



Preliminary Ecological Appraisal and Preliminary Roost Assessment

Villa Cervino, Botley Road, Eastleigh, SO50 7DT

Lisa Hanley

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation, and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary, and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Lisa Hanley to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Villa Cervino, Botley Road, Eastleigh, SO50 7DT (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the conservatory to create a double storey rear extension. Raise entire roof and relocate existing staircase to new upstairs bedrooms. Demolish existing car port to build a new side single storey extension. Alteration to the fenestration including 2 dormer windows and 1 Juliet balcony, and 2 to side porch (hereafter referred to as “the proposed development”).

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 8 of this report.

Feature	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>
Roosting bats (B1, B2, B3 and T1)	Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.
Foraging and commuting bats	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Lisa Hanley to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Villa Cervino, Botley Road, Eastleigh, SO50 7DT (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the conservatory to create a double storey rear extension. Raise entire roof and relocate existing staircase to new upstairs bedrooms. Demolish existing car port to build a new side single storey extension. Alteration to the fenestration including 2 dormer windows and 1 Juliet balcony, and 2 to side porch (hereafter referred to as “the proposed development”).

A plan showing the proposed development is provided in Appendix 1.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging, or commuting.

1.2 Site Context

The site is located at National Grid Reference SU49551652 and has an area of approximately 0.1ha. The site is characterised by a residential dwelling with associated outbuildings and garden. The surrounding landscape comprises urban infrastructure including roads and residential dwellings with enclosed gardens to the north and south with large arable fields to the east and west, and woodland pockets, tree lines and hedgerows in the area. The village of Horton Heath extends to the north. There is an area of ancient woodland located approximately 70m east of the site.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

The PEA element of this report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species. It identifies possible ecological constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

The PRA element of this report provides a description of all features suitable for roosting, foraging and commuting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any further surveys to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including roosting bats.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site.

2.2 Field Survey

The survey was undertaken by Georgia Chapman (Accredited Agent on Natural England Bat Licence Number: 2016-22119-CLS-CLS) on Tuesday 15th November 2022.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2018). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure, and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

Ponds on and adjacent to the site were assessed for their suitability to support great crested newts using the *Habitat Suitability Index (HSI) Assessment Methodology* (Oldham et al, 2000).

Preliminary Roost Assessment

The PRA focussed on one built structure which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the building for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the building was also made, including the living areas and any accessible roof spaces, using a torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

Suitability Assessment

Built structures were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in Table 1 for buildings below. Roost suitability is classified as high, moderate, low, and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats.

Classification	Feature of building and its context
Moderate to high	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	A small number of possible roost sites or features, used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.
Negligible	Unsuitable for use by bats.

Habitat Suitability Index Assessment

Ponds were assessed for their suitability to support great crested newts using the Habitat Suitability Index (HSI) Assessment Methodology (Oldham et al, 2000).

HSI is a standard measure of calculating the suitability of a pond to support breeding great crested newts, based on an assessment of 10 characteristics (indices), including size, shading, depth, and vegetation profile. The assessment generates a number between 0 and 1 for each of the indices which are combined to provide an overall assessment of a pond's suitability to support great crested newts on a categorical scale, as shown in **Table 2**.

Table 2: HSI Suitability Scores.

HSI Score	Suitability	Predicted GCN Occupancy of Ponds in each Category
<0.5	Poor	3%
0.5 to 0.59	Below Average	20%
0.6 to 0.69	Average	55%
0.7 to 0.79	Good	79%
>0.8	Excellent	93%

2.3 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

There were no specific limitations to the survey.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

3.0 Results and Evaluation

3.1 Designated Sites

Details of any statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in Table 3 below.

Table 3: Statutory designated sites within 2km radius of the site.

Designated site name	Distance from site (approx.)	Reasons for notification from Natural England
Moorgreen Meadows SSSI	~1,900m southwest	Neutral meadows and alder <i>Alnus</i> wood flanking a small tributary of the River Hamble on the Bracklesham Beds of the Hampshire Basin. The meadows lie on alluvium and clay with thin deposits of peat. The sward comprises at least 17 co-dominant herbs and grasses and is of exceptional scientific importance for its populations of marsh orchids

3.2 Field Survey Results

The results of the field survey are illustrated in Appendix 3. The weather conditions recorded at the time of the survey are shown in Table 4.

