17/00745, although no form of ecological assessment has been undertaken. In accordance with the Bat Conservation Trust guidelines, the overall potential for the garage within Plot 2 to support bats is rated as 'low', and it is recommended that an endoscope is used to investigate these easy to access crevices prior to stripping the tiles in advance of demolition.
4. As the site may be used by foraging and commuting bats, with Bechstein's bats known to be present within the wider landscape it is important that the potential for disturbance from artificial lights is considered. The proposed development should include a strict 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust.
5. There is a very low potential for dormice to be present however their presence cannot be ruled out completely. There is not sufficient habitat to carry out a dormouse presence/absence survey at this site and a nut search is not possible. The impact is considered to be very small in scale due to the low number of trees proposed to be removed. A hand search is recommended as a precautionary measure ahead of any habitat clearance.
6. Precautionary mitigation is recommended for reptiles with the amenity grassland to be maintained below a height of 5cm and any potential reptile hibernacula removed carefully, under caution, by hand between the 15th May and 31st October only.
7. To enhance the site a new species rich hedgerow should be planted and two swift



boxes and bat roosting features installed on the new buildings. To compensate for the trees felled these should be replaced in a 1:3 ratio. Orchard trees are recommended to enhance the value of the site for foraging bats, birds and invertebrates.

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



CONTENTS PAGE

1 INTRODUCTION.....	6
1.1 Purpose of the Report	6
1.2 Background	6
1.3 Policy and Legislation.....	7
2 METHODOLOGY.....	8
2.1 Desk Study.....	8
2.2 Field Survey	8
2.3 Badgers.....	8
2.4 Bats.....	9
2.5 Breeding Birds.....	9
2.6 Dormice.....	9
2.7 Great Crested Newt.....	9
2.8 Reptiles	10
2.9 Riparian wildlife	10
2.10 Other notable species	10
3 BASELINE CONDITIONS	10
3.1 Designated Sites	10
3.2 Habitats.....	12
3.2.1 Plot 1	12
3.2.2 Plot 2	15
3.3 Badgers.....	16
3.4 Bats.....	17
3.4.1 Roosting Habitat	17
3.4.2 Foraging Habitat	17
3.5 Breeding Birds.....	18
3.6 Dormice.....	19
3.7 Great Crested Newts and other amphibians.....	20
3.8 Reptiles	22
3.9 Riparian wildlife	22
3.10 Invasive non-native species	23
3.11 Survey Limitations.....	23
4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES	24
4.1 Designated Sites	24
4.2 Habitats.....	24
4.3 Badgers.....	24
4.4 Bats.....	24



4.4.1	Roosting Habitat	24
4.4.2	Foraging Habitat	25
4.5	Breeding Birds.....	25
4.6	Dormice.....	25
4.7	Great Crested Newts.....	26
4.8	Reptiles.....	26
4.9	Invasive non-native species	26
4.10	Enhancement opportunities.....	26
4.11	Conclusions	28
APPENDIX 1 –Wildlife Legislation and National Planning Policy		29
APPENDIX 2 –Great crested newt ‘Habitat Suitability Index’ values		34
APPENDIX 3 Reducing impacts of artificial light		35



1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake a Preliminary Ecological Appraisal (PEA) of Land at Redlands House, 38-40 Long Copse Lane, Emsworth, PO10 7UR by Mr and Mrs Gilrairie, the land owners. This report presents the findings of a walkover survey undertaken by Briony Hill, a graduate member of the Chartered Institute for Ecology and Environmental Management (CIEEM) on 5th March 2018. It provides details on the potential for any protected species and/or habitats to be present at the site and provides an assessment of the potential ecological constraints to the proposed development of two properties. Recommendations for further surveys that are likely to be required to inform a planning application of the proposal are provided. Where appropriate, measures to avoid, mitigate and/or compensate for impacts are outlined.

1.2 Background

The site is located south of Long Copse Lane and east of Redlands Lane south-west of Westbourne a village north of Emsworth. The central grid reference for the site is SU74950786.

The site is comprised of two separate plots. The first is the western strip of the Redlands House garden space, measuring approximately 0.12 Ha. The second is the south east corner of the Redlands House garden space and a portion of The Coach House garden space, measuring approximately 0.06Ha. The sites are comprised of lawn, scattered trees, mixed woodland habitat, a garden pond, a vegetable patch and laurel hedgerows. A garage building is located within the second plot. Figure 1 shows the boundary of the site.

The proposed development project includes the construction of two new dwellings, one on each plot. A five-bed property and garage are proposed for Plot 1 and a four-bed property with a garage is proposed for Plot 2 (see figure 2).

Adjacent to the southern boundary of the site is a residential development currently under construction. Long Copse Lane borders the north boundary of the site, whilst to the east and west are residential properties, with the eastern properties supporting large garden spaces.

A pre-planning application has been made for this project. A comment was made that Bechstein's bats have the potential 'to be on and immediately surrounding the site'. In comments provided by the case officer, it was explained that "The species is found in internationally important numbers in Hampshire and is likely to occur within suitable woodlands (including fragmented woodland areas) and associated habitats throughout south Hampshire. A large Bechstein's Bat maternity roost has been identified to the north of the site. The Councils Ecologist will be able to give further advice on the surveys required and potential mitigation and his comments are awaited and will be forwarded when available".



Figure 1. An aerial image showing the location of the site. The approximate ownership boundary is outlined in blue. The site boundaries of Plot 1 and 2 are shown in red. Images produced courtesy of Google maps (Map data ©2018 Google).

