

Preliminary Ecological Appraisal (PEA)

of

Glebe Farm,

Long Green,

Wortham,

IP22 1RD

For

BRYAN & TILLY PHILLIPS



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The authors and surveyors used to undertake the work are appropriately qualified for the tasks undertaken. The work undertaken while preparing this report has been carried out with due care, skill, and diligence.

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1. Executive Summary

1.1 Overview

DCS Ecology Ltd was commissioned by BRYAN & TILLY PHILLIPS, to carry out a Preliminary Ecological Appraisal (PEA), for a proposed application for the proposed erection of single storey rear extension (following demolition of conservatory). Erection of porch; Insertion of new window and door openings. Amendments to window and door fenestrations. Addition of insulating render to west range; Repositioning oil tank; Erection of 2 bay cart lodge. At Glebe Farm, Long Green, Wortham, Diss Suffolk IP22 1RD (central grid reference TM06847751, hereby referred to as the Site).

The site is approximately 0.1ha with a dwelling, hardstanding (gravel) and a small area (several square metres) of cultivated garden. This is situated within the Long Green to the west of the village of Wortham Suffolk. Long Green has several ponds which are away from a small working construction zone of Site (see Site description).

The preliminary ecological appraisal was carried out on the 14th March 2023 by Duncan Sweeting of DCS Ecology Ltd, to assess the ecological value of the Site

1.2 Results

The desk study found seven country wildlife sites, one SSSI / SAC and records of the following protected species / species groups within 2km of the site:

- Bats
- Birds
- Reptiles (grass snakes, adder, slow worm & common lizard)
- Amphibians (including great crested newts)
- Hedgehogs
- Other mammals- brown hares, otters, polecats, badgers and water voles
- Several protected plants and invertebrates of note

The habitats recorded onsite included dwelling, hardstanding (gravel), and small areas of ephemeral vegetation, while adjacent habitats included drainage ditches, out buildings, improved grassland, and small areas of shrubs and trees.

The habitats listed above, and features recorded within the site provide potential habitat for breeding birds, bats, and small mammals. The site was within 40m of suitable habitat for great crested newts and sub-optimal suitable habitat for reptiles.

No new or old bat droppings, signs of feeding, urine or timber staining were found within the loft space onsite or roosting bats. No other field signs such as bird nests within the building, however small rodent droppings were seen (house or wood mouse spp).

2. Background to Commission

2.1 Overview

DCS Ecology Ltd was commissioned by Bryan & Tilly Phillips to carry out a Preliminary Ecological Appraisal (PEA), for a proposed application for the proposed erection of single storey rear extension (following demolition of conservatory). Erection of porch; Insertion of new window and door openings. Amendments to window and door fenestrations. Addition of insulating render to west range; Repositioning oil tank; Erection of 2 bay cart lodge. At Glebe Farm, Long Green, Wortham, Diss Suffolk IP22 1RD (central grid reference TM06847751, hereby referred to as the Site).

2.2 Aims of Study

This report provides an ecological appraisal and roost assessment of the Site following the completion of a desk study and site visit. The aim of this study was to:

- Provide a description of existing habitat types;
- To determine the existence and location of any ecologically valuable areas;
- To identify the potential (or actual) presence of protected and/or notable species;
- To provide the legislative and/or policy protection afforded to any habitats present, or any species assessed as likely to be associated with the site; and
- To recommend any further ecological surveys considered necessary to inform mitigation requirements for the application within the Site.

2.3 Site Description

The Site is a single dwelling with gravel hard standing and cultivated garden, Long Green, IP22 1RD, approximately 1km west of Wortham and 2.5km south-west of the village of Botesdale (grid reference TM 38028 71560, see figure 1). The site area is approximately <0.1ha (800 square metres), consisting of a dwelling surrounded by hardstanding and small areas of cultivated vegetation. This is set within larger gardens, out buildings and woods within the curtilage of Glebe Farm, part of which immediately east of site is currently being landscaped and is at-present bare earth. Four ponds exist within 250m of site, three of which are within the curtilage of Glebe Farm and a fourth immediately adjacent. HSIs and descriptions of these ponds can be found in section 5 (results).

Beyond Glebe Farm, the wider countryside consisted predominately of arable fields lined by hedgerows with the small woodland around three quarters of the site that offered commuting networks for local bat populations. Wortham Long Green is within 150m of the site, which is an area of acidic grassland at the eastern end of the green is particularly valuable, supporting a range of plants typically associated with this habitat including sheep's-fescue, mouse-ear hawkweed and heath bedstraw. Mat-grass, a rare and declining Suffolk grass of dry, infertile, acid soils, is also found here. The rest of the site comprises neutral

grassland with scattered patches of scrub and ponds, providing further diversity and habitat opportunities for a range of species. The ponds are a valuable part of the green, many supporting great crested newt and habitat.

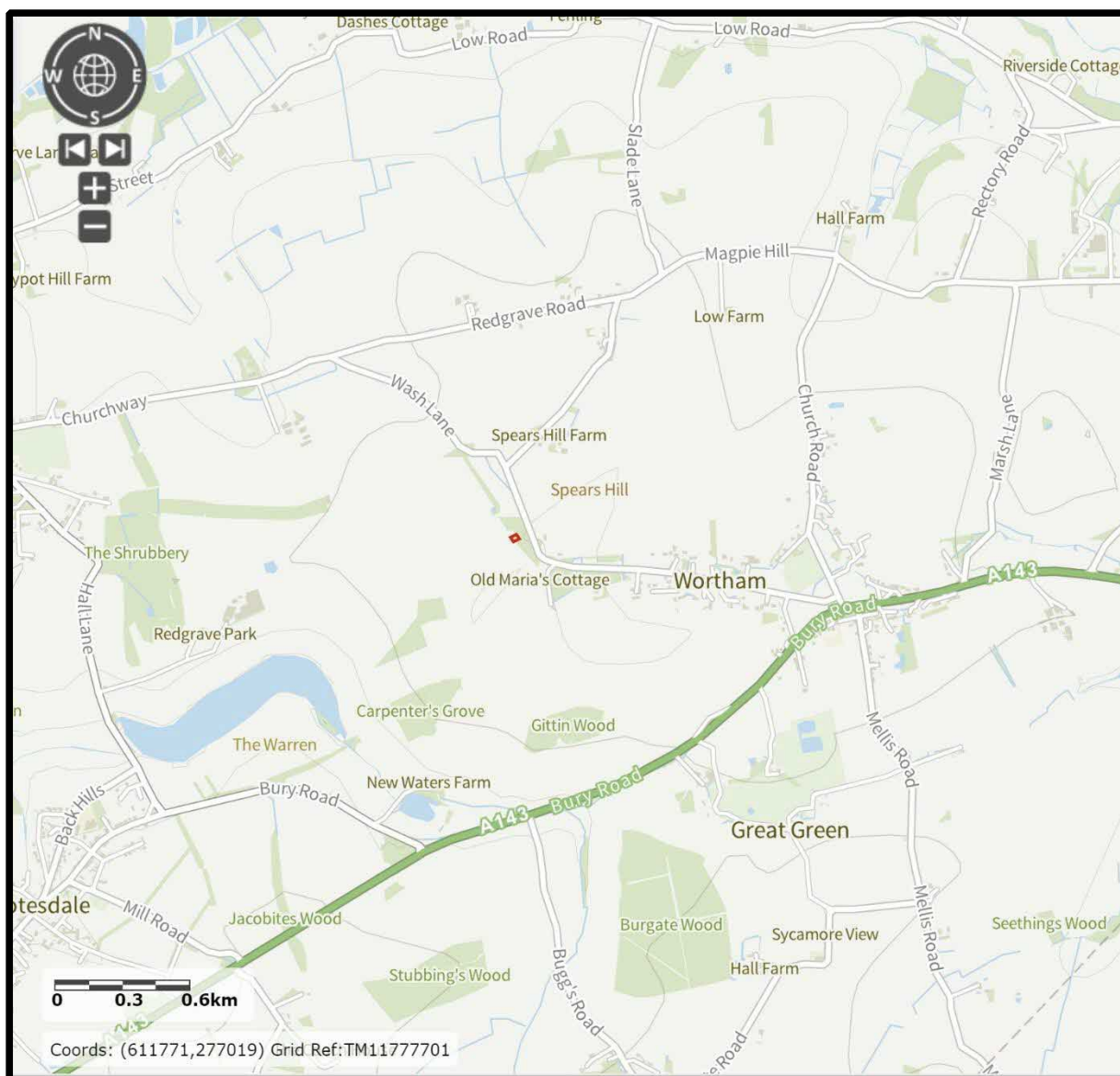


Figure 1. Site location (outlined in red). (1:25,000) Based upon Ordnance Survey (c) Crown Copyright under licence 100064616.

2.3 Relevant Legislation

Protected species, as referred to within this report, are taken to be those protected under European Legislation (Conservation of Habitats and Species Regulations 2010, as amended) and UK legislation (Wildlife and Countryside Act 1981; Protection of Badgers Act 1992); and those of principle importance in England as listed in Section 41 of the NERC Act (2006).

The National Planning Policy Framework (NPPF) July 2021 places responsibility on Local Planning Authorities (LPAs) to aim to conserve and enhance biodiversity in and around developments. Section 40 of the NERC Act requires every public body to “have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. Biodiversity, as covered by the Section 40 duty, is not confined to habitats and species of principal importance but refers to all species and habitats. However, the expectation is that public bodies would refer to the Section 41 list (of species and habitats) through compliance with the Section 40 duty.

Appendix VI details legislation which protects species and groups relevant to the site (bats, reptiles, birds, and great crested newts).

3. Methods

3.1 Desk Study

Data obtained from the Suffolk (SBIS) was used to conduct a cross-county standard data search¹, for any information regarding statutory and non-statutory sites and records of protected and priority species within a 2km radius of the Site. The data was received on the 21st March 2023.