Table 4: Weather conditions during the survey.

Date: 15/11/2022	
Temperature	12°C
Humidity	78%
Cloud Cover	90%
Wind	1mph
Rain	Intermittent

Habitats and Flora

The following habitats are present within and adjacent to the site:

- u1b, 1231 - Developed land; sealed surface, permeable paving
- g4 66, 1160 - Modified grassland, frequently mown, vegetated garden
- ub15 – Buildings
- u1, 11, 12, 47, 48, 149 - Built up areas and gardens, scattered trees, native, non-native, gravel beds
- g4 1160, 47, 48 - Modified grassland, introduced shrub, native, non-native
- u1e, 69 - Built linear features, fence
- h3d, 12, 16 - Bramble scrub, scattered bracken, tall herb
- c1f6, 80, 1150 – Perennials, horticulture, flower bed
- r1, 366 - Pond, artificial

A description and photographs of each habitat are provided in Table 5.

No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site.

Table 5: Description and photographs of habitats within and adjacent to the site.

Habitat Type	Habitat description	Photograph
u1b, 1231 Developed land; sealed surface permeable paving	There is an area of hard standing comprising brick and patio slabs east and west of the residential dwelling, as well as gravel west of the site. Hard standing enables vehicular and pedestrian access.	 Figure 1: Driveway and residential building.  Figure 2: Patio west of the site.

g4 66, 1160
Modified grassland,
frequently mown,
vegetated garden

The site is dominated by regularly mown grassland which is intensively managed retaining a short sward length of approximately 2cm. Species composition is poor consisting predominantly of perennial ryegrass.



Figure 3: Garden.



Figure 4: Grassland.

ub15
Buildings

Three buildings are present on site comprising one residential dwelling, designated as B1 and two outbuildings. These buildings and their suitability for roosting bats is described within the PRA section below.



Figure 5: East elevation of the residential building.



Figure 6: West elevation of the residential building.

u1, 11, 12, 47, 48, 149
Built up areas and gardens, scattered trees, native, non-native, gravel beds

There are scattered trees located throughout the site which are young and semi-mature in age. Species include cherry (O), Japanese maple (O), cypress (F), willow (O), and hazel (F).



Figure 7: Scattered tree south of the site.



Figure 8: Bracken along the western boundary.

g4 1160, 47, 48
Modified grassland,
introduced shrub,
native, non-native

There are shrubs present along the southern and western boundaries of the site. Species comprise laurel (F), hazel (O), and firethorn (O).



Figure 9: Shrubs along the southern boundary.



Figure 10: Shrubs along the western boundary.

u1e, 69
Built linear features,
fence

The site is enclosed on the north, south, and west boundaries by wooden and wire mesh fencing. The fencing is in good condition and limits access onto the site.



Figure 11: Wooden fence along the north boundary.



Figure 12: Wooden fence along the south boundary and wire mesh fence along the west boundary.

h3d, 12, 16 Bramble scrub, scattered bracken, tall herb	Bramble (D) lines the wire mesh fence west of the site. Bracken (A) is present within the scrub. There are areas of unmanaged vegetation present west of the site comprising nettles (F), docks (O), and thistle (O).	 Figure 13: Bramble along the western boundary and tall herbs.  Figure 14: Bracken.
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c1f6, 80, 1150
Perennials
horticulture, flower
bed

Two areas of unmanaged perennial plants are present west of the site.



Figure 15: Flower bed west of the site.



Figure 16: Flower bed west of the site.

r1, 366 Pond, artificial	A small pond (P1) was found located in the northwest corner of the site. The pond was covered by wooden planks which were lifted during the survey to assess the pond. The pond is most likely covered to ensure the garden is safe for children. The pond appears shallow with a plastic base and concrete paving around the edge. It is unlikely the pond will be suitable for common amphibians, including great crested newts, due to a lack of access, lack of submergent vegetation as well as the presence of intensively managed grassland and hard standing which are considered sub optimal for GCN. The pond is located approximately 30m from the development site. A nearby bucket of rainwater is also present west of the pond.	 Figure 17: Water bucket and pond.  Figure 18: Pond P1 northwest of the site.
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Fauna

Bats

Seven granted EPSL records for bats were returned by the Magic database within 2km of the site. The closest one is approximately 680m northwest of the site for the destruction of a brown long-eared bat, common pipistrelle and Natterer’s bat resting place.