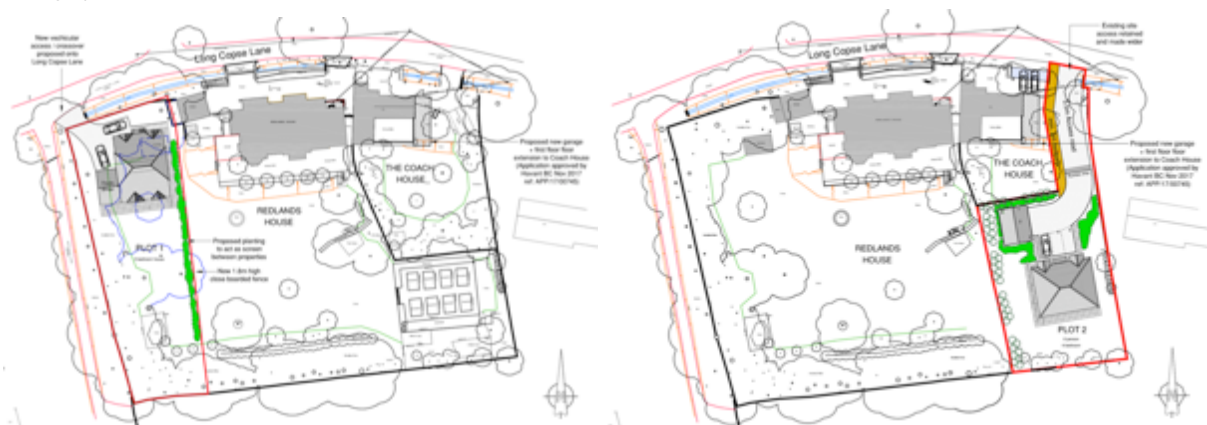


Figure 2. Proposed site plans (left – Plot 1, right – Plot 2) produced by Jimmy Bessant Architecture and received by email on the 19th February 2018.

1.3 Policy and Legislation

Legal protection applying to relevant bird, mammal, herpetofauna and invertebrate species and current nature conservation planning policy is outlined in Appendix 1 of this report.



2 METHODOLOGY

The methodology used for this survey are in accordance with the Guidelines for Preliminary Ecological Assessment (CIEEM 2017)¹.

2.1 Desk Study

An ecological data search which includes existing records of protected, notable and invasive species, details on statutory and non-statutory designated sites and priority habitats was requested from the Hampshire Biodiversity Information Centre (HBIC) within a radius of 1km of the site.

A search of on-line mapping resources was undertaken to identify the location of any features of potential ecological interest including ponds within 500m (relevant to great crested newts), watercourses (relevant to riparian mammals and crayfish) and connectivity to woodland, scrub, and hedgerow networks (relevant to bats, dormice) in the wider landscape around the site. The connectivity of the site to these features, buildings, and other semi-natural habitats such as grassland and heathland are also relevant to bats, great crested newts and reptiles.

The MAGIC website resource (www.magic.gov.uk) was used to identify the location of designated sites for nature conservation and EPS licences granted in relation to the survey site.

2.2 Field Survey

A site walkover survey was undertaken on 5th March 2018, during which the habitats contained within the site were described and evaluated. Since this site is relatively small scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive Phase 1 Habitat Mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types such as ancient woodland or unimproved grasslands, were simply listed and described.

Habitats and features at the site were evaluated for their potential to support legally protected species. In addition, observations of any important plant communities, bird assemblages or other potentially valuable ecological features were recorded.

Details of the preliminary survey methods for each legally protected species are given below. Any site specific limitations to the survey, e.g. access constraints or seasonal constraints are set out in Section 3.11.

2.3 Badgers

Habitats within the site and surrounding areas were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths, foraging

¹ CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.



marks, were recorded.

2.4 Bats

Bats can use a wide range of features including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

Trees, buildings, and other structures were broadly assessed for their potential to support roosting bats and further surveys are recommended as appropriate.

The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with the Bat Conservation Trust Survey Guidelines (Collins, J.(ed.) (2016)². Any evidence confirming the presence of bats that was found was clearly recorded including photos and samples (e.g. droppings) where appropriate. Further surveys are recommended where necessary.

2.5 Breeding Birds

The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton *et al.* 2015)³ and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981). Further surveys are recommended as appropriate.

2.6 Dormice

The site was broadly assessed for its potential to support hazel dormouse. This included use of on-line mapping resources to assess the surrounding area for connectivity to large blocks of woodland, scrub and extensive hedgerow networks. Further surveys are recommended as appropriate in accordance with best practice guidance (Bright *et al* 2006)⁴.

2.7 Great Crested Newt

A desk study was undertaken to identify ponds within 500m of the site. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their

² Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

³ Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, Leigh., Musgrove, A., Noble, D., Stroud, D., Gregory, R. (2015) *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man*. British Birds 108, pp 708-746.

⁴ Bright, P., Morris, P. and Mitchell-Jones, T. (2006) *The dormouse conservation handbook 2nd Ed*. English Nature, Peterborough.



potential to support great crested newts using the Habitat Suitability Index (H.S.I.) (Oldham et al 2000)⁵.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)⁶.

Any survey or access limitations are clearly set out in Section 3.11.

2.8 Reptiles

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are widespread species that can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis*, have much more restricted and isolated populations on lowland heathland and sand dunes.

2.9 Riparian wildlife

Any watercourses identified during the desk study or field survey were assessed for their suitability to support otter, water vole and American mink.

2.10 Other notable species

The site habitats were broadly assessed for their potential to support species of principle importance for nature conservation (Section 41 NERC Act 2006) and other notable species. This includes mammals such as harvest mouse, hedgehog, brown hare, and many bird species. The site was broadly assessed for its potential to support important invertebrate assemblages with particular attention paid to features such as standing dead-wood, wet flushes, bare earth banks and botanically rich areas.

3 BASELINE CONDITIONS

3.1 Designated Sites

No statutory designated sites were identified within the zone of influence from the site. A single non-statutory designated site, Brook Meadow (Emsworth) Local Nature Reserve (LNR), was identified 1.6km south of the site. This site is approximately 3.9Ha in area and is comprised of grassland habitat surrounded by woodland. Streams, known to support water voles in the past, run along the eastern and western boundaries. Numerous birds and butterflies have been recorded here and the site is known to support common reptile species.

⁵ Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000) Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetological Journal* 10, 143-155.

⁶ English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.



There are no granted EPS licenses for mitigation projects within 1km of the site boundaries.

HBIC identified 4 Sites of Importance for Nature Conservation (SINC) within the 1km search area. None of these are located upon and adjacent to the site. The closest, Land East of 54 Long Copse Lane, is situated approximately 150m to the east. The criteria of this site is 2B – ‘semi-improved grasslands which retain a significant element of unimproved grassland.’ (see figure 4).

