

Preliminary Ecological Appraisal (PEA)

1-4 Church Close

Church Lane

Sproughton

IP8 3BD

Report on behalf of

Nicholas Jacob Architects

January 2023



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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 Ben Shove to carry out a Preliminary Ecological Appraisal (PEA), for a proposed application for the conversion of a northern outbuilding, demolition of a western outbuilding, erection of a new dwelling and the subdivision, alteration and extension of the existing dwelling at 1-4 Church Close, Sproughton, Ipswich. IP8 3BD (central grid reference TM 1245 4501, hereby referred to as the Site).

The site is approximately 0.5ha (4,800 sq metres) in extent, comprising of an existing house (Church Close, currently divided into four flats, not currently in use), two outbuildings to the north and west, a garden and driveway, bordering a road along two sides and residential housing along the remaining two. The existing house is a Grade II listed former rectory currently subdivided into four dwelling units (1-4).

A preliminary ecological appraisal was carried out on the 5th January 2023 by Duncan Sweeting and Gemma Kitchin of DCS Ecology Ltd.

1.2 Results

The desk study found eight country wildlife sites and records of the following protected species / species groups within 2km of the site:

- Bats (seven species)
- Birds (including 55 species of conservation concern (see appendix IV))
- Reptiles (slowworms, common lizards and grass snakes)
- Amphibians (including great crested newts)
- Hedgehogs
- Badgers
- Other mammals- European water voles, Eurasian water shrews and otters
- Several protected plants and invertebrates of conservation concern

The habitats recorded onsite included buildings (dwelling and outbuildings), hardstanding (gravel driveway), cultivated planting, amenity grassland, small orchard (of immature fruit trees), unmowed improved grassland, trees (both mature and newly planted) and shrubs.

The habitats listed above, and features recorded within the site provide potential habitat for bats, breeding birds, great crested newts, and reptiles, although it is highly unlikely that reptiles and great crested newts would be present because of its isolation from other suitable habitats.

No trees onsite possessed potential roost features (PRFs), although, several had Tree Protection Orders (TPOs, see flora, section 5). Buildings were assessed as being of negligible potential (greenhouse), low potential (western and northern outbuildings) and high potential (Church Close house).

Key recommendations include the following:

- **A minimum of one emergence/ return to roost bat activity surveys** on the northern and western outbuildings (low roost potential). If the roof space of Church Close House is to be impacted by works, such as the removal of building materials during a building extension, then a minimum of three bat activity surveys on Church Close House (which has high roost potential). In order to assess whether an EPS mitigation licence will be required by Natural England.
- **Sensitive lighting measures for bats.**
- **Tree Root Protection Areas (RPAs)** must be established around mature trees to prevent damage to root networks.
- **All trees over 8cm in diameter to be felled must have a tree felling licence** granted by Mid-Suffolk Council, unless 15 cubic metres (m³) in total is removed. Saplings should be transplanted to a suitable location onsite if feasible.
- **Covering of excavations and/or provision of exit ramps** 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 (dense scrub) is carried out outside the breeding bird season (which runs from March to September) or following a nesting bird survey by a suitably experienced ecologist.
- Any potential great crested newt hibernation sites (such as leaf piles or log piles) should be removed outside of the hibernation period (November-March) or under the supervision of a suitably experienced ecologist.
- Recommendations for precautionary working methods in the form of **Risk Avoidance Measures (RAMs) Method Statement should be followed**, particularly during clearance of any trees, rubble piles, potential hibernacula, or vegetation, to prevent possible harm to hibernating/sheltering hedgehogs, and during the demolition / stripping of buildings to prevent harm to bats.

2. Background to Commission

DCS Ecology Ltd was commissioned by Ben Shove to carry out a Preliminary Ecological Appraisal (PEA), at 1-4 Church Close, Sproughton, Ipswich. IP8 3BD (central grid reference TM 1245 4501, hereby referred to as the Site). Proposals entail the conversion of the northernmost curtilage listed outbuilding, the creation of a new dwelling within the grounds to the south, and the change of use of the existing Grade II listed house from four residential flats to two dwellings. This was proposed in order to make the property commercially viable for the owners.

1.1 Aims of Study

This report provides an ecological appraisal 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.

1.2 Site Description

The site is located within Sproughton, a medium-sized village located approximately 4.0km west of Ipswich town centre, Suffolk (grid reference TM 1245 4501, see figure 1). The site area is approximately 0.5ha (4,800 sq metres) in extent, comprising of an existing house (Church Close), outbuildings and garden area. Church Close was a Grade II listed former rectory originally built late 15th century with amendments and extensions over the centuries (Historic England, 1988), subdivided into four flats. It was no longer in use at the time of the survey. Ten other listed buildings were present within 200m of the site, including a Grade II* listed church across the road bordering the east of site. The outbuildings are an old barn to the north of site and a greenhouse to the west, the former present since before 1881 and the latter a mix of pre-1881 and 1881-1902 (NJ Architects, 2022). The grounds comprised of hardstanding (gravel driveway), cultivated planting, amenity grassland, small orchard (with immature fruit tree), unmowed improved grassland (until recently was further amenity grassland), trees (both mature and newly planted) and shrubs. Three beeches near the front driveway and two sycamores with one beech on the south-east corner of site have tree-preservation orders

Immediately bordering site to the north and east were public pavements and roads (Church Lane and Low Street), beyond which were several listed buildings, a church, and the River Gipping 85m east. The River Gipping provides good foraging opportunities for a number of terrestrial and semi-terrestrial animals, such as bats (attracted to water sources by emerging insects) and grass snakes (which predate amphibians). A row of mature trees between site and the River Gipping created potential commuting opportunities for bats (that rely on linear features to navigate) between site and potential foraging locations.

Two ponds were highlighted within a 500m search radius using MAGIC, further details of which can be found in section 5. A map of ponds within a 500m radius can be found in appendix III.

To the south and west was 1960s housing estate that made up the majority of Sproughton Village, which extended several hundred metres before reaching the village outskirts.

The wider areas contained predominately arable fields with scattered pockets of deciduous woodland. These arable fields extend throughout much of the wider landscape, some of which were delineated with hedgerows and trees, offering low-moderate connectivity to surrounding habitats, particularly for bats. The A14 dual carriageway, approx. 500m east of site acted as a significant barrier to a number of less mobile species, such as hedgehogs, great crested newts, and reptiles, and interrupted linear features leading eastward.

The majority of priority habitats found locally are situated close to the River Gipping, including semi-improved grassland (including lowland meadows in the church yard adjacent to site, see CWS citations in section 4), floodplain grazing marsh and an area of ancient woodland (Hazel Wood) was ~670m north-east of site. Approximately 750m west of site was a lake surrounded by deciduous woodland. The Site is within the Gipping Valley Special Landscape Area.

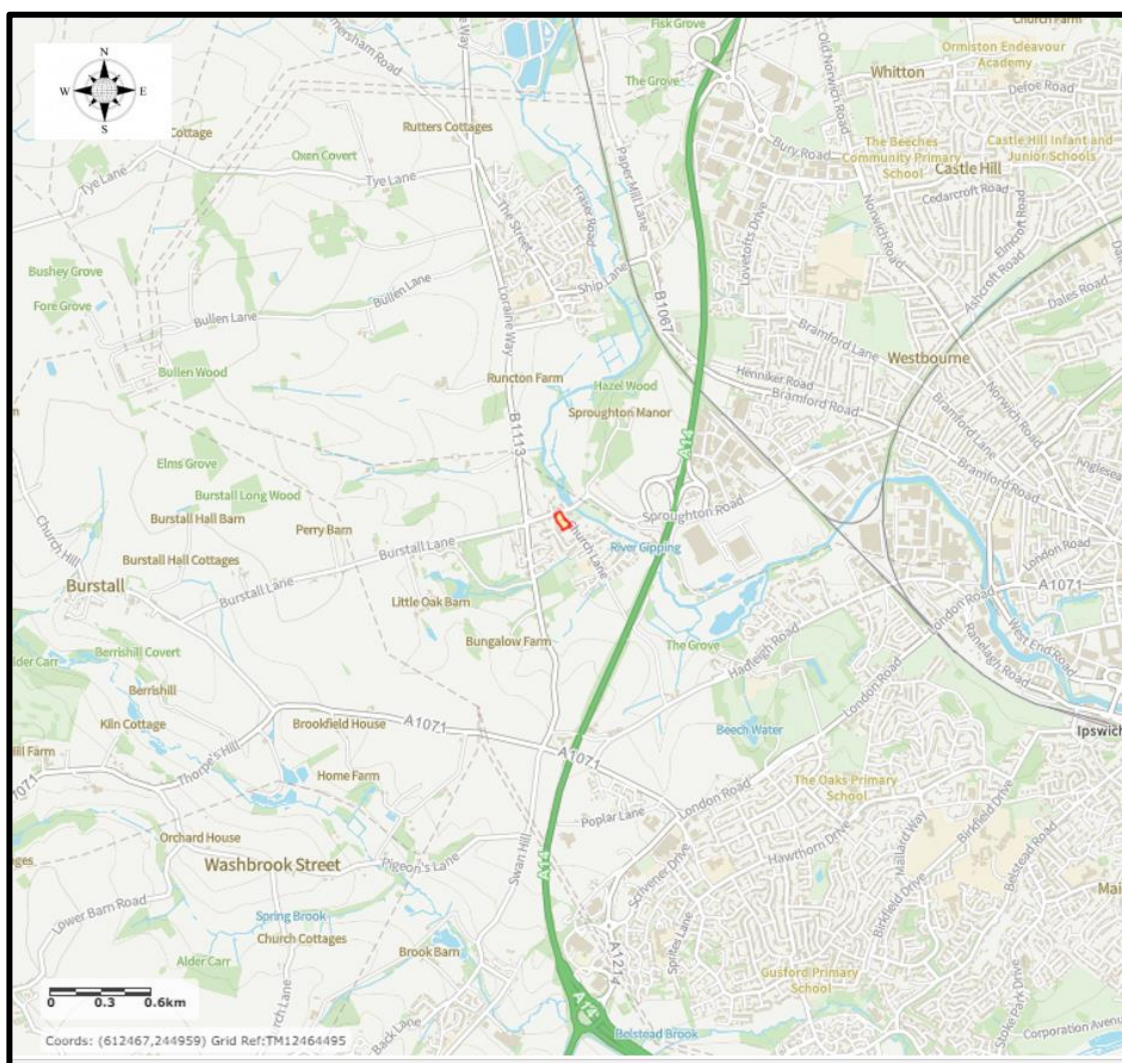


Figure 1. Site location (outlined in red). Based upon Ordnance Survey (c) Crown Copyright under licence 100064616

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

3. Methods

3.1 *Desk Study*

Data obtained from the Suffolk Biodiversity Information Service (SBIS) were used to conduct a 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 were received on the 09th January 2023.

