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ERNEST SHAW

THE STABLES, GILLOW HEATH

PRELIMINARY ECOLOGICAL APPRAISAL

APRIL 2016

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ERNEST SHAW

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PRELIMINARY ECOLOGICAL APPRAISAL

APRIL 2016

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DRAWINGS	**TITLE**	**SCALE**
ST15361-001	Phase 1 Habitat Survey	1:1,000@A3

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Mr Ernest Shaw to undertake an Preliminary Ecological Appraisal (PEA) to support outline planning permission (SMD/2016/0184) for a proposed detached bungalow east of Akesmoor Lane, Gillow Heath, Biddulph, Staffordshire, approximate National Grid Reference: SJ 8772 5789.

1.1.2 This report has been produced with reference to current guidelines for PEA (Chartered Institute of Ecology and Environmental Management (CIEEM, 2012)) and British Standard BS 42020:2013 (BSI, 2013) which involves the evaluation of potential ecological constraints based on Extended Phase I (Joint Nature Conservation Committee (JNCC, 2010)) survey data and background desk study.

1.1.3 The purpose of the appraisal is to satisfy the requirements of the National Planning Policy Framework (NPPF), identifying the likely presence of ecological features within or near the application site that could potentially pose a constraint to the proposed development. The following ecological features have been considered:

- Statutory and non-statutory designated conservation areas;
- UK and local Biodiversity Action Plan (BAP) habitats;
- Areas of Ancient Woodland;
- Legally protected and UK/local BAP species;
- Invasive species.

1.1.4 This report also seeks to identify any requirement for further specialist survey where the initial assessment cannot be relied upon to adequately determine presence or reliably infer absence of protected species/taxa. Mitigation and enhancement opportunities are also discussed.

1.2 Site Context

1.2.1 The area of detailed ecological study referred to as the 'survey area' comprises a small paddock, manége and associated stables covering approximately 0.4 hectares. The site is bounded to the north and east by fencing and the south and west by an intact species poor hedgerow. The town of Biddulph lies beyond eastern site boundaries with open arable and pastoral farmland dominating the wider landscape to the west.

1.3 Quality Assurance & Environmental Management

1.3.1 All Ecologists employed by WA are members of CIEEM and are bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in BS 42020.

1.4 Nomenclature

1.4.1 Vascular plant names follow '*New Flora of the British Isles*' (Stace 1997) with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013). All other flora and fauna names following the National Biodiversity Network (NBN) Gateway (NBN, 2013). The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

2 METHODOLOGY

2.1 Desk Study

2.1.1 The desktop study was informed by review of existing available information provided by Staffordshire Ecological Records (SER) for a 2km search radius from the sites central grid reference. Ordnance Survey (OS) and satellite mapping was also used to gain contextual habitat information.

2.1.2 Specific information was sought for:

- Statutory designated sites;
- Locally designated sites;
- Ancient woodland;
- Protected and priority species; and
- Local BAP priority species.

2.2 Extended Phase 1 Habitat Survey

2.2.1 An Ecologist from WA carried out an Extended Phase 1 Habitat Survey of the site on 7th April 2016.

2.2.2 The survey followed the 'Extended Phase 1' methodology (Institute of Environmental Assessment (IEA), 1995 and JNCC, 2010). Each of the main habitats were classified according to the relevant criteria including vegetation composition expressed according to the DAFOR[1] system.

2.2.3 In addition to the mapping and description of habitats, incidental observations of protected and/or BAP priority species and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted. Specific habitat features are mapped on Drawing No. ST15361-001.

2.2.4 Built structures within the survey area were search for signs of and suitability for roosting bats following *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).

2.2.5 Waterbodies within 500m of the survey area were assessed for their suitability to support great crested newt *Triturus cristatus,* assessment methods and criteria are described in detail in Section 2.3 below.

[1] D – Dominant, A – Abundant, F – Frequent, O- Occasional, R-Rare.

2.2.6 Suitable existing refugia within the survey area was searched for reptiles and the ground was scanned whilst walking to look for basking species.

2.3 Great Crested Newt Habitat Suitability Index Assessment

2.3.1 The Habitat Suitability Index (HSI) assessment is a rapid survey technique used to assist professionals in assessing the suitability of ponds for breeding great crested newt (GCN). The assessment followed *Advice Note 5* methodology (Amphibian and Reptile Groups of the United Kingdom, 2010).