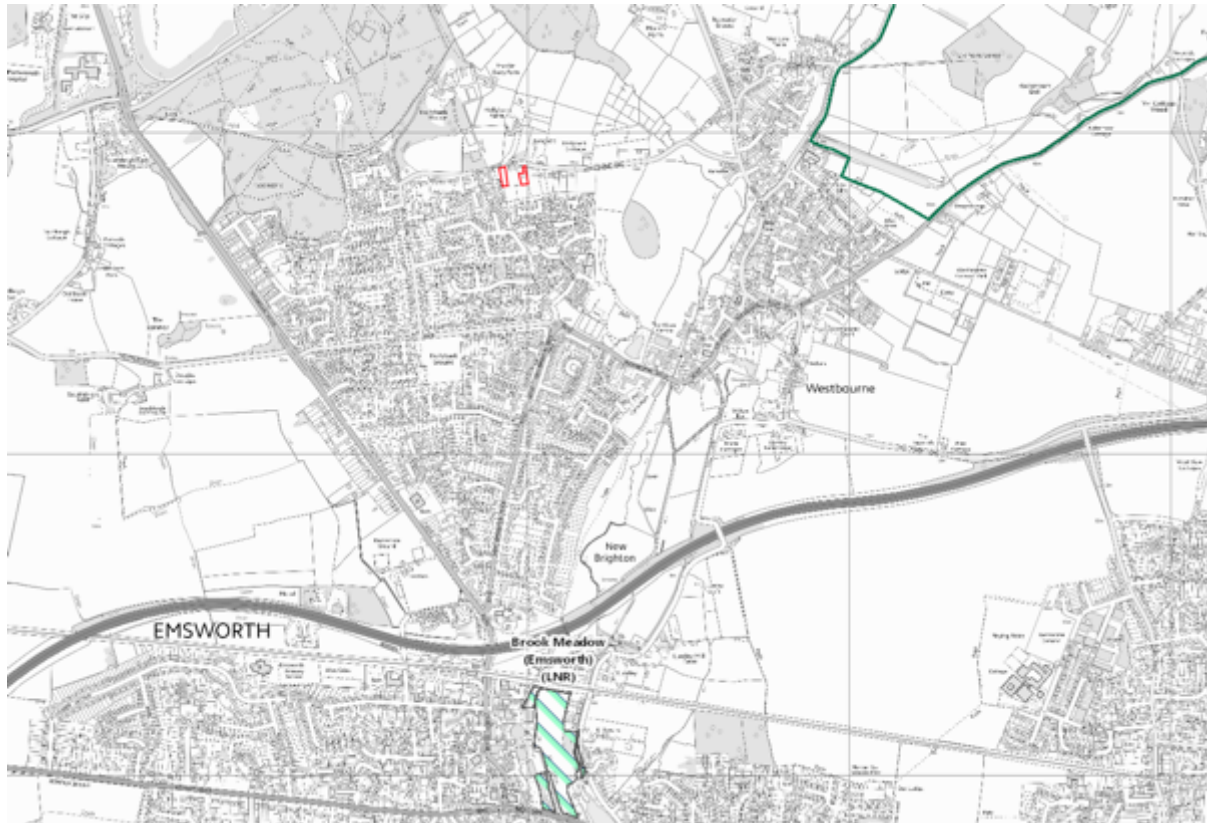


Figure 3. Designated sites within a radius of 2km of the application site. The boundaries of Plot 1 and Plot 2 are outlined in red. Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

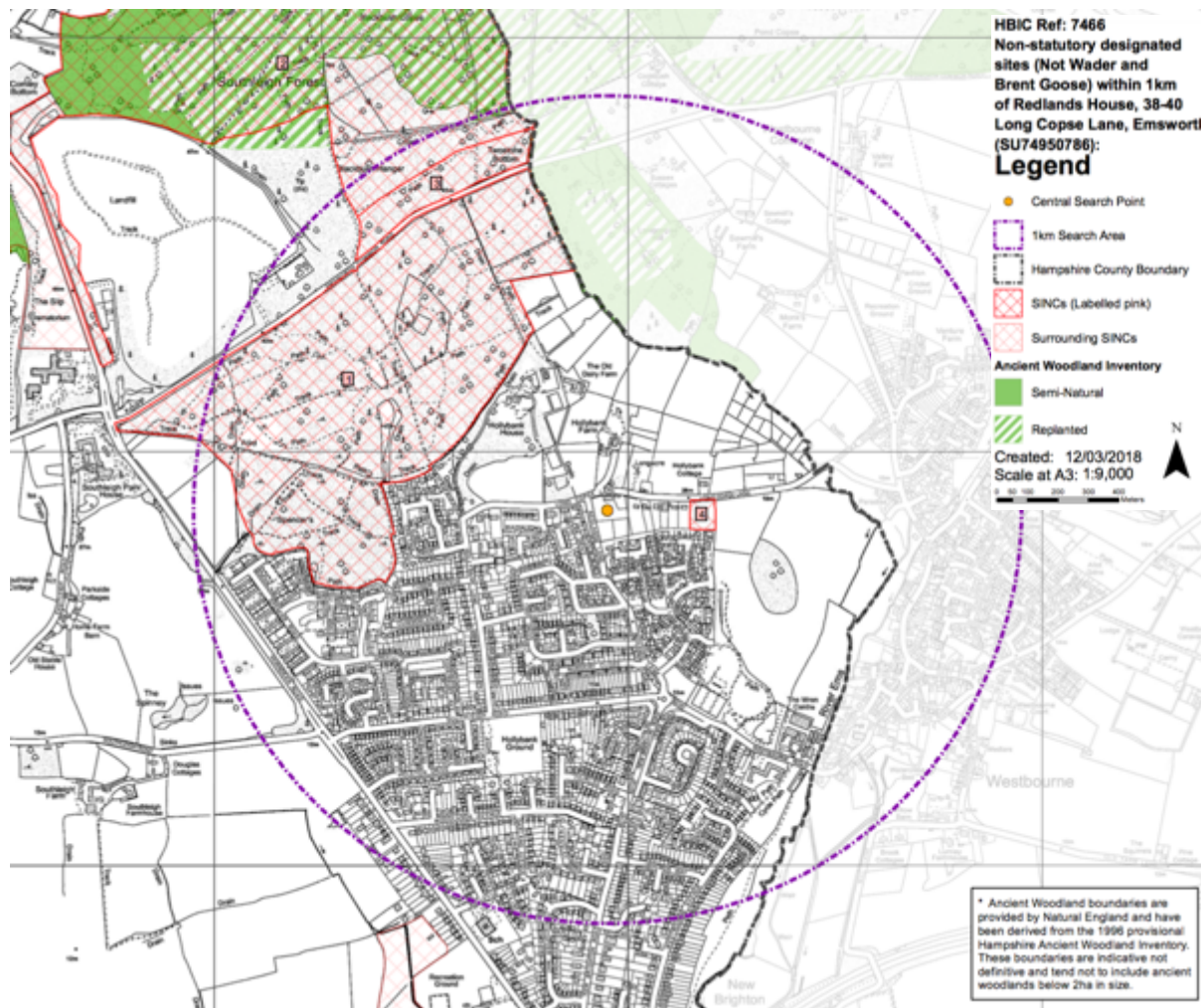


Figure 4. Statutory and non-statutory designated sites (not Wader and Brent Goose) within 1km of Redlands House, 38-40 Long Copse Lane, Emsworth produced by HBIC on 12th March 2018.