A 7km radius search for European Designated Sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar was undertaken using MAGIC (<http://www.natureonthemap.naturalengland.org.uk/>). Past and current EPS licences and GCN pond survey results within a 7km radius were searched for using MAGIC on 15th March 2023.

3.2 Field Survey

A Preliminary Ecological Appraisal were carried out by Duncan Sweeting LCG (Natural England Great Crested Newt Class Survey Licence WML-CL08; Natural England Bat Class Survey Licence WML-CL18 on the 14th March 2023 in accordance with standard best practice methodology for Phase 1 Habitat Surveys set out by the JNCC (JNCC 2010). Weather conditions during the survey was light rain (100% cloud cover), light air (Beaufort scale 1) and a temperature of 8.9C, with good visibility. The Site was traversed slowly by the surveyor, mapping habitats, and making notes on dominant flora and fauna. The survey was extended to identify the presence of invasive species and included an assessment of the potential for the habitats in and around the site to support protected species.

3.3 Survey Limitations

The survey was undertaken in March, which created seasonal constraints for surveying floral species, as many had shed key identifying anatomical features found during the spring and summer months (leaves, flowers, fruit etc.). However, as only minimal vegetation was present onsite, this was not considered a significant constraint to the survey.

No other potential survey limitations were noted.

¹ The standard data search identifies designated sites including: - Ramsar; Special Areas of Conservation; Special Protection Areas; Sites of Special Scientific Interest; National Nature Reserves; Local Nature Reserves; County Wildlife Sites; Regionally Important Geological Sites; Ancient Woodland; and protected and priority species identified by the: - Wildlife & Countryside Act 1981 Schedules 1, 5 & 8; Conservation of Habitats & Species Regulations 2010 Schedules 2 & 5; Protection of Badgers Act 1992; Bonn Convention Appendix 1 & 2; Bern Convention Annex 1 & 2; Bird. Annex 1; Habitats Directive Annex 2, 4 & 5; NERC Act 2006 Section 41; UKBAP (both local and national); IUCN Red List species; Red & Amber Bird List; Nationally Scarce / Rare; Locally Scarce / Rare; and Veteran trees.

4. Results

The following section details the results of the desk study and field survey. Consideration has been given to species likely to be found in the habitats recorded on site and potential impacts to designated sites within the local area. Several protected species have been 'scoped out' of the report, as the Site was not considered suitable to support them. Species scoped out were water voles, otters, and dormice.

Maps illustrating the following data are included in Appendix IV.

4.1 *Data search*

The data search showed records of protected species in the area, which could potentially occur on the Site. These are detailed within the relevant sections below (section 5).

4.2 *Designated sites data*

The data search produced the following results:

In regard to Local / National European sites, there are six County Wildlife Sites Citations, and one SSSI / SAC within 2km of the Site, none of which were designated for the specific purpose of protecting bats. These are:

- GITTIN WOOD, WORTHAM. CWS Mid Suffolk 135. Gittin Wood is one of several medieval woods situated in this part of Mid Suffolk. The woodland boundary is marked by a ditch and bank which is thought to be medieval in origin and is enclosed by a hedge of **blackthorn, field maple, elder** and **hawthorn**. Tall mature **oaks** and neglected **ash coppice** form the tree canopy over a large proportion of the wood. One section however is dominated by mature sycamore of which some have been coppiced in the past. **Sycamore** is regenerating freely in this area. **Hazel** coppice with lesser amounts of **blackthorn**, form a dense understorey in patches throughout the wood. Beneath the tree canopy, particularly along the wide rides which cross the wood, the field layer supports a species-rich woodland plant community. **Primrose, early-purple orchid, bluebell, wood anemone, violet, bugle, ramsons and wild strawberry** form a dense carpet which is a wonderful sight in the Spring.
- WORTHAM LONG GREEN, WORTHAM. CWS Mid Suffolk 136. Wortham Long Green is situated in the centre of the village and is crossed by a minor road which links areas remain as unimproved grassland (Priority habitat) which is valued for its flora. An area of acidic grassland at the eastern end of the green is particularly valuable, supporting a range of plants typically associated with this habitat including **sheep's-fescue, mouse-ear hawkweed and heath bedstraw**. **Mat-grass**, a rare and declining Suffolk grass of dry, infertile, acid soils, is also found here. The rest of the site comprises neutral grassland with scattered patches of scrub and ponds, providing further diversity and habitat opportunities for a range of species. The ponds are a valuable part of the green, many supporting **great crested newt**.
- THE MARSH, WORTHAM. CWS Mid Suffolk 137. The Marsh is an area of Common land situated to the east of Wortham village and comprises a mosaic of low-lying wet areas interspersed with drier grassland and patches of scrub. The scrub, of species such as **hawthorn, goat willow, dog-rose and bramble**, is found across the site and provides structural diversity and opportunities for nesting birds, invertebrates and amphibians. The grassland community supports a range of flowering plants, including **southern marsh-orchid, lady's-smock, water avens** and **water mint** in the wetter areas, whilst the dry areas contain a range of common meadow species such as **cowslip, bird's-foot trefoil and selfheal**. Of particular botanical interest is the presence of **adder's-tongue fern**, a scarce plant in Suffolk and a good indicator of unimproved grassland, which is a priority habitat.

- JACOBITES WOOD , BOTESDALE. CWS Mid Suffolk 139. Jacobites Wood is a small woodland which is situated to the south east of the village of Botesdale, close to two large ancient woodlands namely Burgate Wood (SSSI) and Stubbing's Wood. The tree canopy is composed largely of ash and field maple with smaller amounts of hornbeam, wych elm and oak standards. The northern end of the wood consists largely of regenerating sycamore. Dense patches of **hawthorn** and **elder** scrub together with areas of neglected hazel coppice form the shrub layer of the wood. Despite its small size, the wood is noted for a number of scarce woodland species which it supports. These include **herb-Paris**, **yellow archangel** and **goldilocks buttercup**. Of particular importance is a population of spurge laurel which is considered to be one of the largest populations of this species in the County. Although Jacobites Wood is not listed in the Suffolk Inventory of Ancient Woodlands (English Nature), it is undoubtedly a fragment of medieval woodland which is of considerable wildlife importance.
- SSSIs recorded within 2km of site:
 BURGATE WOOD SSSI BROADLEAVED, MIXED AND YEAWOODLAND – Lowland - This is ancient coppice with standards oak and hornbeam woodland. The flora is diverse, including the rare lungwort and the uncommon herb paris, yellow archangel and hairy woodrush.

4.3 MAGIC Map Data

Table 1: MAGIC map system EPS licence applications within a 7km radius (see map in Appendix IV)

Case reference of granted application	Species on the licence	Damage/ destruction of breeding site	Damage/ destruction of a resting place	Grid Ref	Nearest Location
2016-26657-EPS-MIT	BARB, BLE, C-PIP	N	Y	TM07678403	Fersfield Common
2018-36301-EPS-MIT-2	Great Crested Newt	N	Y	TM 12728032	Diss
2019-40511-EPS-MIT	Great Crested Newt	N	Y	TM09707419	Mellis
2015-7612-EPS-MIT	BLE, SPIP	N	Y	TM07878060	Bressingham
2016-25741-EPS-MIT	BLE, C-PIP	N	Y	1M 0981/300	Gislingham
2018-37020-EPS-MIT	BARB, BLE, C-PIP, NATT, SPIP	N	Y	1M 1088/668	Thrandeston

The MAGIC data search returned 2 records of past and current EPS licences for great crested newts and 4 for bats within a 7km radius, including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auratus*), Barbastelle (*Barbastella barbastellus*), and Natterer's (*Myotis nattereri*). The nearest record to site was 2014 -504 -EPS -MIT, ~ 3.2km north -east at Hall Cottages, Nr Bressingham subject to which was a licence to disturb/destroy a roost and resting place for brown long-eared bats and soprano pipistrelle.

There were 4 GCN EPS licence records, 13 GCN class licence returns records within a 7km radius of the Site the nearest record was 1.6km south -west.

4.4 *Field Survey Results*

The Site consisted of a dwelling with a conservatory and gravel hard standing. Very little vegetation was present. The site had little sign of any recent activity and was largely sterile, along with being mostly the dwelling. Very small areas of potential GCN refugia, such as plant pots/planters were present on the grounds. These were checked with no presence found.

The surrounding area was predominately arable fields with areas of improved grazed grassland to the west, south and north with some mixed woodland to the east.

An area of amenity grassland and building immediately south of site had been removed and was currently under development. Pond/ ditch 3 to the east of site, previously vegetated, had been dredged and stripped of borderline vegetation in parts.

Plant species recorded included common nettle (*Urtica dioica*), common ivy (*Hedera helix*), bramble (*Rubus fruticosus*), and garden cultivated plant (please see Appendix III for full plant list). No ancient, veteran, or notable trees or TPOs were present on or within 30m of site.

A map showing the habitat types on Site can be seen in Appendix IV.

5. Protected and Priority Species Within the Site

Flora

The desk study highlighted several species of rare plants have been previously recorded within 2km of the site, such as Stinking Chamomile (*Anthemis cotula*), Lesser Marshwort (*Apium inundatum*), Lesser Water-plantain (*Baldellia ranunculoides*), Slender Sedge (*Carex lasiocarpa*), Chicory (*Cichorium intybus*), Common Cottongrass (*Eriophorum angustifolium*), Dwarf Spurge (*Euphorbia exigua*), Water-violet (*Hottonia palustris*), Smooth Cat's-ear (*Hypochaeris glabra*), Tubular Water-dropwort (*Oenanthe fistulosa*), Marsh Lousewort (*Pedicularis palustris*), Lousewort (*Pedicularis sylvatica*), Common Butterwort (*Pinguicula vulgaris*), Flat-stalked Pondweed (*Potamogeton friesii*), Suffolk Lungwort (*Pulmonaria obscura*), Lesser Spearwort (*Ranunculus flammula*), Least Bur-reed (*Sparganium natans*), Marsh Stitchwort (*Stellaria palustris*), and Heath Dog-violet (*Viola canina*) which are listed as 'Vulnerable' on the England Red List. Bluebell (*Hyacinthoides non-scripta*), was listed on Schedule 8 of the Wildlife and Countryside Act (1981 (as amended)). Several orchid species were highlighted within the search, including southern marsh orchid (*Dactylorhiza praetermissa*), pyramidal orchid (*Anacamptis pyramidalis*), Marsh Orchid (*Dactylorhiza*), early purple orchid (*Orchis mascula*) and bee orchid (*Ophrys apifera*).