2.3.2 The variables to which a quantitative figure is assigned is listed in Table 4. The calculated HSI score is used to define the suitability of the pond on a categorical scale, Table 1.

Table 1: Habitat Suitability Index Assessment Scoring System

HSI Score	Pond Suitability for GCN
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

2.4 Caveats and Assessment Limitations

2.4.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The survey was undertaken in April and therefore the survey data may not be representative of other times of year.

2.4.2 A section to the west of the desktop search area falls within Cheshire. Due to the distance of the Cheshire boundary from the survey area and the small scale of the proposed development, Cheshire's ecological record centre was not commissioned to provide data as any records are unlikely to change the conclusions and recommendations provided in this report.

2.4.3 The absence of desk study records cannot be relied upon to reliably infer absence of a species/habitat. Often, the absence of records is a result of under-recording within the given search area.

2.4.4 The HSI assessment is not sufficiently robust to reliably infer presence/absence of GCN.

3 RESULTS AND EVALUATION

3.1 Desk Study Results

Statutory and Non- Statutory Designated Sites

3.1.1 There are two statutory Sites of Special Scientific Interest (SSSI) and 14 non-statutory designated sites within a 2km radius of the survey area. Non statutory sites comprise of two Local Wildlife Sites (LWS), six Biodiversity Alert Sites (BAS), six ancient woodlands and one Regionally Important Geological Site (RIGS).

3.1.2 Desk study results for designated sites within the 2km search radius are provided in Table 2, below.

Table 2: Designated Sites Evaluation

Site Name and Status	Reason for Designation
Roe Park Woods SSSI 1.3km west	The soils are predominantly acidic and free draining. The influence of Carboniferous Limestone strata just below the surface is evident, especially around spring line flushes.
Gannister Quarry SSSI 1.4km north-west	Designated for geological value.
Congleton Edge LWS 1.2km north	Congleton Edge comprises a sandstone ridge which is wooded with acidic ground flora. Adjacent fields are grazed acidic and neutral with some marshy areas.
Congleton Edge LWS 1.26km north	Two small pockets of ancient woodland situated on the Cheshire border.
Mow Cop Quarry BAS 1km north-west	The site is based around a steep sandstone escarpment forming a hollow colonised by a range of tall ruderal species, herbs and ferns. Also, a section of regeneration woodland supports a range of woody species.
Willocks Wood BAS 1.1km north-west	The site of a former quarry which has regenerated into a mosaic of habitats including broad-leaved semi-natural woodland, scrub, acid grassland, neutral grassland, heathland and open water.
The Nursery BAS 1.6km east	A small pocket of woodland, an area of acidic grassland and running water.
Knypersley Fishing Pool BAS 1.7km south	Knypersley fishing pool and associated habitats comprises an area of 1.6 hectares. Habitats within the area consist of broad-leaved semi-natural woodland, parkland/scattered trees, tall ruderals, swamp, open water, arable land and hedgerows with trees. White water lily *Nymphaea alba* is present within the pool, which is rare for the county.
Newpool BAS 430m south	The site covers an area of approximately 2.53 hectares and consists mainly of broad-leaved semi-natural woodland with areas of semi-improved grassland and scattered trees situated towards the north of the site.

Table 2: Designated Sites Evaluation	
Site Name and Status	**Reason for Designation**
Willocks Wood BAS 1.3km north	Ancient woodland
Whitemore Wood 1.3km north	Ancient Woodland
Bailey's Wood 1.1km north	Ancient Woodland
Corda Well Wood 1km north-west	Ancient Woodland
Limekiln and Hanging Woods 1.3km west	Ancient Woodland
Round Wood 1.1km north	Ancient Woodland
Knypersley Meltwater Channel RIGS 1.8km south	Designated for geological value.

3.1.3 The sites within the search area are designated for the presence and quality of habitats rather than for supporting notable populations of mobile species. All of the sites are at least 1km distant, with the exception of Newpool BAS which lies 430m south, from the proposed footprint of the bungalow and therefore no adverse ecological impacts are anticipated due to the lack of significant ecological connectivity or similarity of habitat assemblages. Therefore, designated sites within the 2km search are excluded from further assessment.