3.2 Habitats

3.2.1 Plot 1

The majority of Plot 1 is comprised of tightly mown lawn (see figure 5). The following species were identified; Yorkshire fog *Holcus lanatus*, meadow grass species *Poa sp.*, red clover *Trifolium pratense*, lesser celandine *Ficaria verna*, daisy *Bellis perennis*, common mouse ear *Cerastium fontanum*, ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens*, herb Robert *Geranium robertianum* and sorrel species *Rumex sp.*. It should be noted that the short height limited the identification of grass species.

Along the western boundary are mixed scattered trees (see figure 6). The area is comprised of a mixture of native and non-native species. The following native species were identified; ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, holly *Ilex aquifolium*, beech *Fagus sylvatica*, poplar species *Populus sp.*, yew *Taxus baccata*, a mature oak *Quercus sp.* with rose species *Rosa sp.*, bramble *Rubus fruticosus* and honeysuckle *Lonicera periclymenum* present. The following non-native species are also present; cypress *Cupressus sp.*, cherry laurel *Prunus laurocerasus*, cotoneaster,



bamboo *Bambusoideae* sp., rhododendron, twisted hazel *Corylus avellana* 'Contorta' and unidentified species. In the understory is ivy *Hedera helix* and leaf litter.

Along the northern boundary of the site, where the proposed access is to be sited, a number of trees, which appeared to include semi mature and mature specimens has very recently been cleared (see figure 7). This included a likely redwood with a diameter of approximately 150cm, a likely cypress with a diameter of 70cm, and at least four hard wood trees, likely oak species, with diameters of 60cm, 35cm, 30cm and 25cm. It is also possible that tree stumps were located under the large log piles present in this area. What remains is a thin defunct hedge of the following species; a semi mature beech, a semi mature oak, cherry laurel, yew and an unidentified non-native species.

Bare ground is present along the northern section and southern section. The southern section is part of a playground with wood chippings present across the ground (see figure 8).

Occasional scattered trees are present across the site. The following species were identified; sweet chestnut *Castanea sativa*, ash, laurel, twisted hazel and unidentified non-native species.

A garden pond, proposed to remain, is located to the south of the site. This is described in detail in section 3.7.

A structure used for log storage is also present. This is described in detail in section 3.4.

A close board wooden fence marks the north, west and southern boundaries whilst the eastern boundary is an extension of Redlands House garden space. A newly planted laurel hedgerow is located along the southern boundary fence.



Figure 5. The majority of the site is comprised of tightly mown amenity grassland. Left - view from the north. Left – View from the south.



Figure 6. Mixed scattered trees along the western boundary of Plot 1.



Figure 7. The trees along the northern boundary that have been recently felled.



Figure 8. Bare ground, covered with wood chippings, at the southern part of the site.

3.2.2 Plot 2

A large proportion of Plot 2 is a vegetable garden with raised beds surrounded with shingle pathways (see figure 9). This area includes fruiting fruit bushes and trees, inclusive of apple *Malus sp.* and plum *Prunus domestica*. A compost heap is situated on the southern boundary of the site.

Along the southern boundary of the site is a small area of longer improved grassland with unoccupied chicken enclosures present (see figure 9). The following species were identified; Yorkshire fog, meadow grass sp., lesser celandine, sorrel sp., nettle *Urtica dioica*, broad leaved dock *Rumex obtusifolius*, lords and ladies *Arum maculatum* and daffodil sp. *Narcissus sp.*. This area also supports a number of scattered young trees including blackthorn, poplar sp. hornbeam sp. *Carpinus sp.* and cypress.

Part of this plot is The Coach House's garden space. This is well maintained and tightly managed with very short mown lawn comprised of perennial rye grass *Lolium perenne*, lesser celandine, daisy and dandelion. There are many herbaceous flower beds within the garden space planted mostly with non-native plants and shrubs including cherry laurel, bay *Laurus nobilis*, holly, apple, Norway maple *Acer platanoides*, birch sp *Betula sp.*, cherry sp. *Prunus sp.*, magnolia, ash and hazel *Corylus avellana*. The garden space also includes some scattered trees including; silver birch *Betula pendula* and *Eucalyptus sp.* (see figure 10).

A garage, proposed to be demolished is located to the north of Plot 2. This building is described in detail



in section 3.4.



Figure 9. Left – Vegetable plot. Right – improved grassland strip along the southern boundary.



Figure 10. Garden space of The Coach House, which is well maintained and tightly managed.

3.3 *Badgers*

No signs of any badger activity were seen during the survey assessment, though there are habitats of value for this species within the site and surrounding landscape. It is likely that if any setts were situated within 30m of the site boundary, then some evidence of badger activity would have been observed.

Records of badgers are not provided by the records centre, due to the sensitive nature of this



information.

3.4 Bats

HBIC provided 109 bat records in the search area comprising 14 species within the search area; serotine *Eptesicus serotinus* – 7 records, common noctule *Nyctalus noctula* – 5 records, common pipistrelle *Pipistrellus pipistrellus* – 13 records, soprano pipistrelle *Pipistrellus pygmaeus* – 24 records, pipistrelle species *Pipistrellus sp.* – 4 records, brown long-eared bat *Plecotus auritus* – 8 records, long-eared species *Plecotus sp.* – 4 records, whiskered bat *Myotis mystacinus* – 3 records, Brandt's bat *Myotis brandtii* – 1 record, Daubenton's bat *Myotis daubentonii* – 1 record, Natterer's bat *Myotis nattereri* – 4 records, Bechstein's bat *Myotis bechsteinii* – 11 records, *Myotis sp.* – 23 records, and unspecified bat records (4 records).

The closest of these was an Bechstein's bat record located just beyond the sites north western boundary, dated 2009.

3.4.1 Roosting Habitat

A garage, proposed to be demolished to make way for site access is located within Plot 2 (see figure 11). Demolition of this building was approved as part of planning application Havant BC Nov 2017 ref:APP/17/00745, although no form of ecological assessment has been undertaken.