No uncommon, rare, or protected plant species were recorded during the survey.

Bats

The dwelling was checked for signs of bats which included, urine stains, droppings, cracks and crevices with smooth rubbing or stain marks, feeding signs or living or dead animals. Any potential roost features no signs were found internally or externally of the building.

The dwelling consisted of older section and a newer extended modern section, and overall description of habitats can be seen in the target notes table in Appendix I.

A low number (<10) of small mammal droppings were found in the roof-space, and a low number of scattered butterfly wings were found on the ground floor below. However, no signs of bats or accumulations of droppings were seen to indicate the presence of roosting bats and it is more likely that bats roosting close to site (such those recorded in the data search below).

No trees were present onsite, although several mature trees were within 20m of the site boundary, including common oak (*Quercus robur*). Ponds adjacent to site offered good foraging opportunities for nearby bats, and brown long-eared bat roosts have been recorded in adjacent buildings in previous years.

The data search returned 141 records within 2km of the Site, comprising at least 10 of the 13 bat species known to Suffolk. These included Natterers (*Myotis nattereri*), Noctule (*Nyctalus noctula*), Common Pipistrelle (*Pipistrellus pipistrellus*), Barbastelle (*barbastelle barbastellus*), Serotine (*Eptesicus serotinus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton's Bat (*Myotis daubentonii*), Brown Long-eared (*Plecotus auritus*), Lesser Noctule (*Nyctalus leisleri*), and several unidentified *Pipistrellus* / *Myotis* species.

Fungi

No records of fungi were listed in the data search, and no rare fungi were found on site.

Great Crested Newts

Some habitats adjacent to the site, were suitable to support amphibians, including great crested newts (GCN) (*Triturus cristatus*), during their terrestrial phase such as planters, wood piles, gravel, and long grass offered potential shelter and hibernacula for amphibians during their terrestrial stages. However, the site had very few of these areas, hardstanding/ bare earth and newts attempting to travel to these areas from nearby ponds would be exposed to predation and are unlikely to be present onsite. Refugia onsite was checked for hibernating amphibians, none of which showed signs of use.

There were four ponds present within a 250m radius of site :

Pond 1- Located approx. 130m to the Northwest of site, no access was allowed.

Pond / ditch 2- approx. 40m north of site was highlighted in the MAGIC system data search was dry and overgrown.

Pond /drainage ditch 3- a moat located approx. 5m south-west of site. This was very shallow and was being cleaned out, as was recently dry.

Pond 4- approx. 90m south-east of site.

Pond 5- approx. 200m south-east of site. Low levels of water during survey with negligible GCN potential.

The results of the survey and a previous HSI assessment of pond 2 are listed below, along with HSIs conducted by DCS Ecology on 6th February 2023.

Table 1: The categorisation of the HIS score, is as follows:

HIS Score	Pond Suitability
< 0.50	Poor
0.50 - 0.59	Below average
0.60 - 0.69	Average
0.70 - 0.79	Good
> 0.80	Excellent

Table 2: ARGUK GCN HIS Calculator. Based on ARGUK advice note 5 - Great Crested Newt Habitat Suitability Index

	Pond Name Grid Ref	Example SK123456	Pond 1 TM06787760	Pond 2 TM06827754	Pond 3 TM06857748	Pond 4 TM06997746	Pond 5 TM07027730
SI No	SI Description	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value
1	Geographic location	1.00	1	1	1	1	1
2	Pond area	0.50	0.9	0.3	0.6	0.7	1
3	Pond permanence	0.90	0.5	0.1	0.3	1	1
4	Water quality	1.00	0.67	0.01	0.1	0.67	0.67
5	Shade	1.00	1	1	1	1	1
6	Water fowl effect	1.00	1	1	1	0.67	0.67
7	Fish presence	1.00	1	1	1	1	1
8	Pond Density	0.65	1	1	1	1	1
9	Terrestrial habitat	1.00	1	1	1	1	1
10	Macrophyte cover	0.90	0.5	0.3	0.3	0.5	0.3
HSI Score		0.88	0.83	0.39	0.59	0.83	0.82
Pond suitability (see below)		Excellent	Excellent	Poor	Below Ave	Excellent	Excellent
Categorisation of HSI Score by Lee Brady							
HSI Score		Pond Suitability					
< 0.50		Poor					
0.50 - 0.59		Below average					
0.60 - 0.69		Average					
0.70 - 0.79		Good					
> 0.80		Excellent					
Based on ARGUK advice note 5 - Great Crested Newt Habitat Suitability Index							

There were 19 records of GCN returned in the SBISdata search, the nearest being ~ 1.25km surrounding the site on the north, east and south. The site has little terrestrial and no breeding habitat on the site, although adjacent to the site there were ditches/ponds which had been de silted and had little or no potential for GCN as they were shaded, had little water during the winter months. The terrestrial habitat on site was checked i.e. under plant planters there were no animals found and it was considered the development would not have an impact on GCN.

Hedgehogs

The Site was considered unsuitable for hedgehogs, as it lacked adequate foraging and hibernation opportunities, such as shrubs, woodpiles, and woodland. Shrubland and long grass to the east and west provided some sub-optimal potential to support foraging and nesting opportunities, but no habitats onsite were likely to support hedgehogs.

Although no evidence of hedgehogs (*Erinaceus europaeus*) was recorded during the survey, the data search returned 16 records of hedgehogs within 2km of the Site, the nearest of which being Church Road, Diss 1.2km East of site.

Reptiles

The dwelling and hardstanding onsite were unsuitable for foraging and basking reptiles. The site that shaded the refugia and provided sub-optimal basking opportunities at best. Habitats adjacent to site, including improved grassland, ponds and shrubs did however offer some foraging opportunities for reptiles.

There was no evidence of reptiles on the site, no droppings, sloughs, or reptiles.

The SBIS data search showed 1 record of slow worms (*Anguis fragilis*), 2 records of grass snakes (*Natrix Helvetica*), 1 record of an adder (*Vipera berus*) and 1 record of a common lizard (*Zootoca vivipara*) within 2km of site. The closest of these records was a grass snake (*Natrix Helvetica*) at 1.50km Southeast of site.

Birds

Although vegetation onsite was minimal (hence few foraging opportunities), the building structure itself had very few places for nesting and roosting birds.

Species seen onsite at the time of the survey include wood pigeon (*Columba palumbus*) and blue tit (*Cyanistes caeruleus*).

For a list of bird species of conservation concern returned in the SBIS data search, please see Appendix IV.

Invertebrates

Vegetation to support invertebrates was restricted to small areas on ephemera pioneering plant species, and habitat with the potential to support small assemblages of common and rare/protected terrestrial invertebrates was extremely limited. No rare invertebrates or habitats likely to support rare invertebrates were found onsite, and further invertebrate surveys were not considered necessary.

The desk study highlighted a couple species of invertebrates have been previously recorded within 2km of the Site, such as *Hydrochus megaphallus* which are listed as 'Vulnerable' on the England Red List. Also on the England red list are the Norfolk hawkler (*A. naciaeschna isosceles*) listed as 'Endangered'. Although there are ponds adjacent to site the development will not impact invertebrates.

Other Protected Species

In regard to other protected species, there were four records of water vole (*A. rivicola amphibius*) and one record of otters (*Lutra lutra*), one record of brown hare, two of polecat (*Mustela putorius*) and one of harvest mouse (*Micromys minutus*) were returned within the data search. The nearest of which was a polecat at Wortham 1.3km to the east. Habitats onsite are unsuitable for these species.

6. Potential Impacts and Obligatory Recommendations

6.1 *Statutory Designated Areas*

The impact of proposed activities on Sites of Special Scientific Interest (SSSIs) are assessed using Impact Risk Zones (IRZs), which establish buffer zones around each site which reflect the particular sensitivities of designated sites and indicate the types of development proposal which could potentially have adverse impacts. If the developed is assessed as having a “likely significant effect” any European statutory designated area, then the project will require a HRA (Habitat Risk Assessment) to be undertaken as stated in The Conservation of Habitats and Species Regulations 2010 (as amended).

The Site falls within the Impact Risk Zone (IRZ) of REDGRAVE AND LOPHAM FENS SSSI, 2700m north-west, WORTHAM LING SSSI, 2800m east and BURGATE WOOD SSSI 1300m south of site. An initial assessment using government ArcGIS dataset records concluded that the application falls into band 6 which predicts that development proposals for residential housing developments of 50 units or more / non-residential developments over 0.2ha in size will require a HRA. As the proposal is a small-scale development (less than 0.2ha) and will not include the creation of over 50 building units, the risk of impact to designated sites is low and therefore is unlikely to require a HRA or other pre-development consultation with Natural England regarding likely impacts on these designated areas.