Protected and Notable Species

3.1.4 Desk study results for protected and notable species have been analysed and interpreted, only the main ecological findings and conclusions from the desk study are included within this report, full results of the desk study are available upon request.

3.1.5 Species which are considered potentially sensitive to the development proposals by virtue of on-site habitat assemblages suitable to support protected and notable species recorded within 2km of the site include:

- Badger *Meles meles*;
- Bat Species:

- Brown long-eared *Plecotus auritus*;
- Common pipistrelle *Pipistrellus pipistrellus* (LBAP);
- Daubenton's *Myotis daubentonii*;
- Natterer's *Myotis nattereri*;
- Noctule *Nyctalus noctule* (LBAP);
- Soprano pipistrelle *Pipistrellus pygmaeus* (LBAP);
- Whiskered/Brandt's *Myotis mystacinus/brandtii*

- Brown hare *Lepus europaeus*
- European hedgehog *Erinaceus europaeus*;
- Common toad *Bufo bufo*;
- Birds – See Appendix 2; and
- Protected Vascular Plant Species - See Appendix 3.

3.1.6 These species are discussed in detail in Section 3.3 of this report.

3.2 Field Survey Results

Habitats

3.2.1 All habitats within the survey area are described in Table 3, below, together with an indication of their BAP status, according to the definitions given in *UK BAP Priority Habitat Descriptions* (JNCC, 2008 updated 2011) and within the Staffordshire Local BAP[2].

3.2.2 Table 3 provides an evaluation of their potential to constrain development, indicated with bold text. Habitats for which potential adverse effects are not anticipated are excluded from further assessment.

3.2.3 The location and extent of habitats is shown on Drawing No. ST15361-001, Extended Phase 1 Habitat Survey Results.

[2] http://www.sbap.org.uk/

Table 3: Habitat Description and Evaluation			
Phase 1 Habitats	**UK BAP**	**LBAP**	**Potential Constraint**
Improved Grassland The dominant habitat within the survey area and the proposed area for the development footprint. These areas are grazed by horses which has resulted in patches of bare ground and an overall low sward height and poor diversity. Yorkshire fog *Holcus lanatus* is locally abundant with frequent perennial rye-grass *Lolium perenne* and creeping buttercup *Ranunculus repens*. False oat-grass *Arrhenatherum elatius* and broad-leaved dock *Rumex obtusifolius* occur occasionally within the grassland.	**X**	**X**	No – Not a BAP habitat. This habitat is heavily grazed by horses and has a low floristic diversity. Vascular plants within the grassland are common and widespread in lowland Britain. Removal of this habitat is not considered to have a significant impact to wildlife within the survey area, wider landscape or to floristic diversity in the locality.



Table 3: Habitat Description and Evaluation			
Phase 1 Habitats	**UK BAP**	**LBAP**	**Potential Constraint**
Species Poor Intact Hedgerows An intact species-poor hedgerow bounds the south-west extent of the survey area. The locally dominant species is hawthorn *Crataegus monogyna* with occasional elder *Sambucus nigra* forming the main woody structure of the hedgerow. Ground flora comprises frequent brambles *Rubus fruticosus* agg., ivy *Hedera helix*, Yorkshire fog, common nettle *Urtica dioica*, cleavers *Galium aparine* and dog's mercury *Mercurialis perennis* with occasional creeping buttercup, common hogweed *Heracleum sphondylium* and broad-leaved dock.	✓	**X**	No – although hedgerows are a UK BAP habitat, they are to be retained within the plans.



Table 3: Habitat Description and Evaluation			
Phase 1 Habitats	**UK BAP**	**LBAP**	**Potential Constraint**
Built Structures and Hardstanding Within the survey area is a stable block (B1) and a large wooden and corrugated iron barn (B2). Around the structures are concreted areas and a driveway leading to Akesmoor Lane.	**X**	**X**	No – not a BAP habitat. Habitat is of anthropogenic origin and is considered to provide low ecological value. Additionally, habitat is due to be retained.





Habitat Suitability Index Assessment and Pond Scoping Evaluation

3.2.4 A single waterbody falls within 500m of the survey area. This pond is approximately 440m south of the survey area located at the edge of an arable field. The pond is surrounded by semi-mature tree and shrubs, predominantly hawthorn. Bulrush *Typha latifolia* is the dominant emergent vegetation with occasional tufts of soft rush *Juncus effusus.* Marginal vegetation comprises further clumps of soft rush as well as broad-leaved dock, common nettle and brambles. The water quality of the pond is poor, with low invertebrate diversity and significantly turbid water. The pond scored 0.67 'average' following a HSI assessment, the results are shown in Table 4.