A 7km radius search for European Designated Sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsars was undertaken using MAGIC (<http://www.natureonthemap.naturalengland.org.uk/>).

3.2 *Field Survey*

A Preliminary Ecological Appraisal was carried out by Duncan Sweeting LCG (Natural England Great Crested Newt Class Survey Licence WML-CL08; Natural England Bat Class Survey Licence WML-CL18) and Gemma Kitchin BSc (Hons) on the 05th January 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 were overcast (100% cloud cover), a gentle breeze (Beaufort Scale 3), and a temperature of 10°C, 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 early January, which created seasonal constraints for surveying floral species, as many plant species did not possess key identifying anatomical features found during the spring and summer months (leaves, flowers, fruit etc.). However, as priority habitats were not identified onsite, and vegetation onsite was minimal, this was not considered a significant constraint to the survey.

The mid-section of the northern outbuilding interior and the main house interior could not be accessed during the survey, which was considered to be a minor survey limitation. Both buildings were viewed externally from all angles. However, the majority of rooms on the

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; Birds Directive 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.

northern building could be surveyed, and Church Close House was assessed as being of high potential, meaning that unless a confirmed sighting was made, the roost potential was unlikely to remain high and it would not impact recommendations given.

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. The species scoped out were water voles and otters (although findings from the desk study are provided as additional information).

Maps illustrating the following data are included in Appendix III.

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 for designated sites produced the following results:

European conservation sites (AONB, SACs, SPAs, SSSIs or Ramsar sites) within a 10 km radius of the Site:

AONB sites:

- Suffolk Coast and Heaths AONB. Habitats include ancient woodland, commercial forestry, the estuaries of the Alde, Blyth, Deben, Orwell and Stour rivers, farmland, salt marsh, heathland, mudflats, reed beds (including Westwood Marshes, the UK’s largest reedbed), small towns and villages, shingle beaches and low eroding cliffs along 60 miles of coastline.

SAC sites:

- There were no SAC sites within a 10 km radius of the Site.

Ramsar sites:

- Stour and Orwell Estuaries (see SSSI description).

SPAs:

- Stour and Orwell Estuaries (see SSSI description).

SSSIs: 12

- Great Blakenham Pit (2.08 ha): This pit exposes a sequence of Pleistocene sediments and soils, making it a key site for Pleistocene studies.
- Little Blakenham Pit (4.3 ha): This pit consists of former chalk workings which support one of the few examples of chalk grassland flora in East Suffolk. The locally rare greater broomrape (*Orobancha rapum-ganistae*). In addition, a tunnel 127 m in length radiates out from one pit which contains two disused lime-kilns. This tunnel contains one of the largest underground roosts for hibernating bats known in Great Britain, with roosts often totalling 450 or more individuals.
- Hintlesham Woods (116.8 ha): These woods are one of the largest remaining areas of ancient coppice-with-standards woodland in Suffolk, with records showing that they have been in existence since at least the 12th century.
- Elmsett Park Wood (8.5 ha): This small ancient wood is one of the richest small woods in Suffolk, with a range of woodland types and an equally diverse ground flora.
- Middle Wood, Offton (23.2 ha): This complete medieval wood has eastern and western extensions of ancient secondary woodland. Both are known to have occurred before 1840; the eastern extension was first recorded in 1628. The varying chalk content of the clay is reflected in the diverse ground flora, including bluebells, early purple orchids (*Orchis mascula*), common twayblade (*Listera ovata*), butterfly orchid (*Plantanthera chlorantha*), and the locally rare grass wood barley (*Horaelymus europaeus*).
- Barking Woods (98.7 ha): This wood is comprised of several ancient woodlands, including Bonny Wood, which have been documented since 1251. Trees within this wood include the rare wild pear (*Pyrus communis pyraeaster*). The flora is diverse and includes herb paris (*Paris quadrifolia*) and the early purple orchid.
- Freston and Cutter's Wood with Holborn Park (141.9ha). These woods together comprise one of the largest areas of ancient woodland in Suffolk. They contain a variety of woodland types typical of light, sandy soil and spring-fed valleys. There is a long history of management which includes the creation of a deer park. The coppice stools in Holbrook Park are amongst the largest recorded in Britain with many stools exceeding 3m in diameter. The woods support a distinctive ground vegetation and are among the best Bluebell Hyacinthoides non-scriptus woods in Suffolk.
- Bixley Heath, Ipswich (5.1ha) Bixley Heath is important for its heathland which occurs here in association with a scarce swamp vegetation. The presence of these two habitat types within a single site is a particularly rare feature in the Suffolk Sandlings which have been

greatly fragmented and reduced in area during recent decades. Higher land consists of glaciofluvial drift occupied by dry heartland, characteristically dominated by Heather *Calluna vulgaris*. Areas of scrub, swamp vegetation and reed bed dominated by Common Reed *Phragmites australis* occupy the lower end of site.

- Sandy Lane Pit, Barham (11.1 ha): This site has deposits which span the period from the Beestonian Stage to the Cromerian Stage and the Anglian Stage. It is an important site of Geological Conservation.
- Stoke Tunnel, Cutting (2.2 ha): This fossiliferous site dates to the late Marine Isotope Stage 7; it is part of a high-level terrace of the River Orwell, and has numerous large prehistoric mammal remains, including the woolly rhinoceros (*Coelodonta antiquitatis*) and mammoths (*Mammuthus spp.*) as well as European pond turtles (*Emys orbicularis*).
- Bobbitshole, Belstead (1.8 ha): This site is the type locality for the Ipswichian Interglacial, where organic lacustrine deposits provided a continuous record of sedimentation, vegetational history, and non-marine mollusca - a nationally important Pleistocene reference site.
- Orwell Estuary (1335.7 ha): The Orwell Estuary stretches along the River Orwell and its banks between Felixstowe and Ipswich. It is part of the Stour and Orwell Estuaries Ramsar Site and SPA and is an internationally important wetland site under the European Union Directive on the Conservation of Wild Birds. It is also in the Suffolk Coasts and Heaths AONB. It is of national importance for breeding avocets (*Recurvirostra avosetta*).

There are eight County Wildlife Sites Citations, no NNRs and one LNR within 2km of the Site. These are:

HAZEL WOOD, SPROUGHTON. CWS number Babergh 120. 6.62 ha

Primary reason for designation: ancient woodland habitat

Further information:

- Situated on the outskirts of Ipswich is bordered along its north western boundary by the River Gipping, in the north eastern corner by the railway line and in the south by the gardens of Sproughton Manor.
- Mature pollards and some areas of old **hornbeam** coppice are present, which are also indicative of ancient woodlands.
- Plantation of beech and sycamore situated in the northern section. Hornbeam and **hazel** coppice with mature **Turkey oak** standards scattered throughout the southern section.
- Dead wood, a valuable **habitat for invertebrates and birds**, is present in reasonable quantities in the form of diseased standing **elm** trees. Although dominated by **dog's mercury**, the ground flora also contains patches of **bluebell, moschatel and violets**.
- Several depressions, thought to be the remains of chalk pits, are present in the wood.

SPROUGHTON CHURCHYARD, SPROUGHTON. CWS number Babergh 152 0.47 ha

Primary reason for designation: Priority lowland meadow habitat, supporting a variety of wildflowers

This CWS is immediately adjacent to site to the east.

Further information:

- Sproughton churchyard is a good example of biodiversity priority lowland meadow habitat. This unimproved grassland supports a rich variety of wildflowers.
- Of particular interest is the large population of **meadow saxifrage** which covers much of the churchyard forming an attractive display in May. Over 2000 individual plants were counted in May 2017. Meadow saxifrage is now considered as occasional in Suffolk.
- The flora also includes **lady's bedstraw, ox-eye daisy, primrose, pepper saxifrage and clary sage**.
Specific areas of the churchyard are managed by an annual 'hay' cut to maintain the herb-rich flora.

SPROUGHTON PARK, SPROUGHTON. CWS number Babergh 170. 9.58 ha.

Primary reason for designation: Habitats including grassland fields and alder carr, dense scrub and hedgerows that support a number of protected species.

Further information:

- This is an extensive patchwork of **grassland fields, alder carr, dense scrub and hedgerows** along the valley side of the Belstead Brook.
- Some of the wet grassland fields contain springs emerging from where Red Crag meets impermeable London Clay on the valley side. This gives rise to calcareous seepage zones in the fields and flowing freshwater ditches to the brook. The springs also feed a number of ponds on the site. This junction between Red Crag and London Clay is of limited extent in the country and is particularly characteristic of the shallow river valleys of the southern Suffolk Sandlings.
- The ditches and ponds are important for **water vole and water shrew** (Biodiversity Priority species) and associated wetland wildlife including **amphibians and dragonflies**. Although semi-improved, the wet grassland retains a number of species of interest and indicative of impeded drainage including **ragged robin, cuckoo flower** and a large stand of **brown sedge**. The rough structure of much of the grassland makes ideal habitat for small mammals and therefore good hunting habitat for the **Barn Owl** (biodiversity priority species). **Badgers** (a protected species) are also known to occur on site and use the grassland for hunting. The mosaic of grassland and hedges is also ideal feeding habitat for **bats**. Alder Carr is a biodiversity priority habitat (**Wet Woodland**) and known to be of great importance for invertebrates.
- **Otter** (biodiversity priority species) has been seen on the Belstead Brook and the woodland provides ideal lying up habitat for this species, as well as overhanging perches for **Kingfisher** hunting along the river.
- The site includes a network of native hedgerows and a number of veteran trees.
- In combination with the other habitat on site, these hedges are ideal habitat for a wide range of birds. This is reflected in the species recorded for the site, which includes several farmland bird biodiversity priority species: **yellow hammer, linnet, bullfinch, starling, house sparrow, reed bunting, song thrush and turtle dove**.
- Drier grassland to the north of the site supports a good population of **bee orchids** including a number of the white form of this species. Also of note is the **grass vetchling** found in this field. This species is more usually associated with coastal situations and is rarely found inland.