6.2 *Flora and Habitats*

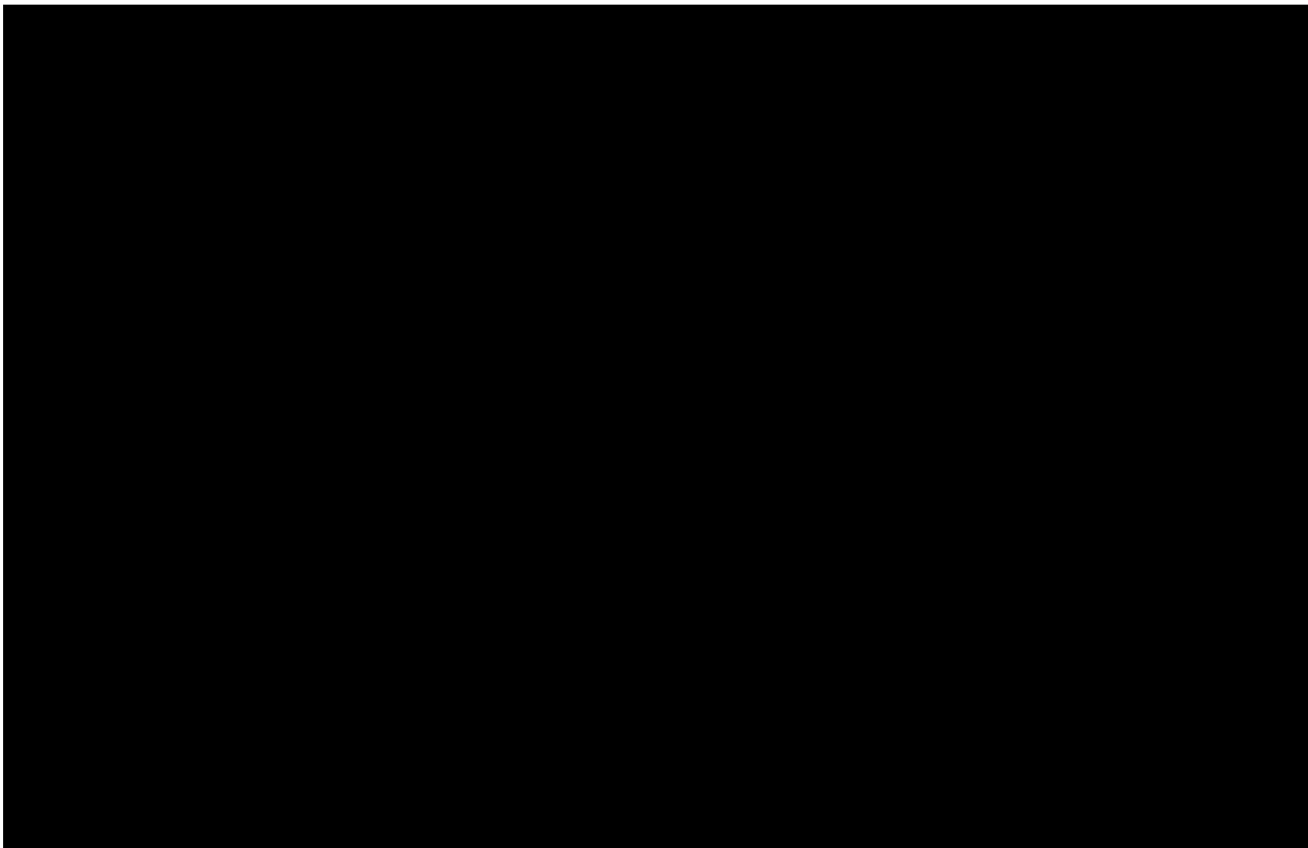
The proposed development includes the demolition of a conservatory. This will result in the loss of existing niches within the structures and the removal of a minimal amount of vegetation. (a list plant species recorded onsite can be found in Appendix II I). The rare species have the potential to use these habitats, the habitats themselves are not listed within the Section 41 of the NERC Act 2006 as being of principle important to the conservation of biodiversity within the UK.

No trees were present onsite, and the nearest mature trees were over 20m from the site boundary, making the risk of damaging trees or their root area negligible.

The majority of the species highlighted within the data search were two or four figure grid references, and so exact locations were unable to be identified. The Site does not contain biodiversity priority habitats and was unsuitable for supporting these rare species.

No trees are present within the site boundary, and so no tree felling licences are required. If site boundaries were altered to include mature trees subject to felling, then under The Forestry Act 1967, all trees over 8cm in diameter will require a felling licence prior to removal, unless it is in the interest of health and safety. This is required if over 5 cubic metres (m³) of growing trees are to be felled.

Further botanical survey is not considered necessary; however, any mature trees within close proximity of the Site should be suitably protected from harm following guidance set out in BS5837 (2012).



Bats

Structures onsite assessed for roost suitability included both roof voids of the dwelling. Although a low number of small mammal droppings were encountered, none were fresh and the structure itself was poorly suited for supporting bats. This store had negligible potential for supporting roosting bats (for further details see Appendix I, target notes). **No further survey is necessary.** However, as a precautionary measure, the following measures should be implemented:

A Risk Avoidance Measures (RAMs) Method Statement be written prior to the commencement of works on the building.

A toolbox talk for bats be written prior the commencement of works.

All works involving the removal of building materials, particularly surrounding the roofspace, should be conducted with a level 2 bat licenced Ecological Clerk of Works (ECoW) in attendance.

The Site did not have suitable foraging bats (such as deciduous woodland or lowlar wetlands, although adjacent habitats, treelines, improved grassland, ponds, and hedgerows, did offer some foraging and commuting opportunities for bats. As these habitats were in close proximity to site, and there are nearby records of ten different species of bats, sensitive lighting is recommended throughout the development and should follow guidance provided by the Bat Conservation Trust (Bats and Lighting in the UK, 2009), to ensure foraging and commuting bats using adjacent habitats are not negatively impacted. Lighting measures should also be applied to temporary security lighting used during the construction phase. This could include low pressure sodium lamps, with hoods, cowls or shields, to prevent light spillage. More detailed advice can be provided from a suitable experienced bat ecologist.

Birds

A number of species with the potential to nest within, or near to, the Site boundary were highlighted within the desk study (see Appendices III and IV). These included BoCC red listed, SPI and Local Biodiversity Action Plan (LBAP) species, and good numbers of common garden species were seen using adjacent habitats.

Any building demolition or clearance should be carried out outside the breeding bird season, which runs from 1st March to 15th September (species dependant) or following a nesting bird survey by a suitably experienced ecologist – to prevent infringing legislation which protects all nesting birds. In addition, the works of stripping / removing any buildings should be done under a Risk Avoidance Measures (RAMs) Method Statement and under the supervision of a suitability experienced ecologist clerk of works.

Great Crested Newts

There was a total of 19 SBIS records and 10 MAGIC survey data records of which 1 had GCN present, 3 EPS licence records, 4 class licence returns the nearest of these was a class license return 1.5km south of site. Although the site was unsuitable for GCN due to lack of vegetation cover, nearby habitats, including four ponds, had negligible potential to support GCN. Therefore, no other actions are required (**ponds 1-5, see Appendix IV for pond locations**).

Hedgehogs

Further survey is not considered necessary, however, as there are nearby records of this species, and the adjacent habitats were suitable, any potential nesting habitat (discarded building materials, wood piles etc.) should have been removed outside the hibernation period (which is November to March) or under supervision of an ecologist. In addition, the construction should follow recommendations set out for badgers, to minimise the risk of harm to foraging hedgehogs.

Any fencing at the Site boundaries should allow the movement of hedgehogs throughout the Site post development.

Reptiles

The removal / conversion of the conservatory, car port will not include the loss of areas of suitable reptile habitat – sheltering and hibernation opportunities. Although small areas of garden, such as concrete rubble and metal sheets, were found onsite, these were heavily shaded by buildings covered a minimal area. It was considered highly unlikely that reptiles would use these habitats onsite, and so **no further survey is required**.

Invertebrates

The Site contained minimal habitat for small assemblages of common invertebrates and was not considered suitable for supporting the rare/protected species highlighted within the desk study. **Therefore, further invertebrate surveys are not considered necessary.**

Other Protected Species

No further survey is required, as the habitat types being lost and overall size of each habitat would be unlikely to significantly impacted any protected species.

7. Enhancement recommendations

The Natural Environment and Rural Communities Act 2006 (NERC), Section 40, established that all public bodies have a duty to conserve, restore, or otherwise enhance a population of a particular species or habitat:

Section 40 (A1)²

“For the purposes of this section “the general biodiversity objective” is the conservation and enhancement of biodiversity in England through the exercise of functions in relation to England.”

Section 40 (1)

“A public authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective.”

Section 40 (3)

“The action which may be taken by the authority to further the general biodiversity objective includes, in particular, action taken for the purpose of—

- (a) conserving, restoring or otherwise enhancing a population of a particular species, and
- (b) conserving, restoring or otherwise enhancing a particular type of habitat.”

Therefore, enhancement opportunities are encouraged in order to change the overall net biodiversity impact of the development from minor-adverse neutral to neutral / minor positive.

Bats

Bat boxes, such as Eco Kent bat boxes and woodstone general purpose bat boxes (or similar) would increase roosting opportunities for bats within the Site. Exact models and locations should be determined by a suitably experienced ecologist following bat activity surveys (recommended in section 6).

Further enhancements, such as the creation of wildflower meadow or tree-planting would provide additional foraging habitat for local bat populations. Wildflowers planted should be native species and a mixture of different species, such as Emorsgate EM1 (general purpose wildflower seeds), are optional enhancement features that would greatly benefit a multitude of species.

Birds

Bird boxes are highly advised, such as Blackbird FSC Nest Box or WoodStone Seville Box (see table 9 in Appendices) erected on retained boundary trees in appropriate locations would provide additional nesting opportunities for local bird populations.

Further enhancements (such as providing deadwood, or compost areas) would provide foraging opportunities for a range of bird species.

² This includes recent amendments to the Act under the Environment Act 2021, which extended the definition of general biodiversity objective to include biodiversity enhancement as opposed to solely biodiversity conservation.

Hedgehogs and other small mammals

Although evidence of small mammals, such as rabbits and rodents was found onsite, no evidence was found that any were using site for foraging or permanent shelter, and these species were likely using the building as sub-optimal temporary shelter or passing through.

Other wildlife

Rare and/or protected invertebrates, reptiles and great crested newts were considered unlikely to be present onsite, and no further enhancement is necessary.