Boundary shrubs and on-site scattered trees, as well as the open grassland areas east, south, and west and the deciduous woodland east of the site east of the site are likely to provide abundant foraging and commuting opportunities for bats.

The results of the PRA are provided in Table 6. No evidence of roosting bats was identified during the survey.

Table 6: Assessment of the suitability of the site for bats.

Feature Ref	Description	Photographs
B1 – East elevation	Building B1 is a single storey brick-built building with a hipped roof clad in concrete interlocking tiles. The roof tiles are in very good condition with no raised, missing, or broken examples present under which crevice dwelling bats could access to roost. The mortar along the ridge and verge tiles is in good condition with no suitable bat roosting sites. The fascia boards and soffit boxes, as well as the door and window frames are uPVC framed and in excellent condition with no gaps or areas of damage in which bats could access to roost. The brickwork around the building is well pointed and in excellent condition with no gaps or cracks in the mortar for bats to access and roost.	 Figure 19: East elevation of B1.

		
B1 – North and east elevations	There is a lean to roof extension on the north elevation of B1. The lean to is constructed of modern timber beams and the roof is lined with corrugated polycarbonate roof. There are no suitable bat roosting sites.	

Figure 20: southeast corner of B1.

Figure 21: Northeast corner of B1.

		
B1 – West elevation	The hipped tiles and roof tiles are in very good condition with no suitable bat roosting sites. There are single storey extensions on the west elevation of B1 comprising a flat roof glass conservatory, a brick-built conservatory with a bitumen felt flat roof and a pitched roof glass conservatory. The building is in very good condition with no gaps or cracks, or areas of damage in which bats could access to roost.	

Figure 22: North elevation of B1.

Figure 23: West elevation of B1.

		 Figure 24: Southwest conservatory extension.
B1 – Eaves within B1	The loft void within B1 is converted liveable space currently in use as a storage room. The eaves of the building are fully accessible and are fully boarded allowing for a thorough investigation. The roof of B1 is constructed of modern timber beams and is lined with bitumen felt which is in very good condition with no rips or tears in the lining which could allow access into the building for bats to roost. No daylight enters the loft space indicating that it is well sealed. No evidence of bat activity in the form of droppings or feeding remains was found.	 Figure 25: Eaves of B1.

		
B1 – Single storey extension	There is a single storey extension on the south elevation of B1. The extension is brick built with a wooden door on the east elevation. The extension is dilapidated with no roof and is lined with tarpaulin to protect the building from water damage.	

Figure 26: Eaves of B1.

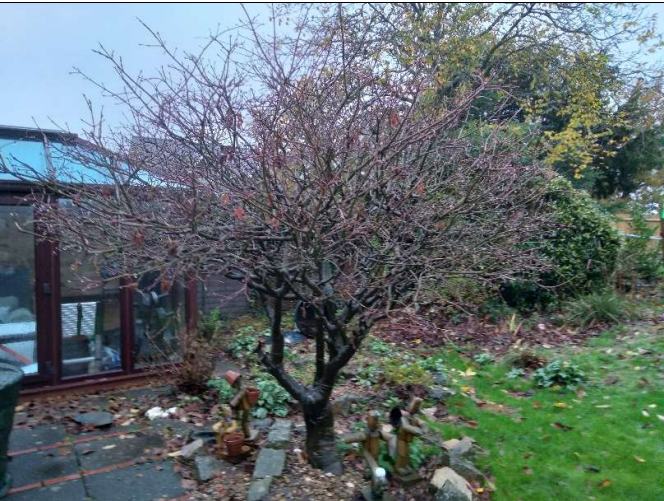
Figure 27: Single storey extension on the south elevation of B1.