Table 4: Habitat Suitability Index		**Waterbody 1**	
SI1. Map location	A/B/C	A	1.00
SI2. Surface area	rectangle/ellipse/irregular	ellipse	
	area (m^2)	275	0.55
SI3. Desiccation rate	never/rarely/sometimes/frequently	sometimes	0.50
SI4. Water quality	good/moderate/poor/bad	poor	0.33
SI5. Shade	% of margin shaded 1m from bank	40	1.00
SI6. Waterfowl	absent/major/minor	absent	1.00
SI7. Fish population	absent/possible/minor/major	possible	0.67
SI8. Pond density	number of ponds within 1km / 3.14	5	0.70
SI9. Terrestrial habitat	good/moderate/poor/isolated	moderate	0.67
SI10. Macrophyte cover	%	30	0.61
		HSI =	**0.67**

Species

Bats

3.2.5 The habitats present within the site are limited in terms of suitability to support populations of bats. Improved grassland is the dominant habitat within the site and is considered to be low quality foraging habitat for bats. Hedgerows can provide foraging and commuting habitat for bats, however, hedgerows within the site are limited to the southern extent of the site which will be retained.

3.2.6 External and internal roost inspections categorised the stable block (B1) and barn (B2) as having 'low' suitability for roosting bat following *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). No evidence of bats were found internally or externally, however both structures had some suitable features for opportunistic individual bats such as wooden fascia boards. Additionally, B1 and B2 are due to be retained.

3.2.7 The proposed development is a single dwelling with a footprint of <500m^2, any suitable commuting or roosting habitat within the survey area will be retained with only a small area of poor quality foraging habitat to be removed. There are no known roosts within 1.5km of the survey area and only eight records of bat sightings within 1km of the site. Consequently it is reasonable to assume that there will be no adverse impacts on any local bat populations as a result of the proposed development and that any impacts would be negligible. Therefore, there is no further survey work or mitigation measures are required in respect of bats.

Badger

3.2.8 No evidence of badger was recorded within, or adjacent, to the site therefore no further surveys or mitigation is required in respect of badger.

Birds

3.2.9 The study area provides limited foraging and nesting opportunities for bird species.

3.2.10 All nesting birds are discussed in the final section given the general legislative provisions relating to destruction of active nests.

Great Crested Newt (GCN) (including BAP Amphibians)

3.2.11 Suitable habitats within the survey area to supporting populations of GCN are limited to hedgerow bases, with suitable breeding habitat for GCN within 500m of the survey area. The hedgerow to the south of the survey area is due to be retained with only sub-optimal habitats, comprising improved grassland, to be lost through the proposed development.

Reptiles

3.2.12 The study area provides suitable habitats to support reptile species, including common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. Suitable supporting habitats are limited to hedgerow bases. No incidental observation of reptile species were observed during the survey.

Invasive Plants

3.2.13 No invasive species were noted within or adjacent to the site boundaries.

3.3 Ecological Evaluation

3.3.1 Protected, UK & LBAP priority species are evaluated in order to identify potential ecological constraints in Table 5, based on the desk study records, presence extent and viability of supporting habitat, ecological connectivity and perceived nature and extent of effects.

3.3.2 Species/taxa for which potential adverse effects are not anticipated are excluded from further assessment.

Table 5: Protected Species Evaluation

Species/taxa	Desk Study Record	Status[3]	Supporting Habitat	Potential Constraint
Badger	✓	BA	Foraging habitat in the form of grassland. Hedgerows bounding the south of the survey area may provide viable opportunities for sett creation.	No – no evidence of badger was recorded within, or adjacent to, the site.
Bats *Chiroptera*	✓	EPS, WCA, UKBAP	Foraging and commuting habitat within the site in the form of hedgerows. Stables block and barn could provide opportunistic roosting habitat.	No – closest record of a bat is over 500m distant and recorded in 1997. Bat droppings have been found in two locations, both of which are over 1.5km distant from the site. The limited foraging and commuting habitat which is restricted to the hedgerow will be retained. Roosting habitat has been categorised has having low suitability and will also be retained in the proposals.
Birds	✓	UKBAP, WCA, BoCC	Foraging and breeding habitat along southern hedgerow.	No - habitat with negligible value for birds will be lost, favourable habitats are due to be retained. No significant supporting habitat within the survey area to support notable birds recorded within 2km.