8. Conclusions

The preliminary ecological appraisal found the Site directly not to contain habitats suitable for supporting protected species –

The following recommendations are made to minimise the risk of harm to individual animals:

- **Sensitive lighting measures for bats**, and security lighting to be set on short timers to avoid disturbing nocturnal animals.
- **Covering of excavations** and/or provision of **exit ramps** and safe storage of materials that may harm animals is recommended during works to prevent harm to mammals.
- To prevent infringing legislation which protects all nesting birds, it is recommended that **any building or vegetation clearance is carried out outside the breeding bird season** (which runs from March to September) or if not possible, following a nesting bird survey by a suitably experienced ecologist.

It is unlikely that the proposed development would cause any significant long-term impact to the conservation status of protected species in the area or to the conservation sites in the surrounding area, but sensitive planning may increase species because of the habitat enhancements.

However, short-term impacts to species populations or individuals would have been minimised through the incorporation of the above recommendation prior to, and during construction.

Biodiversity Enhancements (post construction)

Enhancement features, such as bat boxes (such as Eco Kent bat boxes), bird boxes, and the creation of bat-friendly wildflower areas, should be incorporated into the final designs and therefore provide additional breeding, foraging, and sheltering opportunities for a range of wildlife.

9. Validation

Table 3. Validity duration of the data.

Information Source	Date Undertaken	Valid Until	Comments
PEA	May 2023	May 2025 (2 years)	Providing there are no changes to current planning applications, no further surveys will be required - only advisory recommendations.

10. References

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https://magic.defra.gov.uk/Metadata_for_magic/SSSI/IRZuserguidance

<http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx>

11. Appendices

11.1 Appendix I: Table 4 target notes

Photos	Target Notes
 <p style="text-align: center;">1</p>  <p style="text-align: center;">2</p>  <p style="text-align: center;">3</p>	<p>Dwelling exterior features</p> <p>The dwelling onsite was a two-storey extended building the older side to the west situated in the clearing at Glebe Farm. The farm has not been used commercially for decades and now is an extended residential dwelling.</p> <p>Building materials consisted of a breezeblock, brick which has been rendered, roof tiles with bitumen under felt. The building has been renovated within the last decade or two.</p> <p>Very limited access points to roof voids as it has been well sealed and No PRFs were present, the roof had been replaced and mortar joints were tight.</p> <p>Due to the lack of suitable roost features and tight and sealed access points for roosting bats, the building is classed as having negligible potential for bats.</p>



4



5



6

Dwelling- Interior loft space

A low number (<10) of small mammal droppings were found in the roof-space. There were likely from wood or house mice. These droppings were in the older section of the roof void.



7



8

Wooden timbers in both sections had tight machine joints supporting , the building soffits and barge boards were smooth and tightly fit. and offered no access for bats to create roosting opportunities. Insulation on the roof void floor had no bat droppings on the site visit. No evidence showed signs of use by bats.



9



10

Surroundings onsite

The building was surrounded by hardstanding, with areas cultivated garden with planters. Gravel and concrete (hardstanding)



11



12



13



14

10- Surroundings adjacent to site

No trees were present onsite, although several mature trees were within 20m of the site boundary, including common oak (*Quercus robur*), Beech and Acer spp. Ponds and wet ditches adjacent to site offered good foraging opportunities nearby bats (details of which can be found in section 5).

Much of the surrounding area was hardstanding and bare earth, with small areas rough grass, woodland and scrub to the north, south and east. Some ponds and ditches but had been dredged the previous winter and others were over grown or dried out.

9.2 Appendix II: Site Photos

Table 5: Site photos	
	
D riveway from the east	Adjacent woodland
	
Adjacent garden to the south	View of dwelling from east
	
Sealed fascia and soffits boards	Pond 2
	
Pond 5	Pond 5



Pond/ditch 3



Garden near pond 3



Dwelling from the south



Roof space older section



Rodent droppings in roof space



Limited access to older parts of the older section of the roof



End gable in older section of the roof



Newer section of the roof machined timbers and no access points



Dwelling viewed from the north



East side of the dwelling viewed from north



Ditches on common land to the south of the site



Ditches on common land to the south of the site

10.2. Appendix III: Species Lists

Table 4: Plants

Species	
Latin name	Common name/s
<i>Carex spp.</i>	Sedge
<i>Cerastium tonianum</i>	Mouse-ear chickweed
<i>Chamaenerion angustifolium</i>	Rose Bay Willow herb
<i>Fagus sylvatica</i>	Common beech (adjacent to site)
<i>Geranium spp.</i>	Crane's bill
<i>Hedera helix</i>	Common ivy
<i>Lamium purpureum</i>	Red dead nettle
<i>Plantago major</i>	Broadleaf plantain/ greater plantain
<i>Quercus robur</i>	English Oak / Common Oak (adjacent to site)
<i>Rubus fruticosus</i>	Bramble
<i>Silybum marianum</i>	Milk thistle
<i>Urtica dioica</i>	Stinging nettle

Table 5: Birds

Species	
Latin name	Common name/s
<i>Columba palumbus</i>	Wood pigeon
<i>Corvidae</i>	Corvid species (nest only)
<i>Cyanistes caeruleus</i>	Eurasian blue tit

Table 6: Mammals

Species	
Latin name	Common name/s
<i>Chiroptera spp.</i>	Bats (signs only)
<i>Mus spp.</i>	Mouse (deceased)
<i>Mustela nivalis</i>	Least weasel (deceased)
<i>Oryctolagus cuniculus</i>	European rabbit (deceased)
<i>Rattus norvegicus</i>	Brown rat (deceased)

10.3. Appendix IV: Figures

Phase 1 Habitat Map

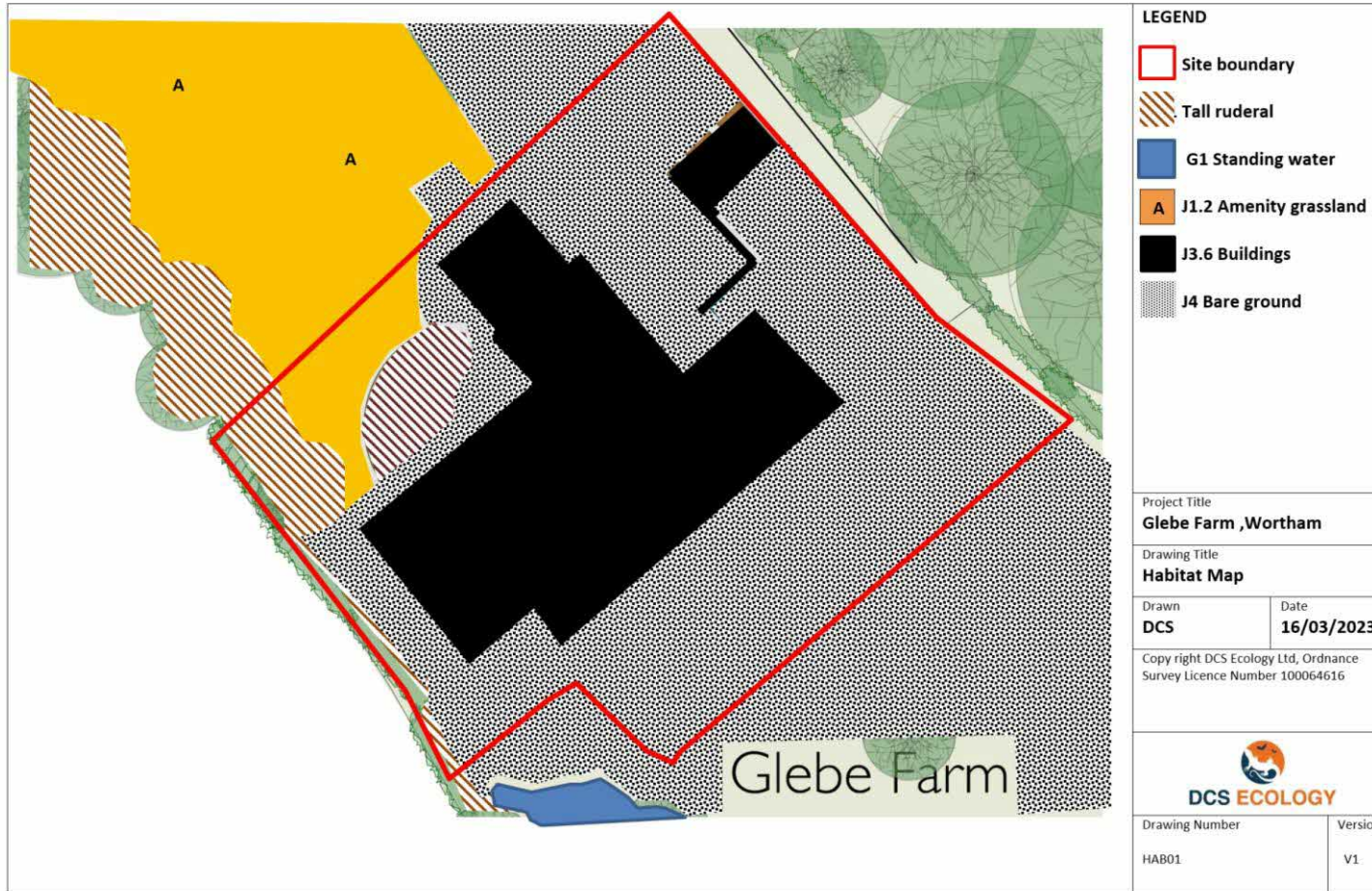


Figure 2: Phase 1 Habitat Map of Site (c) Crown Copyright under licence 100064616