BURSTALL LONG WOOD, BURSTALL. CWS number Babergh 32. 3.82 ha

Primary reason for designation: ancient woodland habitat

Further information:

- Burstall Long Wood is one of a group of **ancient woodlands** listed on English Nature's Inventory of Ancient Woodland, situated amidst arable fields to the west of Ipswich. It is enclosed on three sides by a ditch and bank; a characteristic feature of ancient woodlands. The district boundary runs through the northern section of the wood and a public footpath adjoins the southern boundary.
- The tree canopy of the wood consists of **ash** and **field maple** coppice with mature **oak** standards, beneath which is a layer of **hazel coppice, elder, hawthorn and blackthorn**. Areas of dead and diseased elm and aspen provide a source of decaying timber for invertebrates and hole-nesting birds. The ground flora, although dominated by **dog's mercury**, also supports many other woodland plants including some which are scarce and restricted to ancient woodlands, for example **wood spurge and spurge laurel**.
- Another strong indicator of ancient woodland and a scarce plant in Suffolk, the wild service-tree is also present in Burstall Long Wood. Patches of **bluebells, primroses and early purple orchids** are scattered throughout and provide a wonderful display of colour in the spring. The wood contains a **pheasant** feeder and is used extensively for the rearing of game birds.

RIVER GIPPING, IPSWICH. CWS number 14. 4.61ha

Primary reason for designation: Good quality riparian woodland habitat

Further information:

- This is the designated section of the River Gipping which runs from the railway line bridge at Boss Hall to Yarmouth Road and includes the eastern divergence of the river to Portman Walk. Forming part of the River Gipping corridor, this site has **good connectivity to other species-rich sites** including Alderman Canal and River Orwell, contributing to the overall ecological network of Ipswich. This section of river and its riparian margins provides good structural diversity and habitat opportunities for a wide range of species.
- A diverse flora is present on the river banks with typical species including **comfrey, great willowherb, burdock, green alkanet, water forget-me-not, lesser water-parsnip, flowering rush, water lily, purple-loosestrife, yellow iris and common reed**. **Dittander** and soft **hornwort**, both nationally scarce, have been recorded here. The structure and range of wildflower species provides valuable **habitat for invertebrates such as butterflies and bumblebees**, whilst species including **dragonflies and damselflies** will use the emergent vegetation. The small areas of **bramble** scrub and scattered trees along the riverbank add to the diversity of the site and complement the river habitat, providing opportunities for a range of birds including species listed as Birds of Conservation Concern such as **reed bunting** (amber list) and **herring gull** (red list).
- The site is suitable for **slow worm** and **grass snake** which have both been recorded locally. The dense vegetation provides excellent cover for mammals such as **mice, voles and shrews**. **Bats and water vole** (a nationally declining mammal) have also been recorded here.

CHANTRY PARK, BEECH WATER & MEADOW, IPSWICH. CWS 7. 47.12ha

Primary reason for designation: High quality habitat mosaic of parkland and woodland

Further information:

- Chantry Park, which is located on the western fringe of Ipswich, is not only an important landscape and amenity area but also a valuable site for wildlife due to its large size and high quality habitat mosaic. Large areas are kept short-mown whilst others are left long. Surveys (2013) recorded a good bird assemblage across the park including Priority species **duncock, starling, song thrush and lesser redpoll**. The park provides high quality habitat for **hedgehog, stag beetle** and bats (including **brown long-eared, common pipistrelle and noctule**), all Priority species. A good range of invertebrates have been recorded here including the **ashy furrow bee** (an endangered species and recorded at only a very small number of sites in Suffolk) and the Nationally notable **red tree ant**. The western section of the park includes an area of historic parkland with **primarily rough, neutral grassland** that is notable for a large population of **pignut**, a species scarce in much of Suffolk due to the lack of old pastures and woodland. This area includes large numbers of

mature and **veteran English oak** trees. The grassland soils exhibit some variation, with small patches of dry and free-draining soils containing typical species such as sheep's sorrel and some wetter areas to the south-west of the site, containing species including **meadowsweet and hoary willowherb**.

- The large fishing lake in the western end of the park, with reed-fringed margins and wetland plants such as **gypsywort, water mint and marsh thistle**, provides habitat opportunities for water birds and aquatic invertebrates. Mature mixed woodland separates this semi-natural part of the park from the remainder to the east. The western boundary represents the Borough boundary and this diverse, unmanaged band of trees and scrub is associated with the line of an **ancient, species-rich hedgerow** (Priority habitat).
- A reptile survey (2011) indicated that an exceptional population of **grass snake** is present. In 2014 approximately **1300 slow worms and common lizards** were translocated to the western section of the park from a development site in eastern Ipswich.
The CWS boundary was extended in 2014 to include most of the Park.

BRAMFORD MEADOWS LNR AND CWS, BRAMFORD. CWS Number Mid Suffolk 141. 9.04 ha

Primary reason for designation: floodplain grazing marsh (Priority habitat) and wet meadows
Further information:

- Bramford Meadows are a good example of floodplain grazing marsh (Priority habitat) and comprise a series of low-lying wet meadows in the valley of the River Gipping, crossed and bounded by a network of ditches, typical of grazing marsh. The site also includes an area of **wet woodland** (Priority habitat) and scattered blocks of ditch and riverside scrub. The high water quality of the ditches means that they are important for a diverse aquatic and emergent flora including **flowering-rush** (scarce in Suffolk and restricted to the fringes of clean watercourses), **water-plantain and purple loosestrife**. This is also key habitat for Priority mammals including **water vole, otter and bats**, particularly **Daubenton's**. A detailed invertebrate survey of the meadows carried out in 1993 showed that the site is also of considerable importance for its invertebrates, with seven species of Orthoptera (**grasshoppers and crickets**) recorded. The long vegetation and bare mud along ditch edges were found to be of particular importance for this group with significant populations of two **bush cricket** species recorded that are considered to be scarce in Suffolk. Fourteen species of **butterfly** have also been recorded here.
The habitat mosaic on the meadows supports a range of birds including Priority species barn owl, reed bunting and song thrush. The site also supports **grass snake, slow-worm and common lizard**.

MILLERS WOOD, BRAMFORD. Mid-Suffolk 31. 7.97 ha.

Primary reason for designation: ancient woodland habitat

Further information:

- This long, sinuous shaped woodland is one of several ancient woods situated in the parish of Bramford and listed in English Nature's Inventory of Ancient Woodland. The entire wood is enclosed by a woodbank, parts of which are probably medieval in origin.
- In addition, there are a number of internal ditches which divide the wood into compartments. The medieval parts of the wood which are considered to be the northern and southern sections are surrounded in places by a double woodbank. The northern section of the wood, as is typical of ancient woodlands, consists of **hazel and field maple** coppice with **oak** standards forming the tree layer. Further south, coppiced **horse chestnut** and **sweet chestnut** are abundant.
- In contrast the remainder of the wood is a recent plantation consisting mainly of **sycamore** with some **beech**. The ground flora is reasonably varied and a total of fifty-two woodland plants have been recorded. Sanicle, violet, wood spurge and hairy **St John's-wort** are amongst the more uncommon plants on the species list. Of particular botanical interest and a strong indicator of ancient woods is the presence of a **wild service-tree** on the north western boundary. Some management work including coppicing and planting has taken place recently. Rearing of **game birds** is extensive throughout the wood.

4.3 MAGIC Map Data (7km radius)

Case reference of granted application	Species group to which licence relates	Damage/ destruction of breeding site	Damage/ destruction of a resting place	Grid Ref	Nearest Location
<i>EPSM2012-4026</i>	<i>C-PIP; SPIP; NATT; BLE</i>	<i>N</i>	<i>Y</i>	<i>TM14114491</i>	<i>Ipswich</i>
<i>2016-24231-EPS-MIT</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM09494611</i>	<i>Burstallhill</i>
<i>EPSM2009-1418</i>	<i>Great Crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM10985010</i>	<i>Blakenham claypit</i>
<i>2016-24231-EPS-MIT-1</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM09494611</i>	<i>Burstallhill</i>
<i>2017-31271-EPS-MIT-1</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM11894939</i>	<i>Gt Blakenham</i>
<i>2016-26782-EPS-MIT</i>	<i>C-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM05884710</i>	<i>Church Farm</i>
<i>2016-26782-EPS-MIT-1</i>	<i>C-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM05884710</i>	<i>Church Farm</i>
<i>2018-33609-EPS-MIT</i>	<i>C-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM17484240</i>	<i>Ipswich</i>
<i>2018-34459-EPS-MIT</i>	<i>C-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM15694389</i>	<i>Ipswich</i>
<i>2018-37839-EPS-MIT</i>	<i>C-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM16414492</i>	<i>Ipswich</i>
<i>2016-24231-EPS-MIT-3</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM09494611</i>	<i>Burstallhill</i>
<i>2016-24231-EPS-MIT-4</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM09494611</i>	<i>Burstallhill</i>
<i>2019-38884-EPS-MIT</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM15894791</i>	<i>Henley</i>
<i>2016-24231-EPS-MIT-5</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM09494611</i>	<i>Burstallhill</i>
<i>2020-45191-EPS-MIT</i>	<i>Great crested newt</i>	<i>Y</i>	<i>Y</i>	<i>TM11894939</i>	<i>Gt Blakenham</i>
<i>2014-140-EPS-MIT</i>	<i>C-PIP S-PIP</i>	<i>N</i>	<i>Y</i>	<i>TM17494340</i>	<i>Ipswich</i>
<i>2014-4374-EPS-MIT</i>	<i>BLE</i>	<i>N</i>	<i>Y</i>	<i>TM08594192</i>	<i>Chattisham</i>
<i>EPSM2012-5184</i>	<i>C-PIP; BLE</i>	<i>N</i>	<i>Y</i>	<i>TM10794021</i>	<i>Folly Lane</i>
<i>EPSM2012-4573</i>	<i>C-PIP; BLE</i>	<i>N</i>	<i>Y</i>	<i>TM15814821</i>	<i>Thurleston Lane</i>
<i>2016-25383-EPS-MIT</i>	<i>Great crested newt</i>	<i>N</i>	<i>Y</i>	<i>TM16694741</i>	<i>Westerfield</i>

The MAGIC data search returned 10 records of past and current EPS licences for bats within a 7km radius, including common pipistrelle, soprano pipistrelle, brown long-eared and Natterer's. The nearest record to site was ~1.6km east of Site at grid ref. TM14114491 (EPSM2012-4026, a common pipistrelle, soprano pipistrelle, Natterer's and brown long-eared resting place)

There were 10 GCN EPS licence records across 5 locations, 79 GCN class licence returns and 2 pond survey records within a 7km radius of the Site. Five of the records were located at Fox Grove woodland near Burstallhill, ~3.5km north-west and was the closest group of records to site.