		
B2 and B3	Building B2 is a wooden framed shed with a corrugated tin roof used to store gardening equipment. This building has no suitable bat roosting sites. Building B3 is a single storey summerhouse with a pitched roof lined with bitumen felt. The felt is in very good condition with no raised areas under which bats could roost. The building has no suitable bat roosting sites.	

Figure 28: Interior of the single storey extension on the south elevation of B1.

Figure 29: B2 shed.

		 Figure 30: B3 summer house.
T1	There is one scattered tree which will be removed as a result of the proposed development. The cherry tree is young in age and small in height and diameter. T1 has negligible habitat value for roosting bats and there is no sign of nesting birds.	 Figure 31: Tree west of B1.

		 Figure 32: Tree west of B1.
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Other Species

Three EPSL records and three survey licences for great crested newts (GCN) were returned by the Magic database within 2km of the site. The closest EPSL record is approximately 1,495m northwest of the site and the closest survey licence is approximately 900m west of the site. No other protected species EPSL records were returned by the Magic database.

An assessment of the suitability of the site for protected or notable species is provided in Table 7.

Table 7: Assessment of the suitability of the site for protected or notable species, and HSI assessment.

Species	Assessment of suitability
Amphibians	A review of the MAGIC database returned three granted EPSL records for great crested newts within 2km of the site and evidence indicating the presence of great crested newts resulting from historic pond surveys undertaken in 2017. These records are located approximately 900m northwest. Great crested newts exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). As such, the great crested newt metapopulation known to be present 900m northwest are not suitably connected to the site. There is one pond on site, designated as P1 for the purpose of this report, located approximately 30m from the development site. P1 is considered to have poor habitat suitability for GCN (see table 8a below). P1 is lined with tarpaulin, surrounded by concrete paving, and covered with timber boards which would significantly limit amphibians entering and existing within the pond. A review of the Magic database indicates there are no ponds located within 500m of the site. Furthermore, the site is enclosed by wooden and wire fencing with residential houses and enclosed gardens to the north and south, as well as roads such as including Botley road to the east, Blind Lane to the south and Burnetts Lane to the west with the village of Horton Heath extending to the north of the site. Furthermore, there is a railway line approximately 1,015m southwest; these landscape features combined are assessed to represent a significant barrier to amphibian dispersal. Due to the poor suitability of the onsite habitats including hardstanding and amenity grassland as well as poor habitat connectivity to ponds, GCN are unlikely to use the site. The pond on site are separated from suitable habitats in the wider landscape by urban and agricultural infrastructure including tarmac roads, buildings, railways, and extensively managed grassland which is either grazed or regularly mown resulting in a very short sward length. These landscape features are suboptimal for GCN due to a lack of refuge from predation and minimal opportunities for foraging. Onsite habitats are similar, although, scrub along the westernmost edge of the site could provide limited suitable habitat. Habitats on site could provide foraging, commuting, and refuge opportunities for amphibians including GCN in the form of scrub and tall ruderal shrubs. However, given the absence of suitable aquatic breeding habitat within 500m of the site and the absence of suitable terrestrial connectivity between the site and habitats in the wider landscape, the presence of amphibians during their terrestrial stage is considered unlikely.