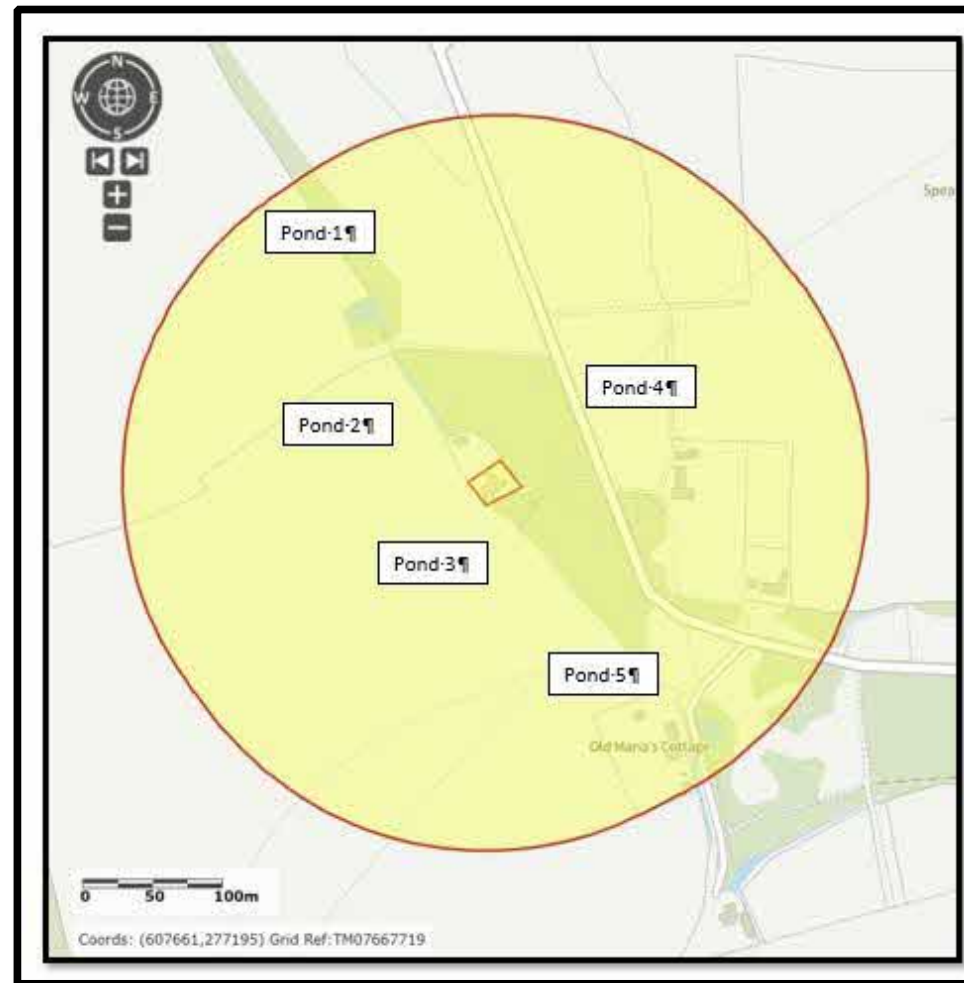
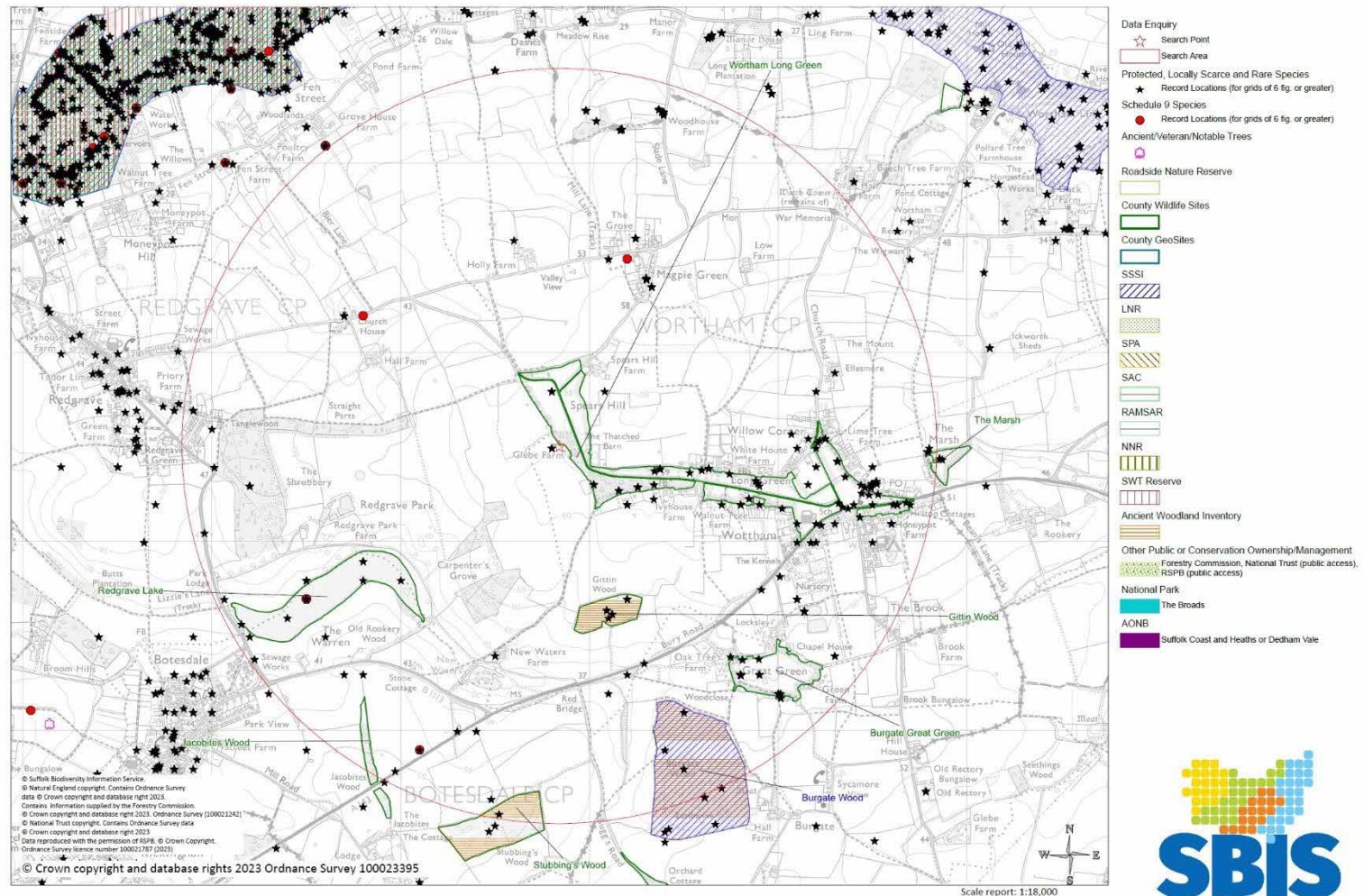


Figure 3: Pond Great Crested Newt Habitat Suitability Index Map 250m. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616



DCS Ecology (Glebe Farm, Wortham TM06847751) 2km Data Enquiry



Date: 20/03/2023 | Drawn by: Andy Mercer

Figure 4: Protected species records, Statutory and Non-Statutory Designated Sites within 2km of the Site