[3] EPS – European Protected Species, WCA – Wildlife and Countryside Act, A1 – Annex 1 (Birds Directive),BA – Protection of Badgers Act, BAP – Biodiversity Action Plan Priority Species

Table 5: Protected Species Evaluation				
Species/taxa	**Desk Study Record**	**Status[3]**	**Supporting Habitat**	**Potential Constraint**
Brown hare	✓	UKBAP, LBAP	Suitable foraging habitat present within the site in the form of grassland.	No – no evidence of brown hare was recorded within the survey area. Even if present, the limited size of the development would have minimal impact to this species.
Common toad	✓	UKBAP	Yes – survey area contains potential terrestrial habitat. Potential breeding habitat within 400m.	Species is unlikely to be displaced, if an individual is displaced it will have minimal impact on this species conservation value.
Dormouse *Muscardinus avellanarius*	X	EPS, WCA, UKBAP	Hedgerows within the site are connected to other hedgerows.	No records of dormice in the local area and poor ecological connectivity from the site to the wider area. Habitat to be retained.
European hedgehog	✓	UKBAP	Supporting foraging habitat in the form of hedgerows and improved grassland.	No – habitats suitable for hibernation are due to be retained.
Great crested newt	X	EPS, WCA, UKBAP	Survey area contains potential terrestrial habitat for GCN in the form of grassland and hedgerow bases. Potential breeding habitat within 400m.	**Species could potentially be impacted by proposed development.**
Otter	✓	EPS, WCA, UKBAP, LBAP	No preferred otter habitat reduces the potential for this species to occur within the site.	No supporting foraging or holt creation habitat within, or adjacent to, the survey area.
Reptiles	X	WCA, UKBAP	Yes – grassland and hedgerow bases are suitable habitats for reptiles.	**Reptile species could potentially be impacted by proposed development.**
Protected plant species	✓	WCA, UKBAP	Negligible supporting habitats within the site for notable plant species.	No – habitats due to be impacted are unlikely to support notable plant species.
Water vole	✓	WCA, UKBAP, LBAP	No water vole habitat is present on site and therefore water vole is unlikely to occur within the site.	No supporting foraging or burrowing habitat within, or adjacent to, the survey area.
White-clawed	X	EPS,	No suitable habitat to support	No suitable habitat to support

Table 5: Protected Species Evaluation				
Species/taxa	**Desk Study Record**	**Status[3]**	**Supporting Habitat**	**Potential Constraint**
crayfish *Austropotamobius pallipes*		WCA, UKBAP	white-clawed crayfish.	species within, or adjacent to, the survey area.

4 DISCUSSION AND RECOMMENDATIONS

4.1 Potential Constraints

4.1.1 The following designated sites, habitats and species (receptors) have been evaluated as being potential ecological constraints:

- GCN;
- Reptiles; and
- Nesting birds (general).

4.1.2 Potential effects, requirements for further survey, and mitigation are discussed below for each of the identified potential constraints.

GCN

4.1.3 The survey area is used to stable horses and the areas of improved grassland are used as paddocks for exercise and grazing; as a result the land is regularly disturbed and areas of improved grassland are patchy with substantial amounts of bare ground present. Consequently the grassland is in poor condition and provides negligible foraging habitat for GCN.

4.1.4 The closest waterbody is 440m south of the survey area. A HSI assessment was undertaken at the pond which scored '0.67' and is considered to provide 'average' breeding habitat for GCN. In addition, the waterbody is located beyond a fast flowing watercourse and although there are land bridges which could connect the pond with the survey area, ecological connectivity is restricted.

4.1.5 There are no records of GCN within a 2km radius of the site.

4.1.6 The proposed development has a footprint of <500m^2 and will only impact sub-optimal habitats for GCN within the survey area, suitable hedgerow habitat to the south will be retained.

4.1.7 Table 6 evaluates the potential risk to GCN using a basic tool developed by Natural England, which is based on the assumed presence of breeding GCN in the off-site pond and damage/loss of optimal terrestrial habitats.