	As a result of the HSI, P1 has been assessed to be provide poor suitability to support great crested newts. The scores for each HSI parameter can be viewed in Table 8a below. <i>Table 8a: HSI results for P1.</i> <table><tr><th>HSI Index</th><th>HSI Index Parameter</th><th>HSI Score</th></tr><tr><td>1 – Location</td><td>Zone A</td><td>1.0</td></tr><tr><td>2 – Pond Area</td><td><50m²</td><td>0.05</td></tr><tr><td>3 – Pond Drying</td><td>Never dries</td><td>0.5</td></tr><tr><td>4 – Water Quality</td><td>Moderate</td><td>0.01</td></tr><tr><td>5 – Shade</td><td>0-60%</td><td>0.2</td></tr><tr><td>6 – Waterfowl</td><td>Minor</td><td>1</td></tr><tr><td>7 – Fish</td><td>Minor</td><td>1</td></tr><tr><td>8 – waterbody count in wider landscape within 500m with suitable terrestrial connectivity</td><td>2</td><td>0.1</td></tr><tr><td>9 – Terrestrial Habitat</td><td>Good</td><td>0.33</td></tr><tr><td>10 – Macrophytes</td><td>16-20%</td><td>0.4</td></tr><tr><td>TOTAL</td><td>-</td><td>0.241</td></tr><tr><td>CATEGORY</td><td>-</td><td>Poor</td></tr></table>	HSI Index	HSI Index Parameter	HSI Score	1 – Location	Zone A	1.0	2 – Pond Area	<50m ²	0.05	3 – Pond Drying	Never dries	0.5	4 – Water Quality	Moderate	0.01	5 – Shade	0-60%	0.2	6 – Waterfowl	Minor	1	7 – Fish	Minor	1	8 – waterbody count in wider landscape within 500m with suitable terrestrial connectivity	2	0.1	9 – Terrestrial Habitat	Good	0.33	10 – Macrophytes	16-20%	0.4	TOTAL	-	0.241	CATEGORY	-	Poor
HSI Index	HSI Index Parameter	HSI Score																																						
1 – Location	Zone A	1.0																																						
2 – Pond Area	<50m ²	0.05																																						
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6 – Waterfowl	Minor	1																																						
7 – Fish	Minor	1																																						
8 – waterbody count in wider landscape within 500m with suitable terrestrial connectivity	2	0.1																																						
9 – Terrestrial Habitat	Good	0.33																																						
10 – Macrophytes	16-20%	0.4																																						
TOTAL	-	0.241																																						
CATEGORY	-	Poor																																						
Reptiles	The surrounding landscape is likely to support reptiles due to suitable foraging, commuting and refugia opportunities present within scrub, grassland, and woodland pockets in the wider area. Habitats within the site including amenity grassland and hard standing are suboptimal for supporting reptiles, however, isolated unmanaged scrub and tall ruderal along the western boundary could provide limited suitable opportunities for reptiles. The proposed development will not result in the removal of any habitats which could be utilised by reptiles for shelter, therefore it is unlikely reptiles will be encountered or impacted. These habitats are not well connected to suitable habitats in the wider landscape due to the boundary fencing and surrounding urban infrastructure.																																							
Badgers	No evidence of badgers including snuffle holes, mammal paths, latrines, prints, hairs, or sett entrances were observed on site or adjacent to the site. The boundary fencing and urban infrastructure including roads and residential dwellings with enclosed gardens in the immediate landscape are likely to present significant barriers to dispersal limiting access to the site for badgers.																																							
Hazel Dormouse	The site and surrounding area lack suitable complex vegetative structure and connectivity to support dormice. Within a different landscape context, habitats on site have potential to support dormice in the form of woodland and scrub. However, these habitats are small in extent and lack a continuous three-dimensional distribution. Dormice typically utilise a three-dimensional woodland ground flora as to commute between feeding and breeding sites whilst avoiding predation; the woodland on site supports a suboptimal understorey layer. Furthermore, for isolated woodland pockets in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright et al. 1994). The on site scattered trees are not suitably connected to further pockets of woodland or wide hedgerows and thus does not provide the coverage required to support a viable population.																																							

Hedgehog	There is suitable habitat for hedgehogs in the wider landscape and surrounding areas with scrub, grassland, and woodland pockets. Additionally, there is suitable habitat on site in the form of a shrubs, scrub, and tall ruderal. The proposed development will impact building as well as areas of hard standing and one tree. The development will not result in the removal of any vegetation which could be used by hedgehogs.
Riparian mammals	The site has no watercourses present or immediately adjacent to support otter or water vole.
Birds	Onsite scattered trees and boundary shrubs and scrub could all provide suitable habitat for nesting birds. No evidence of nesting birds was found internally or externally on B1 which will be impacted by the proposed development. Only one scattered tree west of B1 will be removed as a result of the proposed development.
Invertebrates	The habitats on site including the amenity grassland and hard standing are of negligible ecological value and minimal vegetation will be impacted by the proposed development. The scattered trees, shrubs, scrub, tall ruderal, and pond will all provide suitable habitat for common invertebrate assemblages.