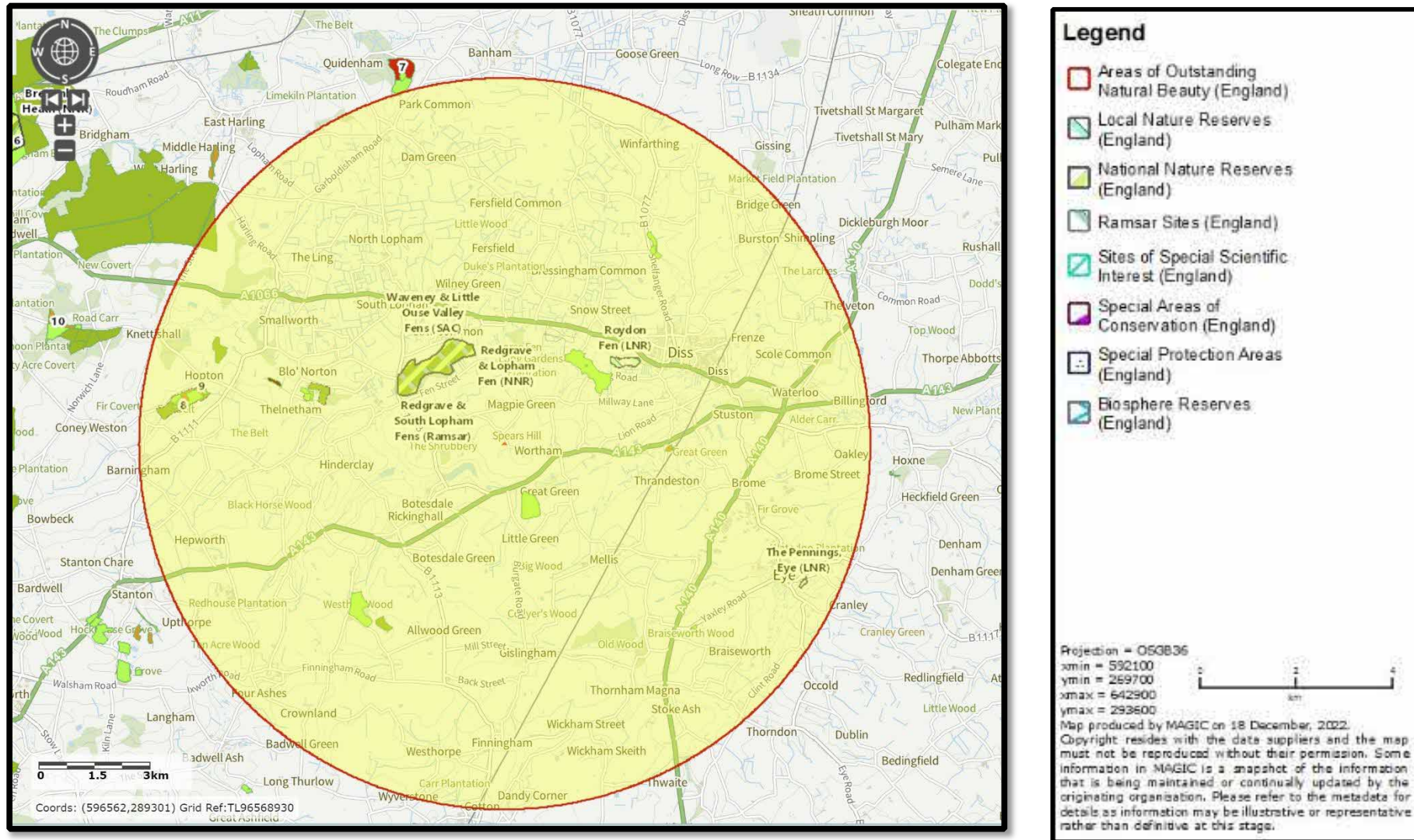


Figure 5: Statutory Conservation Sites within 10km of the Site

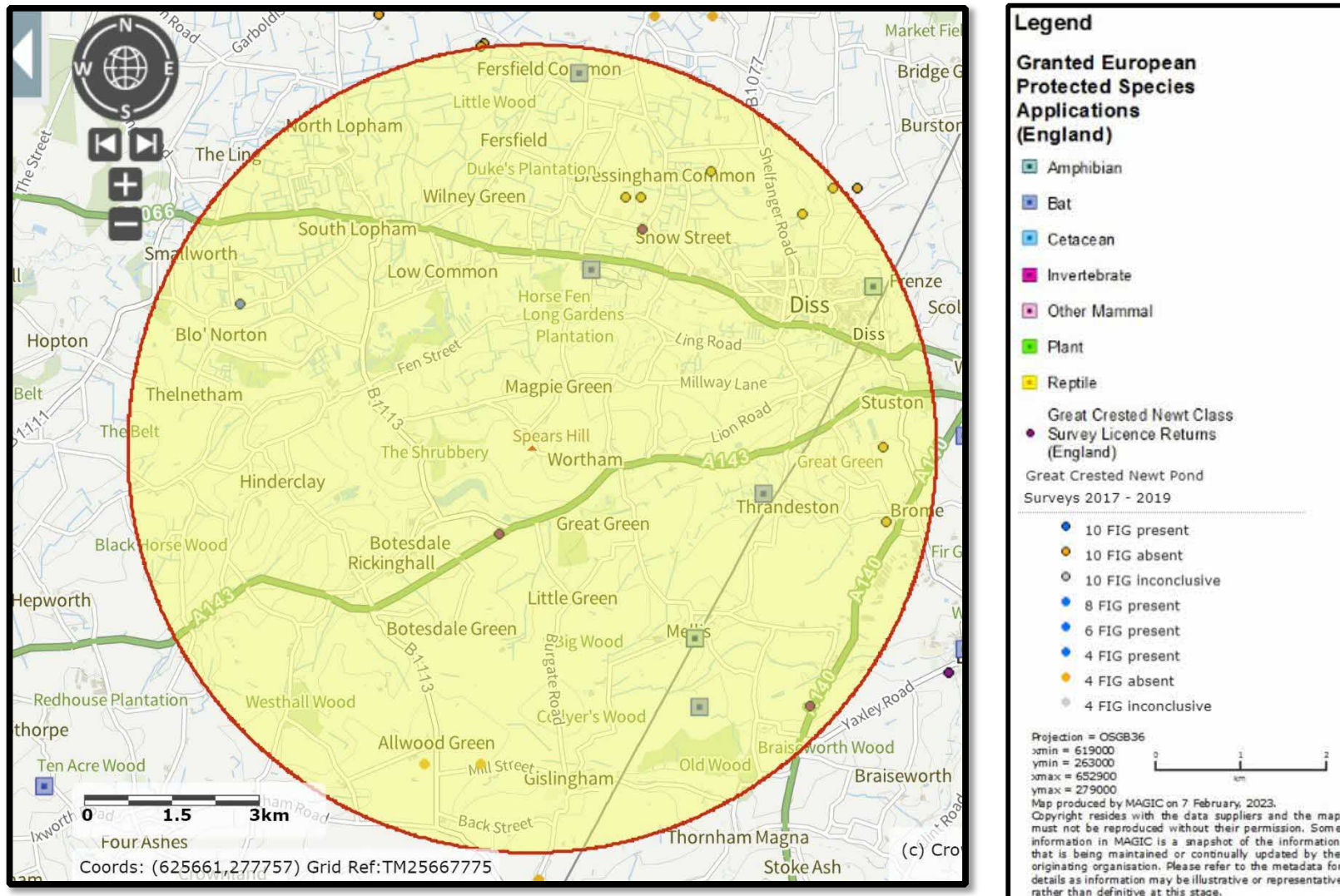


Figure 6: Protected species recorded on MAGIC within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616

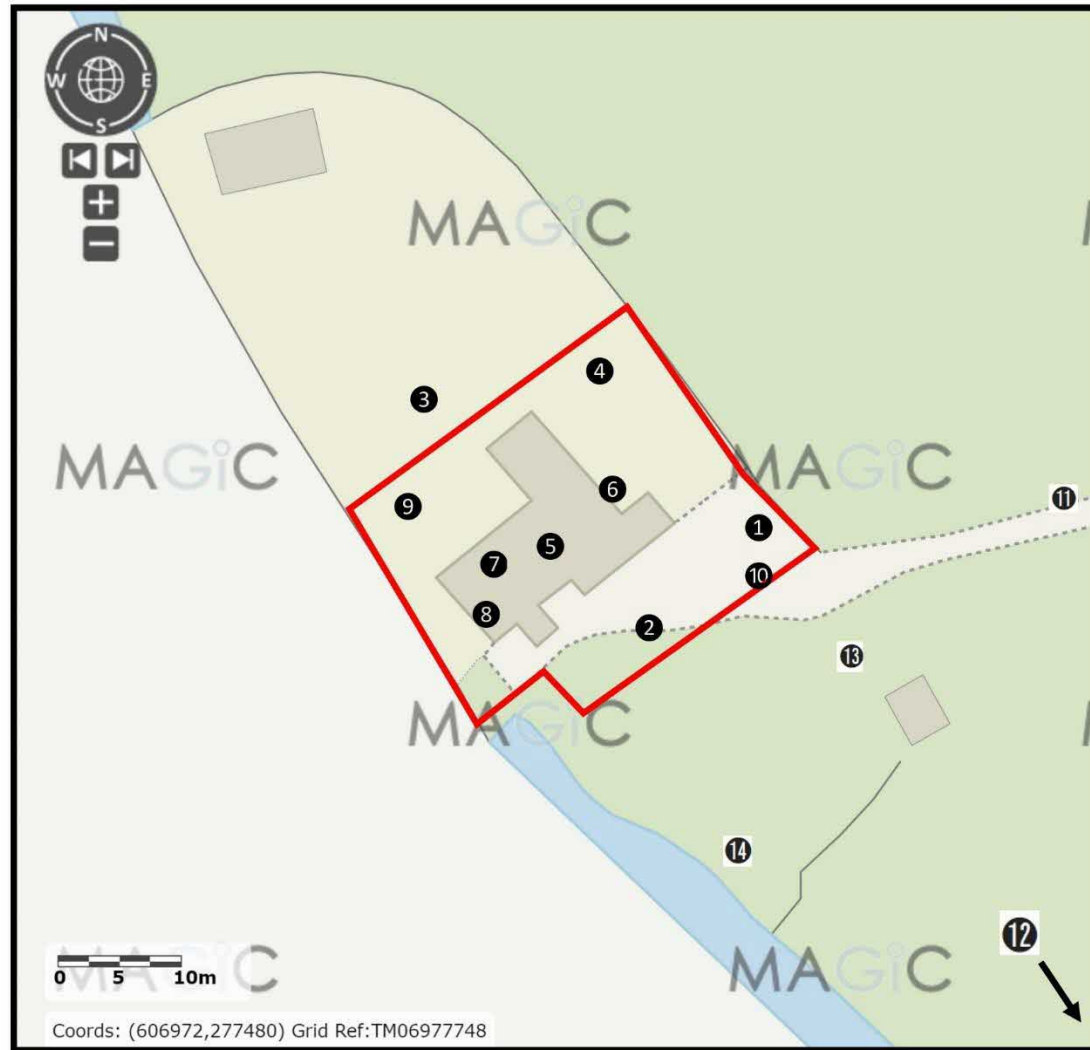


Figure 8: Target notes map.

10.4. Appendix V: Desk Study

Table 7: WCA Sch. 1, BoCC Red Listed and Priority (BAP) bird species records within 2km of the Site

<i>Species common name</i>	<i>Latin name</i>	<i>Status</i>	<i>Most Recent Record</i>
Lesser Redpoll	<i>Acaninys cabaret</i>	BoCC Red; S41	2008
Skylark	<i>Alauda arvensis</i>	BoCC Red, UKBAP	2017
Kingfisher	<i>A. iceao atthis</i>	WCA 1i	2017
Pintail	<i>Anas acuta</i>	WCA 1ii	2017
White-fronted Goose	<i>Anser albifrons</i>	BoCC Red, UKBAP	2010
Graylag Goose	<i>Anser anser</i>	WCA 1ii	2018
Swift	<i>Apus apus</i>	BoCC Red	2020
Pochard	<i>Aythya ferina</i>	BoCC Red	2018
Bittern	<i>Botaurus stellaris</i>	S41, WCA 1i, UKBAP	2017
Goldeneye	<i>Bucepnaia clangula</i>	WCA 1ii, BoCC Red	2021
Dunlin	<i>Calidris alpina</i>	BoCC Red	2009
Ruff	<i>Calidris pugnax</i>	WCA 1i, BoCC Red	2015
Cetti's Warbler	<i>Cettia Cetti</i>	WCA 1i	2021
Little Ringed Plover	<i>Charadrius dubius</i>	WCA 1i	2009
Ringed Plover	<i>Charadrius hiaticula</i>	BoCC Red	2017
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2017
Marsh Harrier	<i>Circus aeruginosus</i>	WCA 1i	2021
Cuckoo	<i>Cuculus canorus</i>	BoCC Red, S41, UKBAP	2021
House Martin	<i>Delichon urbicum</i>	BoCC Red	2017
Yellow Hammer	<i>Emberiza citrinella</i>	BoCC Red, UKBAP; S41	2017