Table 6: Natural England Rapid Risk Assessment		
Component	**Likely effect**	**Notional offence probability score**
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
	Maximum:	0.001
Rapid risk assessment result:	**GREEN: OFFENCE HIGHLY UNLIKELY**	

4.1.8 The result of the rapid risk assessment is **Green: Offence Highly Unlikely** which evaluates that the scale and location of the proposed development is considered unlikely that an offence would be committed, without any mitigation.

4.1.9 A lack of data records combined with presence of poor quality habitat, distance and poor ecological connectivity from potential breeding habitat as well as current land use minimises the likelihood of GCN being present within the site and therefore significantly reduces the risk of an offence being committed under the relevant legislation. As a result, no further survey or mitigation is recommended.

Reptiles

4.1.10 Due to the presence of hedgerow bases and areas of grassland as well as adjacent scrub habitat, there is potential for reptiles to occur within the survey area. However, the extent of suitable habitats is limited and it is unlikely that if reptiles are present within the survey area that the population of reptiles will be significant in terms of its nature conservation value.

4.1.11 There are no records of reptile species within a 2km search of the survey area.

4.1.12 Currently, vegetation within the proposed development footprint is <15cm in height, which is considered unfavourable habitat for reptiles. To ensure that the proposed development area remains unfavourable, it is essential that the vegetated area is maintained as a short sward until and throughout the construction phase. If the sward is maintained, then no further survey or mitigation is required.

Nesting Birds

4.1.13 It is recommended that if any vegetation clearance is required, works are undertaken outside of the usual bird breeding season (normally taken to be March – August inclusive). If such timescales cannot be accommodated, it is recommended that a check for the presence of active nests and nesting birds is undertaken by a suitably qualified ecologist prior to the commencement of works. Any active nests identified are to be protected subject to the relevant legal provisions until nesting is complete.

4.2 Ecological Enhancements

4.2.1 In accordance with the requirements of the NPPF and BSI 42020:2013 ecological enhancements should be proposed which will result in a net gain in biodiversity.

4.2.2 Due to the small scale and location of the development proposals, no loss in biodiversity is anticipated and therefore no specific recommendations are made in this report.

4.2.3 However, it is likely that there would be some level of garden planting surrounding the proposed bungalow, which could increase biodiversity within the survey area.

5 REFERENCES

- Amphibian and Reptile Groups of the United Kingdom (ARG UK) (2010) *Great Crested Newt Habitat Suitability Index.* Advice Note 5
- Botanical Society of the British Isles (2013) *Online atlas of the British and Irish Flora* http://www.brc.ac.uk/plantatlas/index.php?q=title_page
- British Standards Institute (2013) Biodiversity – Code of Practice for Planning and Development
- Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd Edition). Bat Conservation Trust, London
- Institute of Environmental Assessment (1995) *Guidelines for Baseline Ecological Assessment*
- Chartered Institute of Ecological and Environmental Management (2012) *Guidelines for Preliminary Ecological Appraisal*.
- Joint Nature Conservation Committee (2007) *Handbook for Phase 1 Habitat Survey: A technique for environmental audit.* English Field Unit, Nature Conservancy Council
- Joint Nature Conservation Committee (2008, updated 2011) *UK Biodiversity Action Plan Priority Habitat Descriptions.* [pdf] JNCC, Peterborough
- National Biodiversity Network (2013) NBN Gateway http://data.nbn.org.uk/
- Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.
- Stace. C. A (1997) '*New Flora of the British Isles'*. Cambridge University Press

Appendix 1

Legislation and Policy Summary

Appendix 1 – Legislation and Policy Summary

Legislation for Habitats/Sites

Designated Site/Habitat	Status
Ramsar Sites	Ramsar Sites are wetlands of international importance designated following The Ramsar Convention. RAMSAR sites have the same level of protection as SSSIs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs are classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC), the Birds Directive. They are they seek to protect the habitats of rare and vulnerable birds, listed in Annex I of the Birds Directive, and for regularly occurring migratory species. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 implement the Birds Directive in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which represent typical European Union of habitats and (non-bird) species listed in Annexes I and II of the EC Habitats Directive. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 implement the Habitats Directive in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs protect the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified under the Wildlife and Countryside Act 1981 (as amended). Modified provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.
NNR (National Nature Reserves)	NNRs are examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under The Wildlife and Countryside Act 1981 (as amended).
Hedgerows	All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without planning consent or permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.
LNR (Local Nature Reserves)	Designated by the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under The Wildlife and Countryside Act 1981 (as amended).