This building is brick built with a gable roof comprised of factory formed clay tiles. On the south-western elevation there are approximately 10 gaps between lifted tiles and two slipped tiles located on the lowest row. The north-east face was obscured by vegetation but was in a similar condition. There is expected to be a similar number of gaps, although the suitability of these for bats may be reduced due to the cluttered environment here. Wooden shiplap is located across the top portion of the north-western wall. Two gaps are present where the panels have lifted. The internal aspect could not be accessed at the time of the site visit although it is clear that it is brightly lit due to the presence of windows. This reduces the potential of the building to support void roosting species such as long eared bats *Plecotus sp.*. It is unlikely that this building supports an enclosed void due to a window being present at the gables apex. Overall this building is concluded as having 'low' bat roosting potential.

A wooden structure used for log storage is located within Plot 1 (see figure 12). This has walls created with regularly spaced horizontal wooden panels with an open southern face. It supports a single-skin corrugated bitumen roof. This structure does not support any PRFs and has negligible potential to support roosting bats.

No trees were identified as supporting any PRF's. It is unlikely that the soft wood pines which have been felled would have supported PRFs. However, the hard wood trees, suspected to be oak species, with a diameter of 60cm, 35cm and 30cm are considered large enough to have potentially support bat roosting features. The tree with a diameter of 25cm is likely to young and small in size to have supported any PRF's.

3.4.2 Foraging Habitat

The majority of the site has low value for foraging bats being comprised of tightly mown amenity grassland, bare ground and herbaceous flower beds habitats which do not support a high diversity or density of invertebrates. The area of scattered trees located along the western strip of Plot 1 is likely to



have higher value for foraging bats. This feature could also be used by bats for commuting from roosting sites to foraging habitat however a residential development currently under construction immediately south means that there is limited connectivity of this linear feature in the landscape.



Figure 11. The garage within Plot 2 proposed for demolition. Left – North western and north-eastern faces. Right – North western and south-western faces.



Figure 12. Wooden structure used for log storage.

3.5 Breeding Birds

All of the hedgerows, scattered trees, shrubs and single bird box on Plot 2 have the potential to support a variety of common nesting birds.



The trees previously present on the northern boundary of the site were felled outside of the nesting bird season.

During the site visit two goldcrests *Regulus regulus*, a robin *Erithacus rubecula* and a blackbird *Turdus merula* were seen and a song thrush *Turdus philomelos* was heard.

HBIC provided numerous bird records for the search area concerning a total of 69 species. Most of these species are relatively common and widespread, but the list includes 7 species of principle importance for conservation (S41 NERC Act 2007), and 16 species listed on Schedule 1 of the Wildlife and Countryside Act. In addition, 15 species are red listed on the Birds of Conservation Concern (BOCC_red)

Firecrest *Regulus ignicapilla* (Schedule 1 WCA) could potentially breed upon the site. The following S41 species could potentially breed on the site: house sparrow *Passer domesticus*, and spotted flycatcher *Muscicapa striata*. Finally, the following BOCC_red species could breed upon the site; starling *Sturnus vulgaris*, mistle thrush *Turdus viscivorus* and song thrush *Turdus philomelos*,

HBIC returned details for the Solent Wader and Brent Goose Strategy Sites. This did not identify any important sites for either brent geese or waders within 1 km of the site

3.6 Dormice

The site supports scattered mixed trees along the western boundary of Plot 1. The trees along the northern boundary of Plot 1 have been cleared and a section are proposed to be felled along the western boundary to make way for the development. The area of this habitat is small, has limited understory with approximately half of the area comprised of non-native species. Therefore, the habitat is considered to have low suitability for dormice.

The shrubs within the herbaceous flower beds of Plot 2 including; cherry laurel, bay, holly, apple, Norway maple, birch sp., cherry sp., magnolia, ash and hazel are considered as poor habitat for this species given that they are tightly managed, spaced apart (though connected at canopy level) and lack any understory, with most of these trees/shrubs being semi-mature.

There is limited connectivity to other suitable habitat in the landscape. The connectivity is restricted to a tree line on the other side of Long Copse Lane to the north via overhanging canopies. This in turn has connectivity to small woodland copses and a large mixed woodland. This woodland is located over 250m from the sites boundaries via a linear tree line.

Overall there is a very low potential for dormice to be present however their presence cannot be ruled out completely.

While no records of this species were provided by HBIC, this species is known to be under-recorded and could occur in any suitable habitat.



3.7 Great Crested Newts and other amphibians

A garden pond is located within Plot 1 and a fish pond is located within the garden space of Redlands House which is excluded from development (see figure 13). These ponds were calculated as having a 'poor' Habitat Suitability Index (HSI) score owing to the very small surface area and the frequent drying of Pond 1 and presence of fish in the case of Pond 2 (see appendix 2). As a result, it is considered highly unlikely that these ponds would support breeding great crested newts.

A search of aerial imagery and mapping identified one pond within 500m of the site boundaries (see figure 14). Details on the location of these ponds, distance from the site and significant barriers to movement are provided in Table 1.

In summary, Pond 3 has been scoped out due to its location beyond 250m – the most utilized area of habitat by a great crested newt population from a breeding pond.

The majority of the site is considered to have low terrestrial value for great crested newts being comprised of close-mown amenity grassland, bare ground and a raised vegetable plot with single paths, these habitats do not provide cover from predators or sufficient foraging value. However, the area of scattered trees along the western strip of Plot 1 is higher value habitat for this species for foraging and shelter.

HBIC did not provide any amphibian records in the search area.

Overall given the lack of potentially suitable great crested newt breeding ponds within 250m of the site it is concluded unlikely that this species would be found upon the site at any time.



Figure 13. Pond 1 located within Plot 1, which is shallow and congested.