4.4 **Field Survey Results**

The Site consisted of an existing building (Church Close, a Grade II listed former rectory) in the centre of site, with outbuildings to the north and west, and a front and back garden area. More details of building specifications and target notes can be found in Appendix I.

The front garden (northern half of site) was hardstanding (gravel driveway) encircling three mature beech trees with TPOs and amenity grassland, a small orchard with of 6-8 sapling trees (*Prunus* spp.) and the northern outbuilding (barn). A large pile of debris including black plastic lining, wooden panels, ladders, a refrigerator, scaffolding tubes, wooden floor boards and stacks of pan tiles were present in this section. Beech tree leaves had begun to accumulate in drifts on the debris pile, and had created suitable sheltering habitat for several species, including hedgehogs, amphibian species and invertebrate species, the latter of which can provide a staple food source for birds.

The rear garden (southern half of site) contained both clusters of mature trees along the border (including yew, sycamore, beech and cypress) and several saplings spread across the lawn, which was unmowed and had become rough grassland (although satellite imagery from google maps and historical photos of site indicate that the rear garden was managed until 2021 or early 2022). A group of trees (2x sycamore and 1x beech) on the eastern boundary had been assigned TPOs. Shrubs and cultivated plants were present, such as holly, buddleia, immature rowan and dogwood.

An old garden allotment, outbuilding and disused greenhouse were present to the west of Church Close building. No ponds or other bodies of water were present onsite. The site was enclosed by red brick stone wall on the northern outbuilding, flintstone walls to the north-east, wooden panel fencing with gravel board/ baseboard to south east and south and north-west and beech hedgerow along the south-west border.

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

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 Viper's grass (*Scorzonera humilis*) which is listed as 'Vulnerable' on the England Red List, and Bluebell (*Hyacinthoides non-scripta*), which is listed on Schedule 8 of the Wildlife and Countryside Act (1981 (as amended)). Several other orchid species were highlighted within the search, including pyramidal orchid (*Anacamptis pyramidalis*), and bee orchid (*Ophrys apifera*).

No uncommon, rare, or protected plant species were recorded during the survey. The nearest notable tree was a common oak located approx. 450m west of site, while the closest ancient or veteran tree was approx. 600m west of site, both along Burstall Lane.

Six TPOs assigned in two groups (3x beech trees to the north and 2x sycamore with 1x beech to the south east) were present onsite.

Immediately east of site is Sproughton Churchyard CWS, that is designated due to the presence of priority lowland meadow habitat that supports a variety of wildflower species. None of the species recorded are threatened on the England Red List, but several categorised as near threatened, such as Hoary Plantain (*Plantago media*), Wild Clary (*Salvia verbenaca*) and English Stonecrop (*Sedum anglicum*). Habitats onsite are or have until recently been heavily managed, and it is unlikely that populations of these species would have spread to site.

Flora recorded onsite include several mature trees (such as beech, sycamore and yew), ornamental plants (such as buddleia, dog wood and lavender), shrubs and saplings (such as rowan (mountain ash), hazel, black thorn, and holly), hedgerow (beech) and a small orchard (*Prunus* spp.). The mature yew tree along the eastern boundary of site was likely planted while Church Close was an active rectory, at least several decades ago, due to the size and as yew trees are traditionally placed in churchyards and places of worship, including rectories. A full list of plant species identified during the survey can be found in Appendix II.

Badgers

The site was visually searched for evidence of the presence of badgers (*Meles meles*), including setts, footprints, latrines, and snuffle marks. Habitats within site included small areas of grassland (potential foraging habitat), and further area of mixed woodland and open grassland were present within 250m of site. The is extensive suitable for badgers to be found along the wider area, particularly along habitats bordering the River Gipping, but, the size of the habitat onsite was small, and no signs of badgers (snuffle holes, scratch marks, latrines, setts etc.) were found to suggest badgers use habitats within the site boundary.

34 records of badgers were within a 2km radius were returned within the desk study, the nearest record being 900m north-east along floodplains on the River Gipping.

Bats

The Site comprised of Church Close House, two outbuildings, a greenhouse, and a mixture of managed (to north) and unmanaged (to south) garden habitats. The construction and overall description of habitats can be seen in the target notes table in Appendix I.

Where access was possible, the buildings 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 were noted and are discussed in Appendix I.

The buildings were assessed as:

- **CHURCH CLOSE HOUSE:** High potential, due to multiple PRFs and access points such as lifted and misshapen pig tiles, lifted ridge tiles, holes in soffit boarding.
- **NORTHERN OUTBUILDING:** Low potential, due to multiple openings, lifted ridge tiles and bat droppings, but poor internal atmospheric conditions and lack of potential roost features, such as crevices in timber beams, loose building material, or inter-space cavities.
- **WESTERN OUTBUILDING:** Low potential. No signs of bats, but some PRFs such as gaps under ridge tiles where mortar had broken away were present.
- **GREENHOUSE:** low potential, as it was over exposed to light ingress and lacked PRFs.

Habitats on the site grounds, such as mature trees and rough grassland, provided good foraging opportunities for bats, although these habitats were small and the area to be lost (<0.2ha) create only a negligible negative impact to local bat populations. No potential roost features were observed on trees onsite.

Linear features including a mature tree line leading east provide commuting bats. Habitats in the surrounding area including parkland, ancient woodland, rivers, grazing marsh and gardens and grassland were suitable for foraging and roosting bats. The River Gipping in particular provided drinking opportunities and the high density of emergent insects would provide excellent foraging opportunities for bats.

The data search returned 46 records of bat species within 2km of the Site. These included three of serotines (*Eptesicus serotinus*), one Myotis spp., nine noctules (*Nyctalus noctula*), twenty-one records of pipistrelles (*Pipistrellus* spp.), twelve of which were specified as Common Pipistrelle (*Pipistrellus pipistrellus*), and eight as Soprano Pipistrelle (*Pipistrellus*

pygmaeus), and four Brown long-eared (*Plecotus auritus*) bats within 2km of the site. The majority of these were along the river Gipping, with several soprano pipistrelle, common pipistrelle, and Daubenton's recorded within 100m north-east of site at Sproughton Mill.

Dormice

Ancient woodland was present within 1km of site, and the preferred food source of dormice, hazels, was present onsite. However, all ancient woodland was on the far side of the River Gipping and the site was isolated from other suitable woodland by roads, cultivated gardens and housing, and the amount of hazel onsite was minimal. Additionally, all areas of woodland within a 7km radius were isolated and less than 20ha in size, which makes the surrounding habitat unlikely to be able to support a viable population of dormice (Bright, 2006).

There were no dormice records were returned in the data search.

Fungi

There were no rare fungi recorded in the search data and no rare fungi was found on site.

Great Crested Newts

Some habitats on the site were suitable to support amphibians, including great crested newts (GCN) (*Triturus cristatus*), during their terrestrial phase. The site had overgrown vegetation, rough (improved neutral) grassland, brash piles, log piles (mostly within northern outbuilding) and debris piles (scaffolding material, pan tiles, plastic lining upon leaf piles), that provided limited foraging and hibernation opportunities. No breeding opportunities were present onsite due to the lack of ponds or other still bodies of water.

However, these habitats were small and the site was isolated from many of the surrounding suitable habitats (such as lowland grazing marsh, deciduous woodland, and woodland/open grassland mosaic habitat, particularly bordering the River Gipping). The site's position between modern residential housing to the west and a flowing river to the east greatly reduced connectivity to more suitable terrestrial habitats and potential breeding ponds. Brick, flintstone, and wooden fencing with base boards created additional barriers for amphibians.

As great crested newts are rarely found more than 500m from a breeding pond, ponds within a 500m radius of site were assessed for their suitability for GCN. There were two potential breeding ponds highlighted within the local area (500m proximity of the Site, see Appendix III) during the desk study, both of which were over 250m of the site boundary. Pond 1, 416m south of site, was a detention basin (stormwater attenuation lagoon) for a residential housing estate on Ladder Field Rd (<10yrs old) that was dry at the time google satellite imagery and street view were taken (March 2022, when water levels are typically high). Pond 2 was 343m south-west of site, with deciduous woodland to the west, residential housing to the north and short cut grass (public land used for sporting event and

recreation) to the east. Both ponds were not assessed in-situ, but as Pond 1 was likely dry for long periods and both were separated from site by over 300m of housing, it was unlikely that proposed development works would impact potential GCN in either pond.

Due to the reasons mentioned above, the site was deemed unlikely to be used by GCN, although small areas of suitable habitat were present that could be used by more mobile amphibians, such as common toads (*Bufo bufo*). that could be used by.

There were two records of GCN returned in the data search, one 1.26km south-east of site (a pond beyond the A14) and a second 1.63km north-west of site (a pond along Bullen Lane). Due to the distance from site and the availability of more suitable terrestrial habitats adjacent to each pond, it is highly unlikely that GCN would use terrestrial habitats close to site.

Hedgehogs

The Site was considered highly suitable for hedgehogs. Firstly, suitable habitats including brash piles, leaf piles and overgrown were present onsite, providing good foraging and sheltering opportunities. Secondly, a hedgehog run was observed under a gate between the allotment and area behind the western outbuilding, indicating frequent use of site by hedgehogs. Thirdly, hedgehogs have been recorded throughout much of the surrounding area, including adjacent to site (see paragraph below) vegetation.

Despite evidence of hedgehogs on and adjacent to site, the habitat loss is predicted to be small (less than 0.2 ha, covering the area encompassed by the new dwelling and cultivated garden area). The unmanaged grassland onsite is a relatively recently created habitat and is unlikely to significantly impact local hedgehog populations.

Although no evidence of hedgehogs was recorded during the survey, they were the most-recorded species in the data search, with 222 records of hedgehogs as recently as 2022. These records were predominantly sighted in urban gardens within Sproughton, Bramford and Ipswich, with most of the remaining records being sighted along roads (likely deceased). The closest record was on Church Lane, immediately adjacent to site. There were no signs of hedgehog (such as droppings, runs, nests, skins and animals) found during the survey.