Legislation for Species

Species	**Legal Status**
European Legislation	
Creeping Marshwort, Early Gentian, Fen Orchid, Floating-leaved Water Plantain, Killarney Fern, Lady's Slipper, Shore Dock, Slender Naiad, Yellow Marsh Saxifrage	Under the Conservation of Habitats and Species Regulations 2010 (and as amended), it is illegal to deliberately pick, collect, uproot or destroy any such species.
Bats, Dormouse, Otter, Wild Cat, Great Crested Newt, Natterjack Toad, Sand Lizard, Smooth Snake, Large Blue Butterfly	These animals and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 (and as amended), which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb[4] such an animal; and • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed, namely: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a duty to 'have regard to the requirements of the EC Habitats Directive' i.e. LPA's must consider the above 3 'tests' when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations.

[4] Under the Conservation Regulations, disturbance of protected animals includes in particular any disturbance which is likely to: (i) impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate; (ii) significantly affect the local distribution or abundance of the species in question.

Domestic (UK) Legislations	
Bats, Dormouse, Great Crested Newt, Heath Fritillary, High Brown Fritillary, Large Blue, Marsh Fritillary, Natterjack Toad, Pine Martin, Otter, Red Squirrel, Sand Lizard, Smooth Snake, Swallowtail, Water Vole, Wildcat	These animals receive full protection under the Wildlife and Countryside Act 1981 (and as amended), which makes it illegal (subject to certain exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Adder, Common Lizard, Grass Snake, Slow Worm, White-clawed Crayfish	These animals receive partial protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which provide protection against intentional killing or injury of any such animal.
Nesting Birds	All wild birds (as defined by the act) are protected under the Wildlife and Countryside Act 1981 (and as amended), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird; • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
WCA Schedule 1 listed Birds	Additional protection is provided to birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (and as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to: • Intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting.
Badgers	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger, or attempt to do so and to intentionally or recklessly interfere with a Badger sett. This includes: • damaging or destroying an active sett; • obstructing access to a sett; and • disturbing a Badger while it is occupying a sett. Licences can be granted to permit sett closure and/or disturbance between July and November inclusive (i.e. outside the sow pregnancy/birth period).
Wild Mammals	The Wild Mammals (Protection) Act 1996 provides legal protection to all wild mammals (as defined by the act) against the following actions: mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

Invasive Species	
WCA Schedule 9 listed animals (Part 1) and plants (part 2)	Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife & Countryside Act prohibits the release of any animal species that are: "*not ordinarily resident in and is not a regular visitor to Great Britain in a wild state*"

Policy Summary

Section 40 of the Natural Environment and Rural Communities (NERC) Act imposes a legal duty on Planning Authorities to 'have regard' to the conservation of biodiversity when considering planning applications.

Section 41 of the NERC Act requires the Secretary of State to publish a list of species and habitats of principal importance for conserving biodiversity in the UK. Such Biodiversity Action Plan (BAP) Habitats and Species (2007) do not offer the species any specific protection but help to highlight the species importance at a national level. This list is used by Local Planning Authorities to identify the species and habitats that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF).

The NPPF underpins the Government's planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment under the Birds or Habitats Directives is being considered, planned or determined.

The NPPF states:

> *'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:*
>
> - *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
> - *proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted.*

Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs;

- *development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *opportunities to incorporate biodiversity in and around developments should be encouraged;*
- *planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and*
- *the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC); listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'*

The NPPF requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

The National Planning Policy Guidelines (NPPG) provides information on the implementation of the policies set out within the NPPF and how these policies are associated with supporting legislation, policies and supplementary guidelines.

With regard to Schedule 1 and 2 projects, the NPPG explains the requirements of Town and Country Planning (EIA) Regulations 2011, including the legislation, stages and implementation of the act.