Table 1. Pond descriptions

Pond (refer to figure 13).	NGR	Distance from site (Plot 1/Plot 2)	Significant barriers	Description	H.S.I value (refer to appendix 2).	Survey recommendations
1	SU74920784	On site/50m	No	Unmanaged garden pond (see figure 13)	0.47 – 'poor' suitability	No further action
2	SU74940787	5m/25m	No	Raised fish pond	0.35 – 'poor' suitability	No further action
3	SU75220764	330m/280m	Partial – residential development		N/A	No further action

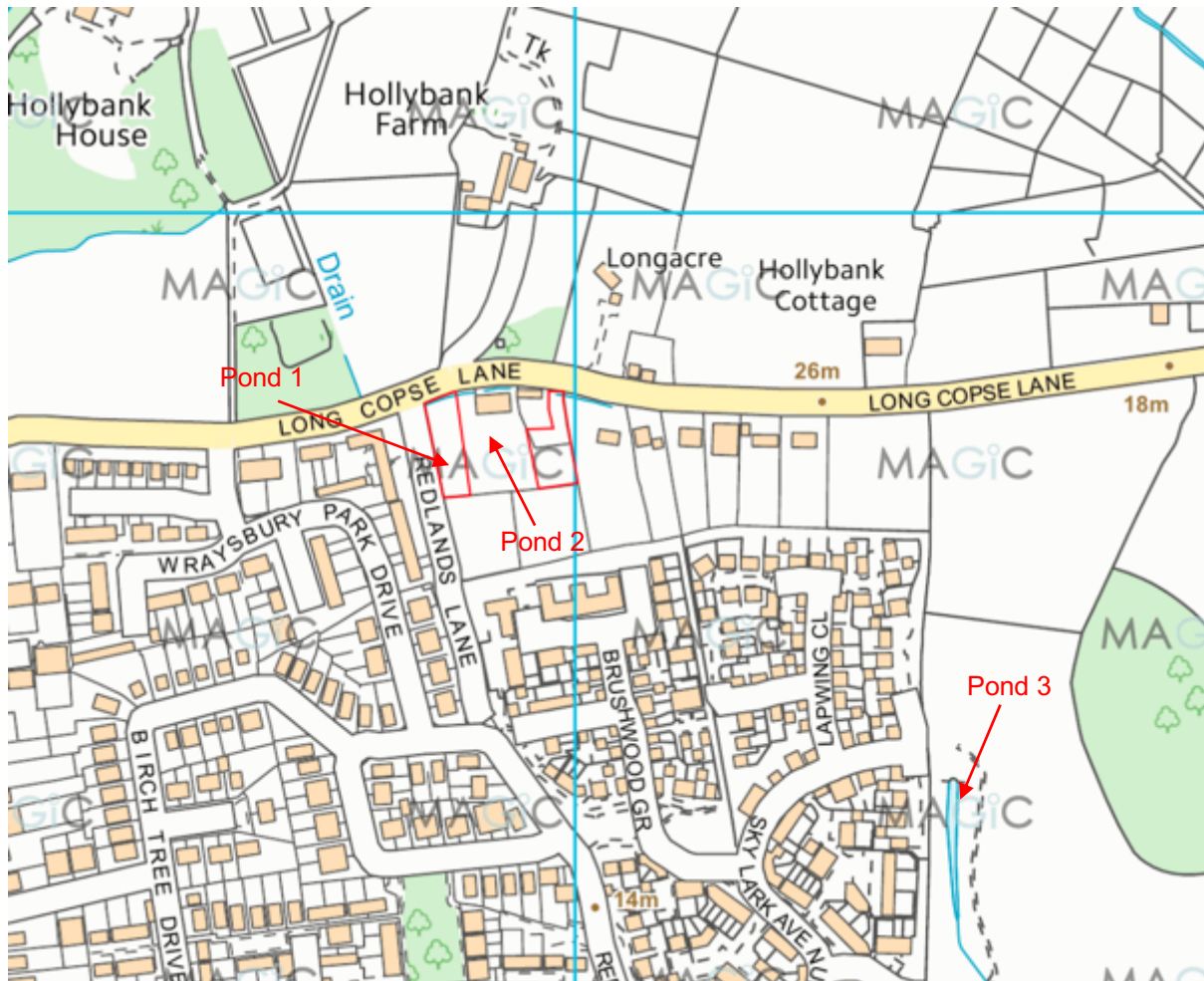


Figure 14. Locations of three ponds in relation to the sites boundaries which are shown in red.

3.8 Reptiles

The site is comprised almost exclusively close-mown amenity grassland, bare ground and herbaceous flower beds, unsuitable to support reptile species due to a lack of cover from predators and for foraging. A small section of longer grassland, potentially suitable for reptiles, is located across the southern strip of Plot 2.

There are potentially suitable hibernacula present in the form of log, brash and wood chipping piles across Plot 1 and a compost heap at the southern boundary of Plot 2.

HBIC did not provide any reptile records in the search area.

3.9 Riparian wildlife

A drainage ditch is located along part of the north boundary of the site (see figure 15). Given the shallow depth of the water at the time of the survey it is expected to be a seasonal wet ditch. Vegetation is very limited on the banks and subsequently this ditch is considered unsuitable to support water voles.

HBIC did not provide any water vole, otter or white clawed crayfish records in the search area.



Figure 15. Seasonally wet drainage ditch along part of the northern boundary.

3.10 Invasive non-native species

Cottoneaster, cherry laurel and rhododendron were identified on Plot 1 during the site visit. Cherry laurel was identified on Plot 2.

Cottoneaster and rhododendron are listed under Schedule 9 of the Wildlife and Countryside Act 1981 and it is therefore an offence to plant or otherwise cause this species to spread or grow in the wild.

HBIC also provided records for the following species listed under Schedule 9 of the Wildlife and Countryside Act 1981; Japanese Knotweed *Fallopia japonica* – 4 records the most recent dated 2017, Montbretia *Crocsmia x crocosmifolia* – 1 record, dated 2008, False-acacia *Robinia pseudoacacia* – 1 record dated 1997 and rhododendron *Rhododendron ponticum* – 4 records the most recent dated 2017. The grid references were provided to 1km only and the distances from the site cannot be accurately inferred.

3.11 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

However, the site visit was undertaken during the winter season when plants and many animal species are in dormancy and may not be evident.

Access was not possible to the internal aspect of the garage located in Plot 2. There was no clear view of the north eastern face of this building as vegetation obscured this.



4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Designated Sites

The site is outside the zone of influence from all statutory designated sites and, based on this and the small scale of the development, there are no identified mechanisms of impact on designated sites as a result of the proposed development.

4.2 Habitats

The development of Plot 1 will result in the loss of amenity grassland and a small number of scattered trees including an ash, a beech, a holly and a Leyland cypress. Along the northern boundary where the site access is proposed, at least 6 trees, which appeared to include semi mature and mature specimens have very recently been cleared. Trees lost should be replanted in a 1:3 ratio. The pond to the south of site is proposed to be retained.