Reptiles

Small areas of site were suitable for sheltering and hibernating reptiles, particularly more generalist species such as slow worms (*Anguis fragilis*), including rough grassland on the southern portion of site that provide foraging opportunities. Suitable habitat for grass snakes (*Natrix Helvetica*) (that readily predate amphibians) was present by the River Gipping, and parkland with a mosaic of woodland and open habitats provided suitable foraging and basking opportunities for more common reptile species including slow worms and common lizards (*Zootoca vivipara*). However, there was poor connectivity to these habitats, and brick and flintstone walls and wooden fencing with base boards created additional barriers to site. Many areas of site were also overshadowed by mature trees that restricted potential basking

opportunities. The Site, in its current situation would only provide negligible habitat. There was no evidence of reptiles on the site, no droppings, sloughs or reptiles.

Records for 27 slowworms, 16 grass snakes and 3 common lizards were returned by the data search. These were spread throughout the search area, although multiple were located at Chantry Park, 1.6km south-east of site across the A14.

Birds

Habitats of note onsite include mature trees (good nesting opportunities), shrubs (good foraging and nesting opportunities), rough grassland, amenity grassland and leaf piles (the latter three provide foraging opportunities).

Species seen onsite at the time of the survey include greenfinch (*Chloris chloris*), woodpigeon (*Columba palumbus*), carrion crow (*Corvus corone*), blue tit (*Cyanistes caeruleus*), common gull (*Larus canus*) and great tit (*Parus major*). A pigeon/dove nest (Columbidae sp.) was observed in a beech tree close to the northern site entrance (the main driveway).

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

Invertebrates

Rough improved grassland, shrubs, brash piles, log piles (although most were inside outbuildings), standing deadwood, leaf piles and mature trees were suitable for supporting small assemblages of common and rare/protected terrestrial invertebrates, particularly detritivores and xylophagous (wood eating) species such as stag beetle larvae (*Lucanus cervus*). An 'insect hotel' of bamboo cross sections and layers of bark was found that is intended as a refuge for invertebrates, creating additional habitat. However, the total area of the grounds was small (less than 0.4ha) structures themselves were considered sub-optimal.

The desk study highlighted a couple species of invertebrates have been previously recorded within 2km of the Site, such as Bee Wolf (*Philanthus triangulum*), which is listed as 'Vulnerable' on the England Red List, white-letter hair streak (*Satyrion w-album*), Norfolk hawker (*Anaciaeschna isoceles*), Ashy Furrow Bee (*Lasioglossum sexnotatum*) and Ground beetle (*Carabus monilis*), which is listed as 'Endangered' on the Great Britain and/or England Red lists, and 129 records of stag beetles (which is listed under schedule 5 on the Wildlife and Countryside Act (1981 (as amended))).

Other Protected Species

There were 10 records of European otter (*Lutra lutra*) within the search radius, the closest of which was just ~90m east of site at Sproughton Bridge. Six records of water vole (*Arvicola amphibius*), were located at various points along the river Gipping, with the closest less than 600m from site. Despite the records of otters and water voles, and suitable riparian habitat

along the River Gipping being in close proximity to site, the site was in a built up area and bordered by stone and wooden panel walls and roads, including one of the main access roads into the village. Because of this, and the lack of suitable habitat onsite, it was highly unlikely that otters or water voles would be present at any time of the year onsite.

A single record of Eurasian water shrew (*Neomys fodiens*) was found 1.2km north-east of site near the River Gipping. Six records of harvest mice (*Micromys minutus*) were clustered in a field north-west of site, with the nearest record being ~850m away. Habitats onsite are unsuitable for these species.

6. Potential Impacts and 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 assess which types of development proposals could potentially have adverse impacts on SSSIs. 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, Hintlesham Woods SSSI, Bobbit Hole SSSI and Orwell Estuary SSSI, the nearest of which, Hintlesham Woods, was 5km from site. Little Blakenham Pit SSSI, was approx. 4.2km north of site, and Stoke Tunnel SSSI, 3.8km south-east of site, were closer but had narrower buffer zones that did not reach site. An initial assessment using government ArcGIS dataset records concluded that the proposed development is unlikely to pose a risk to either as, due to the distance, the site only falls into the lower-most risk band. At over 4km from any SSSI, the only residential developments that involve the construction of over 50 units, or non-residential developments outside existing settlements/urban areas exceeding 1ha were assessed as having the potential to negatively impact local designated sites, and therefore it is not considered necessary to carry out 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 various alterations the subdivision and alteration removal of portable storage units and the erection of four small commercial units. The conversion of the northern outbuilding and extensions to the main building (Church Close) is not scheduled to include long-term loss of vegetation, although the erection of a new dwelling to the south will remove small areas of grassland, tree saplings and shrubs, and the rough grassland will likely be returned to its original condition (amenity grassland). A full a list of identified plant species recorded onsite can be found in Appendix II.

The latter will result in the loss of existing niches within the site grounds, although lost habitats 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.

As only small amounts of vegetation in non-biodiversity priority habitats was due to be impacted by works, a 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). This will include setting up a root protection area for trees within 15m of any groundworks or heavy machinery. For trees with a single stem, the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter and should be secluded using heras fencing to prevent accidental entry. For trees with multiple stems, then the square root of the combined total of all stem diametres squared should be used. (BS 5837:2012). RPAs should be shielded from works with suitable barriers, such as heras fencing (see Appendix VII).

If feasible, any saplings or small shrubs to be impacted by works should be transplanted to a suitable alternative location onsite in order to reduce the level of vegetation loss and to mitigate any negative impacts to flora.

To mitigate against the loss of habitats lost from the new dwelling to the south of site, enhancement features such as tree planting and the planting of wildflower grassland is recommended.

Current proposals include the removal of several saplings and small trees (none of which were the trees protected by TPOs) for the erection of a new dwelling on the southern end of site. **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. Additionally, all TPOs onsite that are scheduled to be impacted by works (3x beech trees to the north and 2x sycamore with 1x beech to the south east) will require approval by Natural England by the means of a separate planning application.

Protected Species

Badgers

No evidence of badgers were observed during this survey, and the size of the habitat to be lost (less than 0.2 ha) does not justify the need for any further badger surveys.

However, the Site does provide suitable foraging and commuting habitat for badgers, and there are records of badgers within a 2 km radius of the Site. As such, construction works should implement several precautionary measures, including the following:

- **Covering excavations overnight to prevent animals falling in, or the provision of an escape ramp;**
- **Safe storage of materials that may harm animals; and**

- **Security lighting to be set on short timers to avoid disturbing nocturnal animals using the Site and immediate surrounding area.**

Bats

Structures onsite assessed for roost suitability included Church Close House, two outbuildings and a greenhouse. Their construction and overall descriptions can be seen in Appendix I. Signs of bats including droppings were recorded within the northern outbuilding, and multiple suitable roosting features and access points were present on Church Close House, although internal inspection was not possible at this time.

In regards to bats, the survey concluded the following:

Building	Bat Roost potential	Minimum number of bat activity surveys
Church Close House	HIGH	Three (if works are to impact the loft space). If not, no surveys are required
Northern outbuilding	LOW	One
Western outbuilding	LOW	One
Greenhouse	NEGILIBLE	None
Trees	NEGILIBLE / No PRFs	None

As several buildings have bat roost potential, **it is recommended that further bat surveys need be carried out on all buildings excluding the greenhouse suitably experienced ecologists in order to establish whether a Natural England mitigation licence is required.**

In addition, a 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.

Linear features including a mature tree line leading east provide commuting o

Enhancement features, such as bat boxes would increase roosting opportunities for bats within the Site. Exact models and locations should be determined by a suitably experienced ecologist. Enhancement features are not a requirement for planning but rather additional suggestion to any measures necessary to deal with potential impacts on site, and should be explored alongside compensation and mitigation measures to benefit species onsite and support local biodiversity.

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.

A Columbidae (pigeon/dove) nest was recorded in a beech tree near the northern site entrance, and vegetation suitable for nesting and foraging birds was found throughout site.

Any building demolition or dense vegetation clearance should be carried out outside the breeding bird season (which runs from March to September) 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 / demolishing the outbuildings should be done under a Risk Avoidance Measures (RAMs) Method Statement and under the supervision of a suitability experienced ecologist clerk of works.

Enhancement features, including nest-boxes or shrub planting, could be incorporated into designs to provide nesting and foraging habitats. Further enhancements, such as providing deadwood, or compost areas, will provide foraging opportunities for a range of bird species.

Great Crested Newts

Suitable terrestrial habitat was present onsite, although roads, closely-fitting boundary fencing and flintstone walls limited access to other nearby terrestrial habitats. Two distant records of great crested newts (GCN) were returned in the data search, both of which were over 250m away with poor connectivity to site (and pond 1 was a detention basin dry the majority of the time). SBIS provided two records of GCN in the data search, both over 1km from site.

No potential breeding ponds were present within 250m of Site, and the habitats within itself the Site provided only minimal foraging and sheltering opportunities for amphibians during terrestrial phases. **No GCN surveys are required, as the risk of impacting GCN was highly unlikely.** Any potential hibernation sites (such as leaf piles) should be removed outside of the hibernation period (November-March).

Enhancement features such as log piles and areas of long grass provide foraging and sheltering opportunities for amphibians, particularly more mobile species that are more likely to be found onsite, such as common toads.

Hedgehogs

Further survey is not considered necessary, however, as evidence of hedgehogs was found onsite, and there are records of this species adjacent to site, any potential nesting habitat (discarded building materials, log piles, dense vegetation) should have been removed outside the hibernation period (which runs November to March) or under supervision of a suitably experienced ecologist. In addition, the construction should follow recommendations set out for badgers, to minimise the risk of harm to foraging hedgehogs.

The new fencing to be erected, metal low estate fencing, will not impede access throughout site for hedgehogs. However, if plans were altered to include walls or fencing without gaps then it is recommended that entrance holes at-least 15x15cm be installed along any erected fencing to maintain connectivity throughout site, unless alternative means of access, such as open gateways are present. Any fencing at the Site boundaries allows movement of hedgehogs throughout the Site post development.

As additional enhancement, creating hibernacula such as leaf piles or artificial ‘hedgehog houses’, and promoting areas of dense undergrowth will greatly benefit local hedgehog populations.

Reptiles

The alteration, conversion, and demolition of buildings onsite will include the permanent loss of small areas of suitable reptile habitat – sheltering and hibernation opportunities – and there are records of grass snakes, common lizards and slow worms within 2km of the Site. However, due to the habitat present being sub-optimal and extremely limited in size, and poor connectivity to suitable habitat in the wider area, **the risk to reptiles is considered minimal and no further survey is required. However, as a precaution, it is recommended that any vegetation or wood/building material/leaf piles removal is undertaken with an ecologist in attendance – to safely move any animals that may be using these habitats.**

Although the site is within a built-up area, slow worms will often use larger gardens in villages, and grass snakes recorded along the River Gipping could benefit from additional enhancement onsite, such as compost heaps (egg laying opportunities for grass snakes and potential hibernaculum for multiple species), pond creation and areas of long grass (for foraging opportunities).