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

Likelihood of the Presence of Protected Species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Where this report supports a planning application, the ecological interest of the study area (i.e., the area covered by the desk study and field survey) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

4.2 Evaluation

Taking the desk study and field survey results into account, Table 8 presents an evaluation of the ecological value of the site and details any ecological constraints identified in relation to the proposed development which will comprise the demolition of the conservatory to create a double storey rear extension. Raise entire roof and relocate existing staircase to new upstairs bedrooms. Demolish existing car port to build a new side single storey extension. Alteration to the fenestration including 2 dormer windows and 1 Juliet balcony, and 2 to side porch.

Table 8: Evaluation of the site and any ecological constraints.

Ref	Summary of Survey Findings	Foreseen Impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>	Biodiversity Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).</i>
Designated sites	The site is not subject to any statutory or non-statutory designation. There is one statutory site within 2km of the site, Moorgreen Meadows SSSI is located approximately 1,900m southwest of the site. The presence of non-statutory designated sites within 2km of the site cannot be established	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers.	None.	None.

	without data from Hampshire Biodiversity Information Centre.			
Habitats and flora	There are no notable habitats within the site, but five habitats are present within 2km of the site, the closest being deciduous woodland located approximately 37m southeast of the site. Other habitats within the site are common and widespread and have low ecological value.	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development: • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. Species-specific enhancement opportunities are detailed later in this table.
Amphibians	Due to the poor suitability of the onsite habitats as well as poor habitat connectivity to ponds, great crested newts are unlikely to use the site. Pond P1 is located approximately 30m from the development site in the northwest corner. P1 has poor suitability for GCN as a result of the HSI (see table 8a).	No impacts are anticipated on amphibians, including great crested newt, as a result of the proposed development.	None.	None.
Reptiles	Habitats within the site including amenity grassland and hard standing are suboptimal for supporting reptiles, however, isolated unmanaged scrub and tall ruderal along the western boundary could provide limited suitable opportunities for reptiles.	No impacts are anticipated on reptiles as a result of the proposed development.	None.	None.
Roosting bats (B1, B2, B3 and T1)	Buildings B1, B2, and B3 as well as T1 all have negligible habitat value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	The installation of a minimum of two bat boxes on mature trees around the site boundaries or on retained buildings will provide

				additional roosting habitat for bats e.g. 2F Schwegler Bat Box (trees) 1FF Schwegler Bat Box (trees) 2FN Schwegler Bat Box (trees) Beaumaris Bat Box (buildings) Vivara Pro Woodstone Bat Box (buildings) Or a similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Foraging and commuting bats	Onsite scattered trees and boundary shrubs and scrub could be used by local bat populations for foraging and commuting.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: • Planting of native tree, shrub, and hedgerows to increase foraging opportunities.

			• Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimnable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
Badger	No evidence of badgers was observed on site or adjacent to the site. The boundary fencing and urban infrastructure including roads and residential dwellings with enclosed gardens in the immediate landscape are likely to present significant barriers to dispersal.	No impacts are anticipated on badgers as a result of the proposed development.	None.	None.
Hazel dormouse	The site and surrounding area lack suitable complex vegetative structure and connectivity to support dormice.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.

Hedgehog	There is suitable habitat on site. The proposed development will impact buildings and hard standing, as well as one scattered tree west of B1 and will not result in the removal of any vegetation which could be used by hedgehogs.	No impacts are anticipated on hedgehogs as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Riparian mammals	The site has no watercourses present or immediately adjacent to support otter or water vole.	No impacts are anticipated on water vole as a result of the proposed development.	None.	None.
Birds	Scattered trees, shrubs and scrub could provide suitable nesting habitat. No evidence of nesting birds was found internally or externally on buildings B1, B2 or B3 which will be impacted by the proposed development. Furthermore, no evidence of nesting birds was found in T1 west of B1 which will be removed as a result of the proposed development.	No impacts are anticipated on nesting birds as a result of the proposed development.	None.	The installation of a minimum of two bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain, and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree

				trunk where foliage will not obscure the entrance hole.
Invertebrates	The habitats on site including the amenity grassland and hard standing are of negligible ecological value and minimal vegetation will be impacted by the proposed development. The scattered trees, shrubs, scrub, tall ruderal, and pond will all provide suitable habitat for common invertebrate assemblages	No impacts are anticipated on notable species or populations of invertebrates as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates: • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • Retention of deadwood on the site.