The development of Plot 2 will result in the loss of a vegetable plot, tightly mown amenity grassland, a small number of scattered trees and herbaceous flower beds which include scattered shrubs of the following species; birch sp. magnolia, ash, cherry and hazel.

4.3 Badgers

No signs of badger activity were identified during the assessment and no badger setts are situated on or near of the proposed construction zone. No further mitigation for badgers is advised, however if any signs of digging by large animals is identified on or near to the site prior to construction, then an ecologist should be contacted for advice.

4.4 Bats

4.4.1 Roosting Habitat

Demolition of the garage located within Plot 2 was approved as part of planning application Havant BC Nov 2017 ref:APP/17/00745, although no assessment for bats has been undertaken. In accordance with the Bat Conservation Trust guidelines, the overall potential for the garage within Plot 2 to support bats is rated as 'low', and it is recommended that these crevices are investigated with an endoscope by a licensed bat surveyor prior to their removal.

If bats are discovered a European Protected Species (EPS) license will be required to legally permit any actions that would directly disturb, modify or destroy a bat roost. This would include measures to replace the existing roosting habitat such as designing integral bat roosting opportunities into the building fabric such as bat tiles and internal voids/access points for bats, depending on the scale of impact. An EPS license would need to be informed through appropriate emergence/re-entry surveys that can detail the species and number of bats present using a roost. These surveys can only be undertaken between May and September (inclusive).

The wooden log storage structure has 'negligible' potential to support roosting bats and, therefore, no



further surveys or mitigation for roosting bats is necessary.

4.4.2 Foraging Habitat

The majority of the site has low value for foraging bats. The area of scattered trees along the western strip of Plot 1 is likely to have higher value for foraging bats, however it is less likely to be used for commuting given the limited connectivity of this linear feature.

As the site may be used by foraging and commuting bats, with Bechstein's bats known to be present within the wider landscape it is important that the potential for disturbance from artificial lights is considered. The proposed development should include a strict 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 3). This should include a no light zone along the scattered trees along the western boundary and the planting of trees around the site boundary (this can be included within the replacement planting for the felled trees in section 4.2 of this report).

4.5 Breeding Birds

All the hedgerows, scattered trees, shrubs and single bird box contained in the site has a high potential to support a variety of common nesting birds. It will be essential for any future development to consider the nesting bird season and any vegetation removal and/or building demolition should be timed outside of the nesting bird season (1st March to 31st August), unless features are first searched by a suitably qualified ecologist and no active nests are found. In the event that an active nest is identified a suitable buffer must be created around the nest and all site works with the nest to remain undisturbed until the young have fledged.

4.6 Dormice

At least six trees along the northern boundary of Plot 1 have been cleared. Scattered mixed trees are located along the western boundary of Plot 1. The scattered trees habitat should be retained wherever possible. A small number are proposed to be felled to make way for the development. This includes an ash, a beech, a holly and a Leyland cypress.

Some of the shrubs within the herbaceous flower beds of Plot 2 including; cherry laurel, bay, holly, apple, Norway maple, birch sp., cherry sp., magnolia, ash and hazel are proposed to be removed.

There is limited connectivity to other suitable habitat in the landscape via overhanging canopies across Long Copse Lane. HBIC did not return any records for dormice within the 1km search area. Overall there is a very low potential for dormice to be present however their presence cannot be ruled out completely.

There is not sufficient habitat to carry out a dormouse presence/absence survey at this site and a nut search is not possible due to the presence of only a single beech and the absence of any fruiting hazel in this area.

The impact is considered to be very small in scale due to the low number of trees proposed to be removed, four within Plot 1, equating to a very small proportion of the available habitat. Therefore, no



further surveys are recommended, however a hand search is recommended as a precautionary measure ahead of any habitat clearance. It is considered highly unlikely that dormice are present, however in the event that any dormice or nests were to be identified, works would have to be put on hold whilst a consultation was made with Natural England for the procurement of an EPS license.

4.7 *Great Crested Newts*

No further surveys are recommended with respect to great crested newts, as no waterbodies with the potential to support breeding great crested newts have been identified and it is considered unlikely that this species would be found on the site at any time.

4.8 *Reptiles*

The amenity grassland area must be maintained below a height of 5cm to prevent suitable reptile habitat from establishing.

Any potential reptile hibernacula such as compost heaps, log piles and piles of brash and wood chippings should be removed carefully, under caution, by hand. This should be carried out between the 15th March and 31st October only, when there is minimal risk of disturbing hibernating wildlife.

4.9 *Invasive non-native species*

Cotoneaster and Rhododendron are Schedule 9 species, and if these shrubs are to be impacted by the proposed development care must be taken to prevent the spread of this species. Therefore, the shrubs should be destroyed on site through removal, where the root mass should either be fully excavated or stump treated. Following this the material should be chipped and burnt or removed to a licensed landfill as controlled waste.

The above should also be followed for the removal of Cherry Laurel, which although is not a Schedule 9 species is considered invasive.

4.10 *Enhancement opportunities*

The proposed development represents an opportunity for habitat enhancement to benefit insects, birds, and bats. Any planting scheme could include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of the NPPF and as such would be considered favourably when determining the planning application.

The proposed new hedgerow along the eastern boundary of Plot 1 should comprise a variety of native species only. These hedgerows should be created with only native species from UK stock and of local provenance. It is recommended that 50% is composed of a mixture of blackthorn *Prunus spinosa* to match the character of the area with the remaining 50% made up of five of the following species; spindle *Euonymus europaeus*, dogwood *Cornus sanguinea*, Wayfaring-tree *Viburnum lantana*, field or dog rose *Rosa arvensis/Rosa canina*, guelder rose *Viburnum opulus*, field maple *Acer campestre*, wild privet *Ligustrum vulgare* and hazel *Corylus avellana*. Given the presence of ash dieback disease in the UK, it



is not recommended that ash saplings are planted on the site.

Trees lost should be replanted in a 1:3 ratio. To enhance the value of the site for foraging bats and invertebrate diversity it is recommended this includes orchard tree planting.

Two swift nest boxes are recommended to be installed on the new properties. An example is the WoodStone swift nest box. These boxes should be installed at a height of at least 6m in a location where access is unobstructed. Where possible they should be sited under the eaves or roof overhang to provide shelter.