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 survey is not considered necessary.**

Other Protected Species

No further survey is required (due to habitat types being lost and overall size) would not be significantly impacted any protected species.

7. Conclusions

The preliminary ecological appraisal found the Site and contained habitats suitable for supporting several protected species – bats, birds, hedgehogs, great crested newts, and reptiles, however the habitat size and poor connectivity made it unlikely that great crested newts and reptiles would be present onsite. Evidence of birds, bats (from droppings) and hedgehogs (from hedgehog run) were found on the premises. The following recommendations are made to minimise the risk of harm to individual animals:

- **A minimum of one emergence/ return to roost bat activity surveys** on the northern outbuilding and western outbuildings (which have low roost potential). If the roof space of Church Close House is to be impacted by works, such as the removal of building materials during a building extension, then a minimum of three bat activity surveys on Church Close House (which has high roost potential). In order to assess whether an EPS mitigation licence will be required by Natural England.
- **Sensitive lighting measures for bats.**
- Tree Root Protection Areas (RPAs) must be established around mature trees to prevent damage to root networks.
- All trees over 8cm in diameter to be felled must have a tree felling licence granted by Mid-Suffolk Council, unless 15 cubic metres (m³) in total is removed. Saplings should be transplanted to a suitable location onsite if feasible.
- **Covering of excavations and/or provision of exit ramps** 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 (dense scrub) is carried out outside the breeding bird season** (which runs from March to September) or following a nesting bird survey by a suitably experienced ecologist.

- Any potential great crested newt hibernation sites (such as leaf piles or log piles) should be removed outside of the hibernation period (November-March) or under the supervision of a suitably experienced ecologist.
- Recommendations for **precautionary working methods in the form of Risk Avoidance Measures** (RAMs) Method Statement should be followed, particularly during clearance of any trees, rubble piles, potential hibernacula, or vegetation, to prevent possible harm to hibernating/sheltering hedgehogs, and during the demolition / stripping of buildings to prevent harm to bats.

With the above actions taken, it is unlikely that the proposed development would cause a 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.

Enhancement features, such as bat boxes, tree planting and bird boxes, will be incorporated into the final designs and therefore provide additional breeding, foraging, and sheltering opportunities for a range of wildlife.

8. Validation

Table 3. Validity duration of the data.

Information Source	Date Undertaken	Valid Until	Comments
PEA	January 2023	January 2025 (2 years)	Any future bat activity surveys will be valid for up to 2 years after being undertaken for planning, and up to 1 year for EPS applications.

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10. Appendices

10.1 Appendix I: Target notes

Photos	Target Notes
 <p>1a Northern view</p>  <p>1b Lifted and irregularly shaped pig tiles- Potential Roost Features (PRFs)</p>  <p>1c Opening between a fascia and warped soffit board on the southern elevation</p>  <p>Torn soffit board on eastern elevation, northern extension</p>	<h4>1 Church Close House</h4> <p>Church Close House is a two-storey Grade II listed former rectory subdivided into four flats (currently unoccupied). Building structures varied due to the various extensions and alterations over the years (ages ranging from late 1400s to 1960s, according to its heritage listing description (Historic England, 1988). The core of the building is a jettied timber framed structure primarily built of ashlar blocks, with gabled dormers. Monk bond brick extensions are present on the west wing and south wing, and a single storey lean-to is attached to these extensions, facing north. There are a total of four levels: a cellar (National Heritage, 1988), first floor living space, second floor living space, and loft space.</p> <p>Traditional pig tiles cover the gabled roof and dormers, some of which were lifted or irregular shapes, providing crevices that offered roosting opportunities for bats. Lead flashing around the five chimney stacks also contained small gaps over dips in the pig tiles. Missing dormer ridge tiles on the southern extension provided additional roosting opportunities.</p> <p>Multiple openings in the soffit was present including:</p> <ul style="list-style-type: none"> • A hole between the soffit board and guttering on the concave corner of the western elevation of the southern extension. • Torn soffit boarding on the eastern elevation of the northern extension • An opening between a fascia and warped soffit board on the southern elevation (photo left) <p>Internal structures could not be surveyed because access had not been granted.</p> <p>A cellar is described in a National Heritage building description of Church Close</p> <p>No other signs of wildlife were noted on the building.</p> <p>As a result of the age and multiple access points and potential roost features on the building, Church Close House was rated as HIGH ROOST POTENTIAL.</p>



2a Southern elevations



2b 500W Halogen floodlight with PIR



2c Lifted ridge tiles with missing mortar



2d Wooden pallets in western section, covered in cobwebs and several rodent and bat droppings

2 Northern outbuilding (the barn)

The northern outbuilding was a single storey storage building bordering the northernmost edge of site, overlooking Lower Street. The outbuilding was segmented into several compartments, some of which were inaccessible at the time of the survey.

Exterior building materials consisted of red brick walls with Flemish header bond and concrete and flintstone bases along the north and east walls. Bricks were laid header first rather than stretcher along sections of the wall. Slate tiling with mortar ridge tiles covered the roofs, which were hipped along the main section and gabled on the eastern section. Several ridge tiles were lifted due to the slumping of the roof and were missing chunks of mortar, creating potential roost features. Missing bricks in the brickwork on the northern wall created additional access points into the interior.

The building appears on OS Maps in 1881, making it a minimum of 142 years of age (NJ Architects, 2022).

Several lighting instruments were noted on the building, including 500W halogen light bulbs with PIR sensors and type A lights encased in glass.

An open fronted storage room (former garage) contained a dry lined false ceiling with a plastic membrane lining. No signs of bats were found, and the open front created light and airy conditions unsuitable for bats.

The compartments on the western section of the outbuilding (by the entrance way, not to be confused with the western outbuilding adjacent to the green house) consisted internally of painted brick walls (no interwall cavities) with wooden panel cross sections in the roof space, lath and plaster gable ends and exposed timber frames directly supporting the slate tiles. Timber beams were smooth and tight fitting, with no obvious crevices suitable for roosting bats. The rooms were covered in dirt and cobwebs and in its currently condition, **is considered to have low bat potential.**

Multiple bat droppings were found alongside rodent droppings in the rooms/ compartments on the western section of the outbuilding. None were found to be fresh, and the scattered distribution was suggestive of bats in flight, which may have used the outbuilding to feed but not roost.



2e Roof space interior of northernmost room in western section.

A log pile was present within a room on the western section of the outbuilding provided shelter for hedgehogs and rodent species, although were limited in potential due to being stored indoors in dry conditions.

No birds or signs of other protected species aside bats were found.



3a Western elevation of greenhouse

3 Greenhouse and western outbuilding

The green house was built between 1881 and 1902 (NJ Architects, 2022), currently in disuse, and contained brick base walls encompassed by glass panels. The interior was empty aside from several dead plants. High exposure to light and a lack of structures that could provide roosting opportunities made it highly unlikely that bats were present. No bird nests or other protected species were noted.

The western outbuilding was a C shaped red brick single storey building with Flemish bonding, currently used as storage. Slate and ridge tiles covered the northern and southern rooms, while a flat roof on the western connection room had begun leaking water into the floor below.



3b Western outbuilding exterior

Gaps above the doors on the northern rooms created potential access points for birds and bats, and gaps under the ridge tiles where mortar had fallen away created potential roosting opportunities for bats. However, no potential roost features or signs of bats (droppings, urine stains, feeding remains etc.) were noted during the survey, and the building was concluded to have low potential for bats.

No bird nests or other wildlife was recorded.



4a Hedgehog run 4b standing deadwood



4b Columbid nest in beech tree onsite

4. Grounds

A hedgehog run was recorded on the allotment on the west of site.

The north and east borders of site were well sealed by flintstone / brick walls and timber panel fencing with gravel boards, and hardstanding formed by pavements and road surfacing created poor connectivity to habitats such as grassland, woodland and the River Gipping, all east of site beyond the church grounds. modern residential housing bordered the south and west boundaries of site.

Standing deadwood provided habitat for xylophages (wood eating species), such as stag beetle larvae.

A pile of brash in the back garden, accumulations of leaf piles, and piles of scaffolding / building materials were present onsite, good hibernation opportunities for hedgehogs and shelter for multiple other species.

Bird nests were present onsite, including a pigeon / dove (Columbidae) nest in a beech tree to the north.

10.2 Site Photos



Corkscrew willow catkins



Tree saplings and shrubs in the southern garden, facing south. Coniferous tree rows bordered the south of site.



North elevation of northern outbuilding, directly bordering a road and public pavement.



Two A-series light bulbs encased in glass on northern outbuilding, western elevation.



500W halogen floodlight with PIR



Open-fronted mid-section of northern outbuilding with stored items and a layer of fallen leaves



Scaffolding material and other debris with accumulations of leaves, northern garden.



Pigeon/dove nest in beech tree onsite



Entrance to site



Flintstone and brick walls on north-east border of site. Small gaps under double gate provides potential access points to hedgehogs.



Church Close House from Church Lane, showing north and east elevations.



Timber panel fencing with gravel boards /baseboards filled gaps beneath the fencing, and acted as a barrier to terrestrial animals, such as hedgehogs.



Eastern elevation of Church Close House



Southern elevation of Church Close House and eastern elevation of southern dormer.

	
<p>Loose ridge tiles and lifted slate tiles created potential roost locations for bats.</p>	<p>Northern outbuilding, western elevation with Church Close House in background, connected by gravel hardstanding.</p>
	
<p>Northern outbuilding, north-western room interior</p>	<p>Log pile and bat droppings on wooden surfaces, northern outbuilding, north-western room</p>
	
<p>Wooden pallets with bat droppings, northern outbuilding, north-western room</p>	<p>Three mature beech trees on amenity grassland lawn, all three are protected under tree protection orders (TPOs)</p>
	
<p>Northern outbuilding interior- western section</p>	<p>Northern outbuilding interior- western section</p>



Church Close House, northern elevation



Northern outbuilding, southern elevation.



Small orchard of immature fruit trees, such as
Prunus sp



Torn soffit boarding on southern elevation- western end



Church Close House, northern elevation



Church Close House, northern elevation



Lifted pig tiles on Church Close House



Church Close House, northern elevation dormer gables



Northern outbuilding interior.