In terms of planning applications which fall outwith the EIA regulations the NPPG provides the following broad guidelines (extracts below):

> *Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making throughout the public sector, which should be seeking to make a significant contribution to the achievement of the commitments made by Government in its Biodiversity 2020 strategy.*
>
> *Guidance on statutory obligations concerning designated sites and protected species is published separately …. Local planning authorities should take a pragmatic approach – the aim should be to fulfil statutory obligations in a way that minimises delays and burdens.*
>
> *The National Planning Policy Framework is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution.*

Appendix 2

Bird Records

Scientific Name	**Common Name**
Acanthis cabaret	Lesser Redpoll
Actitis hypoleucos	Common Sandpiper
Alauda arvensis	Sky Lark
Alcedo atthis	Common Kingfisher
Anas crecca	Eurasian Teal
Anas platyrhynchos	Mallard
Anas strepera	Gadwall
Anser anser	Greylag Goose
Anser brachyrhynchus	Pink-footed Goose
Anthus pratensis	Meadow Pipit
Anthus trivialis	Tree Pipit
Apus apus	Common Swift
Aythya fuligula	Tufted Duck
Chroicocephalus ridibundus	Black-headed Gull
Columba oenas	Stock Dove
Cuculus canorus	Common Cuckoo
Delichon urbicum	House Martin
Emberiza schoeniclus	Reed Bunting
Falco peregrinus	Peregrine Falcon
Falco subbuteo	Eurasian Hobby
Falco tinnunculus	Common Kestrel
Fringilla montifringilla	Brambling
Gallinago gallinago	Common Snipe
Haematopus ostralegus	Eurasian Oystercatcher
Hirundo rustica	Barn Swallow
Larus argentatus	Herring Gull
Larus fuscus	Lesser Black-backed Gull
Larus marinus	Great Black-backed Gull
Limosa limosa	Black-tailed Godwit
Linaria cannabina	Linnet
Linaria flavirostris	Twite
Locustella naevia	Common Grasshopper Warbler
Loxia curvirostra	Common Crossbill
Lymnocryptes minimus	Jack Snipe
Milvus milvus	Red Kite
Motacilla cinerea	Grey Wagtail
Motacilla flava	Yellow Wagtail
Muscicapa striata	Spotted Flycatcher
Numenius arquata	Eurasian Curlew
Oenanthe oenanthe	Northern Wheatear
Passer domesticus	House Sparrow

Scientific Name	**Common Name**
Passer montanus	Eurasian Tree Sparrow
Perdix perdix	Grey Partridge
Pernis apivorus	European Honey-buzzard
Phoenicurus phoenicurus	Common Redstart
Phylloscopus sibilatrix	Wood Warbler
Phylloscopus trochilus	Willow Warbler
Picus viridis	Green Woodpecker
Poecile palustris	Marsh Tit
Prunella modularis	Dunnock
Pyrrhula pyrrhula	Common Bullfinch
Scolopax rusticola	Eurasian Woodcock
Sturnus vulgaris	Common Starling
Sylvia communis	Common Whitethroat
Tringa ochropus	Green Sandpiper
Turdus iliacus	Redwing
Turdus philomelos	Song Thrush
Turdus pilaris	Fieldfare
Turdus torquatus	Ring Ouzel
Turdus viscivorus	Mistle Thrush
Tyto alba	Barn Owl
Vanellus vanellus	Northern Lapwing

Appendix 3

Vascular Plant Records

Scientific Name	Common Name
Hieracium diaphanum	Dark-leaved Hawkweed
Hyacinthoides non-scripta	Bluebell
Mentha pulegium	Pennyroyal
Polemonium caeruleum	Jacob's-ladder
Rubus intensior	a flowering plant
Rubus painteri	a flowering plant
Stratiotes aloides	Water-soldier
Viola tricolor	Wild Pansy
Wahlenbergia hederacea	Ivy-leaved Bellflower

DRAWINGS



KEY

- Improved grassland
- Buildings
- Hardstanding
- Intact hedge - species-poor
- Fence
- Wall

Notes:
Coordinates to British National Grid.

Boundaries are indicative. Aerial imagery shown for context purposes only.

Classifications in accordance with Handbook for Phase 1 Habitat Survey - A technique for Environmental Audit (JNCC 2010)

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

Ernest Shaw

PROJECT

The Stables, Gillow Heath

DRAWING TITLE

Phase 1 Habitat Survey

DRG No	SCALE	DATE
ST15361-001	1:1,000 @ A3	22/04/2016

DRAWN BY	CHECKED BY	APPROVED BY
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