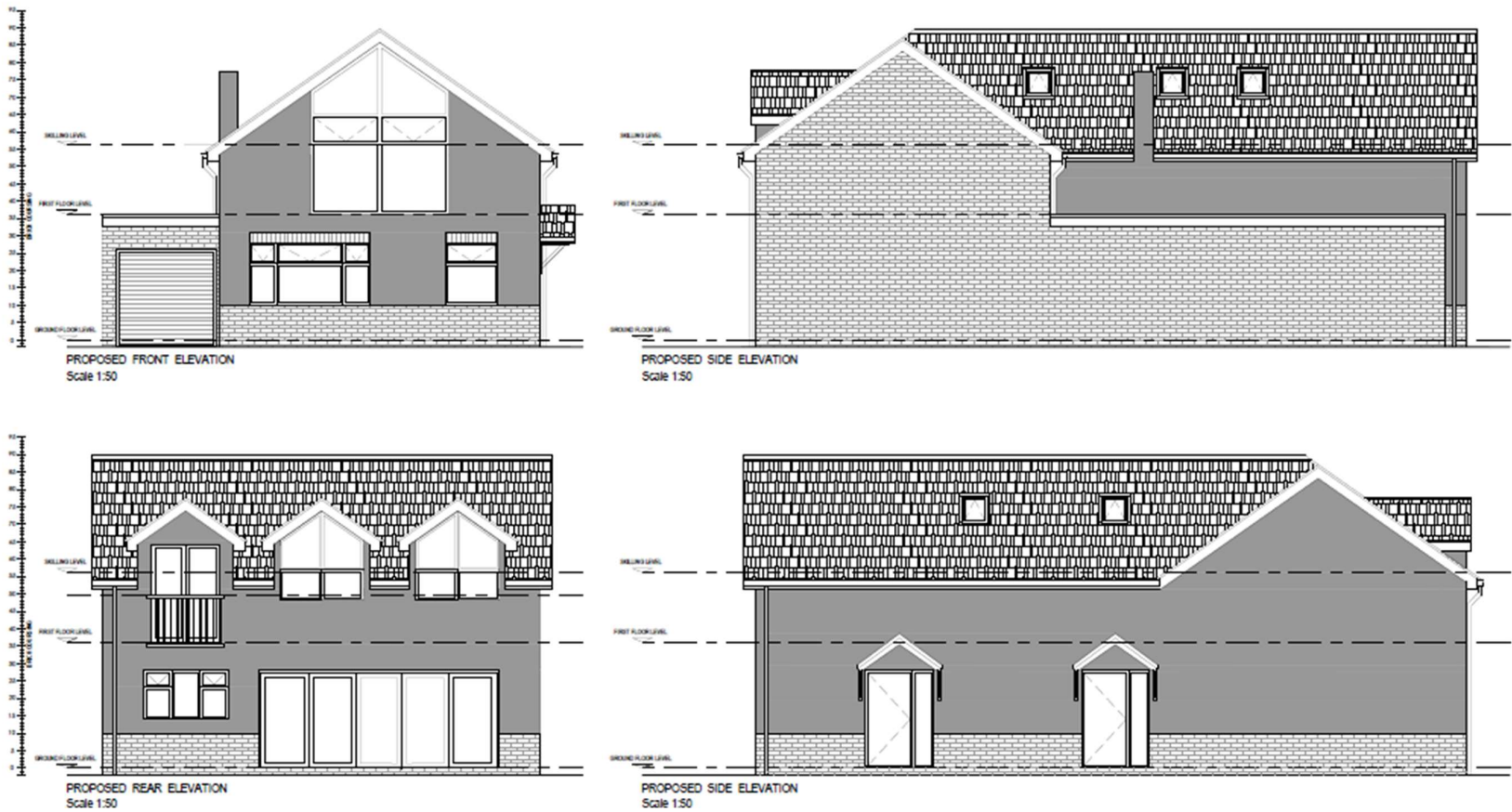
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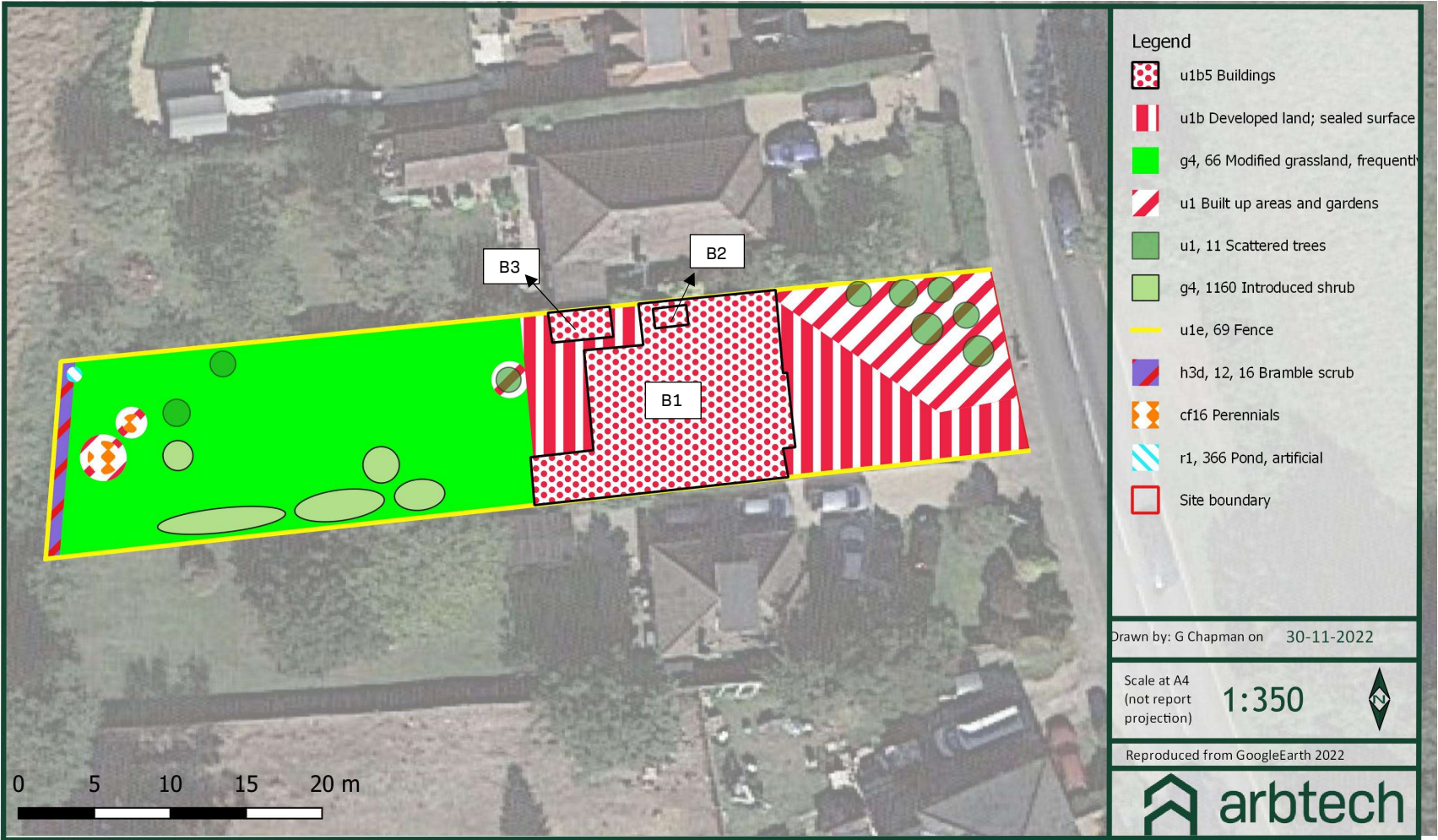
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3a: Habitat Survey Plan



Appendix 3b: PRA Survey Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as “*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*”. However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CROW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agencies to define what would constitute a licensable activity. It is not possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection

- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking
- Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
 - Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
 - Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of plants listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

Effects on development works:

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY (ENGLAND)***Environment Act 2021***

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.