Alley way west of house leading southwards.



Hole in rotten soffit board on Church Close House, northern elevation



Western outbuilding, eastern elevation

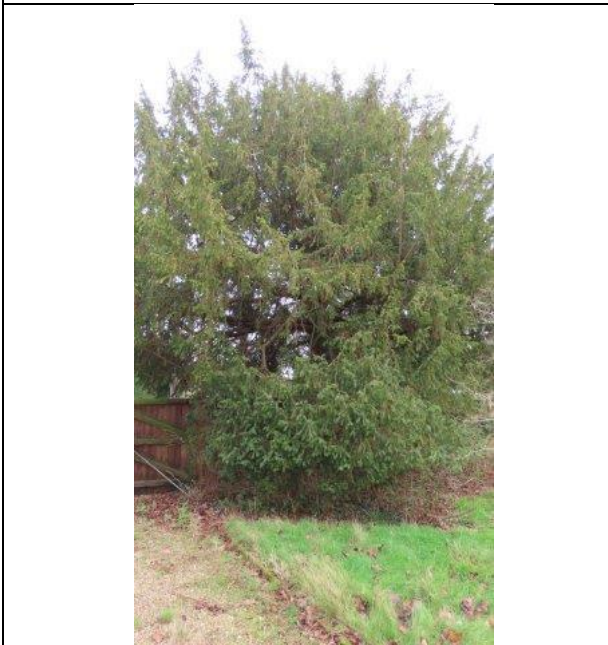
	
<p>Southern view of house, western end</p>	<p>Southern garden, facing south-east towards sycamore tree. A bird table was present, but was in disuse.</p>
	
<p>Flower bed beside Church Close House.</p>	<p>Disused greenhouse, eastern elevation.</p>
	
<p>Greenhouse from south</p>	<p>Church Close House, western end (a more modern extension compared to the main compartment)</p>



Hole between guttering and soffit on concave corner of the southern extension's western elevation.



Church Close House, southern view



Yew tree on eastern site border



Standing deadwood



Brickpaving and ornamental shrubs on southern garden



Southern garden area, including rough grassland, scattered tree saplings and shrub. Facing north.

	
<p>South</p>	<p>Potential access point for bats via warped soffit board on southern elevation.</p>
	
<p>Brush pile to south-east of site</p>	<p>Beech hedgerow on western boundary</p>
	
<p>Western end of Church Close House, from south.</p>	<p>Disused garden allotment to west of site.</p>
	
<p>Hedgehog runway adjacent to allotment</p>	<p>'Insect hotel' to south-east of site.</p>

10.2. Appendix II: Species Lists

Table 1: Plants

Species	
Latin name	Common name/s
<i>Acer pseudoplatanus</i>	Sycamore maple
<i>Aesculus hippocastanum</i>	Horse chestnut tree
<i>Bauhinia variegata</i>	Orchid tree
<i>Betula pendula</i>	Silver birch
<i>Buddleja sp.</i>	Buddleja bush
<i>Cirsium arvense</i>	Creeping thistle
<i>Clematis vitalba</i>	Traveller's-joy, Old man's beard
<i>Cornus alba</i>	White dogwood
<i>Cornus sanguinea</i>	Common dogwood
<i>Corylus avellana</i>	Hazel
<i>Cupressus sp.</i>	Cypress
<i>Cyclamen sp.</i>	Cyclamen
<i>Fagus sylvatica</i>	Common beech
<i>Ficus carica</i>	Fig tree
<i>Hebe spp.</i>	Hebe
<i>Hedera helix</i>	Common ivy
<i>Ilex aquifolium</i>	Holly
<i>Iridaceae</i>	Iris spp.
<i>Lamium purpureum</i>	Red dead nettle
<i>Lavandula sp.</i>	Lavender
<i>Ligustrum lucidum</i>	Privet
<i>Lolium</i>	Ryegrass
<i>Malus domestica</i>	Apple tree
<i>Philadelphus sp.*</i>	Philadelphus
<i>Plantago major</i>	Broadleaf plantain/ greater plantain
<i>Prunus laurocerasus</i>	Cherry laurel
<i>Prunus spinosa</i>	Blackthorn
<i>Prunus spp.</i>	Several unidentified fruit trees
<i>Rosa spp. (likely Rosa canina)</i>	Rose (likely dog-rose)
<i>Rubus fruticosus</i>	Bramble
<i>Salix matsudana</i>	Corkscrew Willow
<i>Sambucus nigra</i>	Black elderberry
<i>Senecio vulgaris</i>	Groundsel
<i>Sorbus aucuparia</i>	Rowan / mountain ash
<i>Sorbus hupehensis*</i>	Chinese Rowan
<i>Taxus baccata</i>	Yew
<i>Viburnum</i>	Viburnum

Table 2: Birds

Species	
Latin name	Common name/s
<i>Chloris chloris</i>	Greenfinch
<i>Columba palumbus</i>	Wood pigeon
<i>Corvus corone</i>	Carrion crow
<i>Cyanistes caeruleus</i>	Blue tit
<i>Larus canus</i>	Common gull
<i>Parus major</i>	Great tit

10.3. Appendix III: Figures

Phase 1 Habitat Map

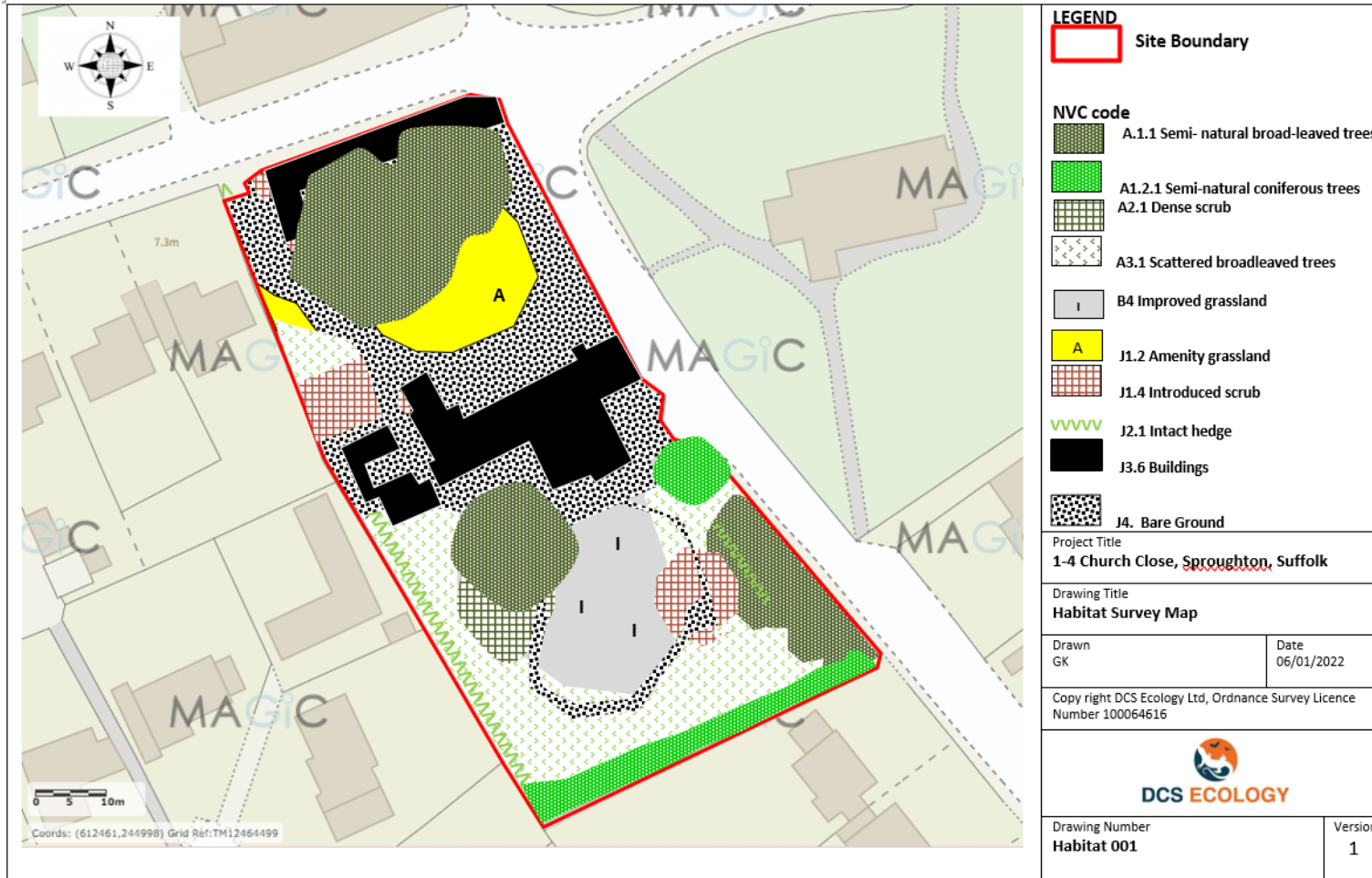


Figure 2: Phase 1 Habitat Map of Site (c) Crown Copyright under licence 100064616