Reed Bunting	<i>Emberiza schoenicus</i>	UKBAP; S41	2020
Merlin	<i>Falco columbarius</i>	BoCC Red, WCA1i	2010
Peregrine Falcon	<i>Falco peregrinus</i>	WCA1i	2016
Hobby	<i>Falco subuteo</i>	WCA1i	2020
Brambling	<i>Fringilla montifringilla</i>	WCA1i	2021
Little Gull	<i>Hydrocoloeus minutus</i>	WCA 1i	2019
Herring Gull	<i>Larus argentatus</i>	BoCC Red, WCA1i	2017
Black-tailed Godwit	<i>Limosa limosa</i>	BoCC Red, WCA1i, UKBAP	2011
Linnet	<i>Linaria cannabina</i>	BoCC Red; UKBAP	2017
Grasshopper Warbler	<i>Locustella naevia</i>	BoCC Red, UKBAP, S41	2017
Crossbill	<i>Loxia curvirostra</i>	WCA 1i	2009
Red Kite	<i>Milvus milvus</i>	WCA 1i	2012
Spotted Flycatcher	<i>Muscicapa striata</i>	BoCC Red, UKBAP, S41	2017
Bearded Tit	<i>Panurus biarmicus</i>	WCA 1i	2017
House Sparrow	<i>Passer domesticus</i>	BoCC Red, UKBAP, S41	2017
Grey Partridge	<i>Peraix perax</i>	BoCC Red; S41	2021
Honey Buzzard	<i>Pernis apivorus</i>	WCA 1i	2010
Willow Tit	<i>Poecite montanus</i>	BoCC Red, UKBAP, S41	2007
Marsh Tit	<i>Poecite palustris</i>	BoCC Red, UKBAP	2017
Dunnock	<i>Prunella modularis</i>	UKBAP	2017
Bullfinch	<i>Pyrrhula pyrrhula</i>	UKBAP	2021
Whinchat	<i>Saxicola rubetra</i>	BoCC Red	2010
Woodcock	<i>Scolopax rusticola</i>	BoCC Red	2010
Turtle Dove	<i>Streptopelia turtur</i>	BoCC Red, UKBAP, S41	2021
Starling	<i>Sternus vulgaris</i>	BoCC Red, UKBAP	2017

Wood Sandpiper	<i>Limosa lapponica</i>	WCA 1i	2009
Greenshank	<i>Limosa nebulosa</i>	WCA 1i	2017
Green Sandpiper	<i>Limosa ochroura</i>	WCA 1i	2021
Redwing	<i>Limosa limosa</i>	WCA1i	2017
Song Thrush	<i>Sylvia philomelos</i>	UKBAP	2020
Fieldfare	<i>Turdus pilaris</i>	BoCC Red, WCA1i	2017
Ring Ouzel	<i>Turdus torquatus</i>	BoCC Red, S41 , UKBAP	2017
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red	2020
Barn Owl	<i>Nyctale alba</i>	WCA1i	2021
Lapwing	<i>Vanellus vanellus</i>	BoCC Red, UKBAP , S41	2017

10.5. Appendix VI: Relevant Protected Species Legislation

International and national legislation, and policy context.

EC Habitats Directive

In 1992 the then European Community adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the Habitats Directive. The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring member states to introduce protection for these habitats and species of European importance. The mechanism for protection is through the designation of Special Areas of Conservation (SACs), both for habitats and for certain species listed within Annex II. There are several species listed within Annex II of the Habitats Directive that are present within the UK; these include four lower plant species, nine higher

plant species, six species of molluscs, six species of arthropods, eight species of fish, two species of amphibian, and nine species of mammal.

The Bern Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) came into force in 1982. The principal aims of the Convention are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix 3. To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species.

Bonn Convention

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention or CMS) was adopted in Bonn, Germany in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix 1 of the Convention), concluding multilateral agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix 2 of the Convention), and by undertaking cooperative research activities.

Convention on Biological Diversity

The Convention on Biological Diversity (Biodiversity Convention or CBD) was adopted at the Earth Summit in Rio de Janeiro and entered into force in December 1993. It was the first treaty to provide a legal framework for biodiversity conservation. Contracting Parties are required to create and enforce national strategies and action plans to conserve, protect and enhance biological diversity.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. However, it does not extend to Northern Ireland, the Channel Islands, or the Isle of Man. This legislation is how the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Natural Habitats and Wild Fauna and Flora (92/43/EEC) are implemented in Great Britain.

Conservation of Habitats and Species Regulations 2010 (as amended)

In the UK the Council Directive 92/43/EEC has been transposed into national laws by means of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended), and the Regulations (Northern Ireland) 1995 (as amended). The Regulations came into force on 30 October 1994 and have been amended several times. Subsequently the Conservation of Habitats and Species Regulations 2010 was created which consolidates all the various amendments made to the 1994 Regulations in respect of England and Wales and is commonly known as the 'the Habitats

Regulations'. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland. The Regulations contain five Parts and four Schedules and provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Table 6: Relevant Protected Species Legislation

Species	Legislation	Protection
Bats	<ul style="list-style-type: none"> ▪ Conservation of Habitats and Species Regulations (2010) (as amended) ▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended) ▪ Wild Mammals Act (1996) 	<p>It is an offence to:</p> <ul style="list-style-type: none"> ▪ Intentionally kill, injure or take any bat ▪ Intentionally or recklessly disturb a bat ▪ Intentionally or recklessly damage, destroy or obstruct access to a bat roost
Great Crested Newts	<ul style="list-style-type: none"> ▪ Conservation of Habitats and Species Regulations (2010) (as amended) ▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended) 	<p>It is an offence to:</p> <ul style="list-style-type: none"> ▪ Intentionally kill, injure or take a great crested newt ▪ Intentionally or recklessly disturb a great crested newt ▪ Intentionally or recklessly damage, destroy or obstruct access to any place used by a great crested newt for shelter or protection
Widespread Reptiles	<ul style="list-style-type: none"> ▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended) 	<p>It is an offence to:</p> <ul style="list-style-type: none"> ▪ Intentionally kill or injure a reptile ▪ Sell, offer or expose for sale, have in possession or transport for the purpose of sale any live or dead reptile or any part of, or anything derived from, a reptile
Birds	<ul style="list-style-type: none"> ▪ Wildlife and Countryside Act (WCA) (1981 (as amended) 	<p>It is an offence to:</p> <ul style="list-style-type: none"> ▪ Intentionally kill, injure or take any

		<p>wild bird</p> <ul style="list-style-type: none"> ▪ Intentionally take, damage or destroy nests in use or being built ▪ Intentionally take, damage or destroy eggs <p>Species listed on Schedule 1 of the WCA (1981) are afforded additional protection, making it an offence to intentionally or recklessly disturb such species at, on or near an active nest</p>
Badgers	<p>Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended)</p> <ul style="list-style-type: none"> ▪ Protection of Badgers Act (1992) 	<p>It is an offence to:</p> <p style="padding-left: 40px;">Taking, injuring or killing badgers. Cruelty. Interfering with badger setts. Selling and possession of live badgers. Marking and ringing.</p>

10.6. Appendix VII: Abbreviations

Table 7: List of abbreviations	
BAP	Biodiversity Action Plan
BCT	Bat Conservation Trust
BoCC	Birds of Conservation Concern
CH SR	Conservation of Habitats and Species Regulations 2017
CIEEM	Chartered Institute of Ecology and Environmental Management
CROW	The Countryside Rights of Way Act 2000
CWS	County Wildlife Site
ECoW	Ecological clerk of works
eDNA	Environmental DNA
EIA	Ecological Impact Assessment
EPS	European Protected Species
GCN	Great crested newt
HPI	Habitat of Principal Importance
H SI	Habitat Suitability Index
HRA	Habitat Regulations Assessment
JN CC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LPAs	Local Planning Authorities
MAGIC	Multi-Agency Geographic Information for the Countryside
NERC	Natural Environment and Rural Communities Act
NBIS	Norfolk Biodiversity Information Service
NE	Natural England

NERC	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	The National Planning Policy Framework
PEA	Preliminary Ecological Appraisal
PRA	Preliminary Roost Assessment
PRF	Potential (bat) Roosting Feature
RAMs	Reasonable Avoidance Measures
SAC	Special Area of Conservation
SBAP	Suffolk Biodiversity Action Plan
SBIS	Suffolk Biodiversity Information Service
SPA	Special Protection Area
SSSI	Special Site of Scientific Interest
TAF	Temporary amphibian fencing
WCA	Wildlife and Countryside Act 1981 (as amended)
UKBAP	United Kingdom's Biodiversity Action Plan

Table 8: Abbreviations of bat species		
Abbreviations	Common name	Latin name
BARB	Barbastelle (bat)	<i>Bardastella bardastellus</i>
BLE	Brown long-eared (bat)	<i>Plecotus auritus</i>
CPIP	Common Pipistrelle bat	<i>Pipistrellus pipistrellus</i>
DAUB	Daubenton's bat	<i>Myotis daubentonii</i>
LEI	Lesser noctule / Leisler's bat	<i>Nyctalus leisleri</i>
NATT	Natterer's bat	<i>Myotis nattereri</i>
NOC	Common noctule	<i>Nyctalus noctule</i>
NPIP	Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>
SERO	Serotine (bat)	<i>E. presicus serotinus</i>
SPIP	Soprano pipistrelle (bat)	<i>Pipistrellus pygmaeus</i>

10.7. Appendix IX: Enhancement examples designs

Table 9: Enhancement Examples.	
	
Photo 1 : Woodstone Seville Box 28-32mm Hole.	Photo 2: Woodstone multichambered bat box
	
Photo 3: Eco-Kent bat box	Photo 4 : Bat rocket box.