WoodStone Swift Nest Box

The developer is also encouraged to consider incorporating new bat roosting features in to new buildings on the site. For example, purpose designed bat tiles could be included on the south or eastern pitched roofs of the new buildings. Where bat tiles are installed only bitumen lining can be used as opposed to modern breathable membrane linings, such as Tyvek, which fray and can entrap bats. Alternatively, 2FE Schwegler Wall-Mounted bat shelters could be installed upon the external faces of the building close to the eaves on the south or eastern faces. As best practice, the lighting scheme should be designed to minimize light spill (see Bat Conservation Trust website), around these roosting features and potential commuting routes.



Bat Access Tile Set



2FE Schwegler Wall-Mounted Bat Shelter



4.11 Conclusions

The two plots at Redlands House are used as garden spaces and are comprised of lawn, scattered trees, mixed woodland habitat, a garden pond, a vegetable patch, herbaceous flower beds with shrubs and laurel hedgerows.

The garage within Plot 2 to support bats is rated as 'low', and it is recommended that all potentially accessible crevices are investigated with an endoscope prior to their removal. If bats are discovered a European Protected Species (EPS) license will be required to legally permit any actions that would directly disturb, modify or destroy a bat roost with this must be informed by bat emergence/re-entry surveys.

A strict 'ecologically sensitive lighting scheme' must be put in place as the site may be used by foraging and commuting bats, with Bechstein's bats known to be present within the wider landscape.

Precautionary mitigation is recommended for reptiles with the amenity grassland to be maintained below a height of 5cm and any potential reptile hibernacula removed carefully, under caution, by hand.

To enhance the site it is recommended that a species rich hedgerow is planted and the swift and bat boxes installed on the new properties. To compensate for the trees felled these should be replaced in a 1:3 ratio. Orchard trees are recommended to enhance the value of the site for foraging bats.

If any protected species are found during the proposed work, then all activities should be stopped immediately and an ecologist must be contacted immediately for advice.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, info@ecologyco-op.co.uk, www.ecologyco-op.co.uk, Office: 01798 861800.



APPENDIX 1 –Wildlife Legislation and National Planning Policy

Introduction

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

The ‘Birds Directive’, ‘Habitats Directive’ and ‘Natura 2000 Sites’.

The Council Directive 79/409/EEC on the Conservation of Wild Birds (“the Birds Directive”) sets a framework for the protection of wild birds. Under the directive, several provisions are made including the designation and protection of ‘Special Protection Areas’ (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) directs member states of the EU to take measures to maintain favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the directive (for example Bechstein’s bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*). Together with ‘Special Areas of Conservation’ (SPAs), designated under the Birds Directive, SACs form a network across Europe of protected areas known as the ‘Natura 2000 sites’.

Annex IV lists species in need of more strict protection, these are known as “European Protected Species (EPS)”. All bat species, common dormice *Muscardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

The ‘Habitats Regulations’

The Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations”) is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 (“the 1994 regulations”) in England and Wales.

‘Natura 2000’ sites receive the highest level of protection under this regulation which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where ‘likely significant effects on the integrity of the site are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to;

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb wild animals of such species;
- Deliberately take or destroy their eggs (where relevant);
- Damage or destroy a *breeding or resting place* of such an animal;
- Possess, control, sell or exchange any live or dead animal or plant, of such species;
- Deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for



specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the ‘three derogation tests’) are met:

- A licence can be granted for the purposes of “preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 53 (2) (e).
- A licence can be granted if “there are no satisfactory alternatives” to the proposed action.
- A licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act (1981) as amended.

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrrium w-album*.

The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

Natural Environment and Rural Communities (NERC) Act (2006)



The NERC Act (2006) created the statutory nature conservation body Natural England, and places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Protection of Badgers Act (1992)

The Badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a Badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2012) sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

The NPPF states that the wider benefits of an ecosystem should be recognised, and the presence of a protected species is a material consideration for a development proposal (Circular 06/2005, 2005).

In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,
- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for



protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade. Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

Birds of Conservation Concern (BoCC)

In 1996, the UK's leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every 5 years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2015 (Eaton et al, 2015), which provides an up to date assessment of the conservation status of birds in the UK.

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APPENDIX 2 –Great crested newt ‘Habitat Suitability Index’ values

Table 1. HSI calculation for ponds assessed during the survey.

	Pond 1		Pond 2	
NGR	SU74920784		SU74940787	
SI attribute	SI value	Notes	SI value	Notes
Location	1.00	SE England	1.00	SE England
Pond area	0.02	12m ²	0.01	7m ²
Pond drying	0.10	Frequently	0.90	Never
Water quality	0.33	Poor	1.00	Good
Shade cover	1.00	40%	1.00	0%
Water-fowl	1.00	Absent	1.00	Absent – netting present
Fish presence	1.00	Absent	0.01	Major – ornamental fish pond
No. ponds	1.00		1.00	
Terrestrial habitat	0.67	Moderate	0.67	Poor – surrounded by lawn
Macrophytes	0.90	90% - iris sp.	0.61	30% - water lilly
H.S.I. value	0.47	‘Poor’ suitability	0.35	‘Poor’ suitability



APPENDIX 3 Reducing impacts of artificial light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust⁷ should be considered while designing the lighting scheme. This includes the following measures:

Do not:

- provide excessive lighting. Use only the minimum amount of light needed for the task.
- directly illuminate bat roosts or important areas for nesting birds

Avoid:

- installing lighting in ecologically sensitive areas such as: near ponds, lakes, rivers, areas of high conservation value; sites supporting particularly light-sensitive species of conservation significance (e.g. glow worms, rare moths, slow-flying bats) and habitat used by protected species.
- using reflective surfaces under lights.

Do:

- consider employing a competent lighting designer who will apply the principals of providing the right light, in the right place, at the right time and controlled by the right system.
- minimise the spread of light to at, or near horizontal and ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required.
- consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures.
- consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- use temporary close-boarded fencing until vegetation matures, to shield sensitive areas from lighting.
- limit the times that lights are on to provide some dark periods. The task being lit often varies, for example roads are less used after 23.00hrs and car parks are empty. A lighting designer can vary the lighting levels as the use of the area changes reducing lighting levels or perhaps even switching installations off after certain times. This use of adaptive lighting can tailor the installation to suit human health and safety as well as wildlife needs.

⁷ Bat Conservation Trust (2014) Artificial Lighting and Wildlife - Interim Guidance: Recommendations to help minimise the impact artificial lighting. Available at: http://www.bats.org.uk/pages/bats_and_lighting.html



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End.