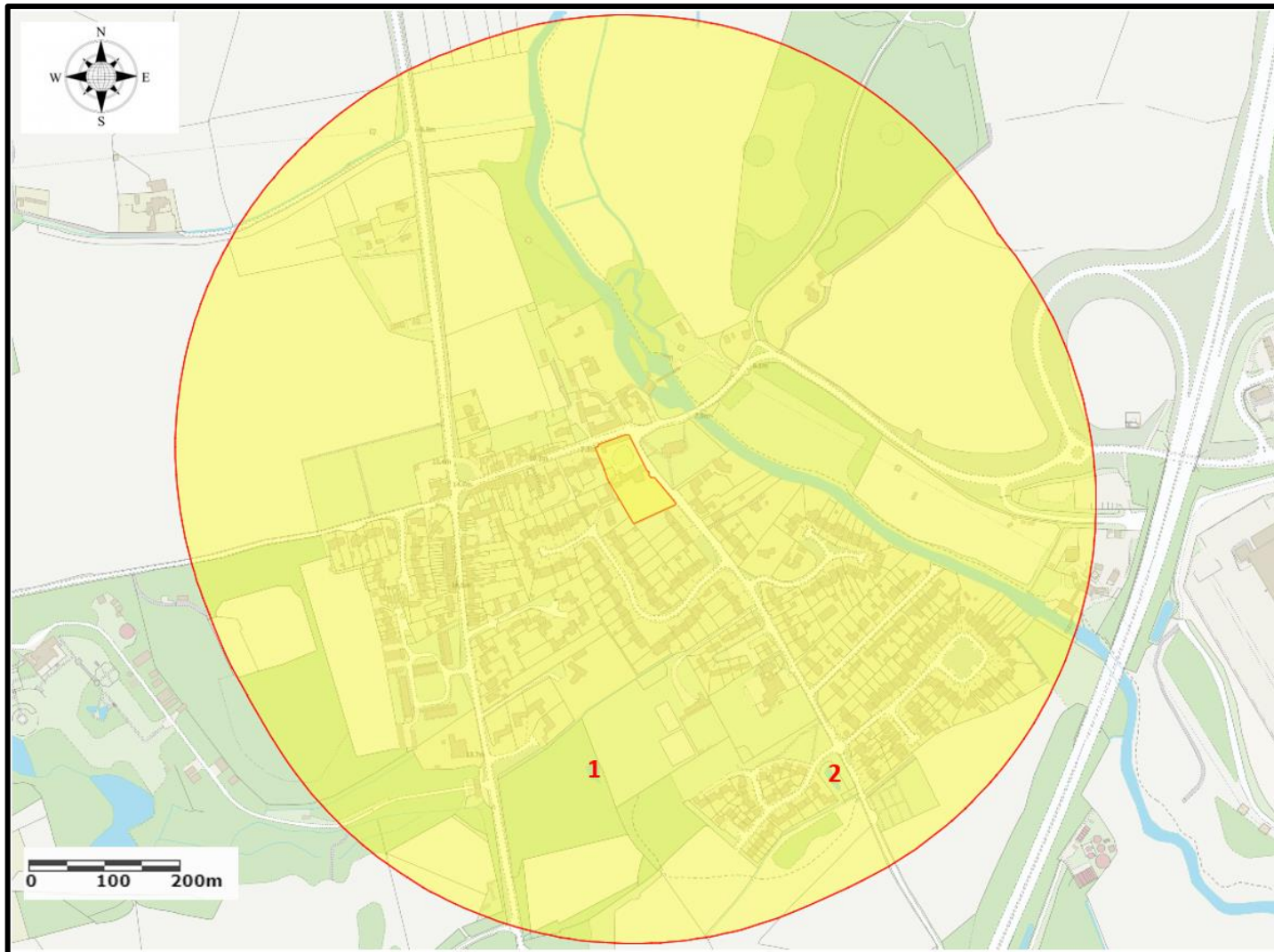


Figure 5: Pond Great Crested Newt Habitat Suitability Index Map 500m. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616

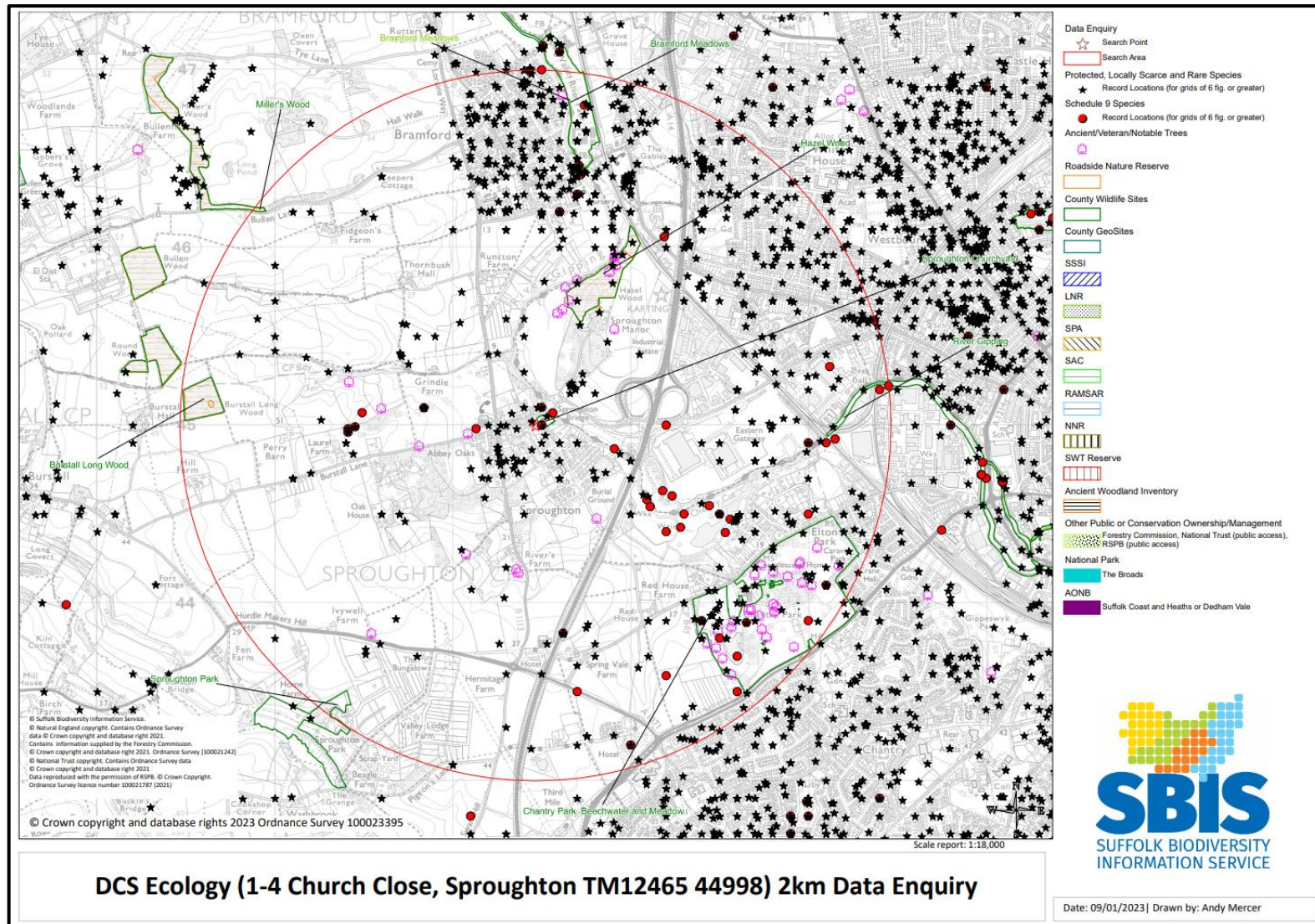


Figure 6: Protected species records, Statutory and Non-Statutory Designated Sites within 2km of the Site

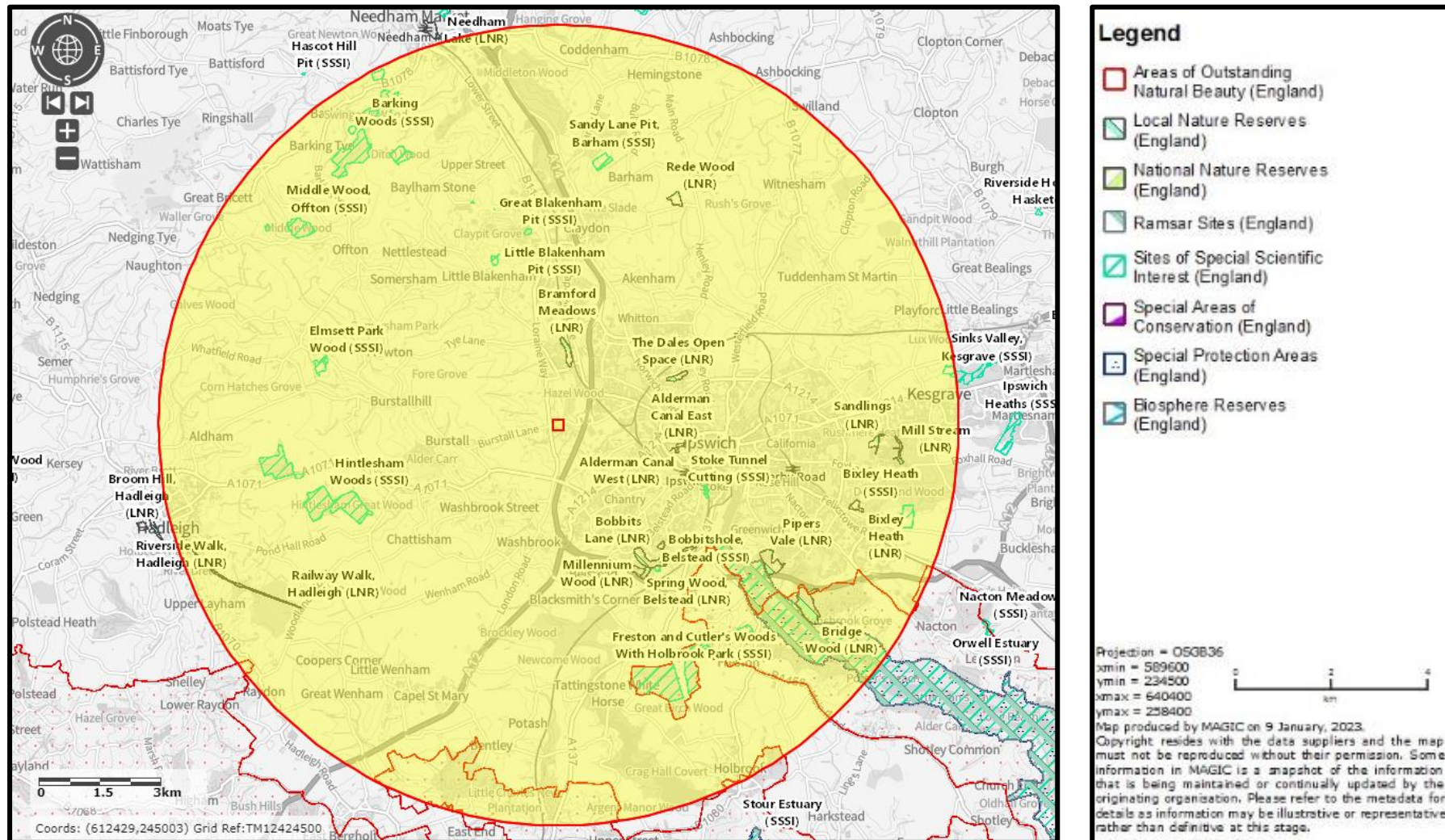


Figure 7: Statutory Conservation Sites within 10km of the Site

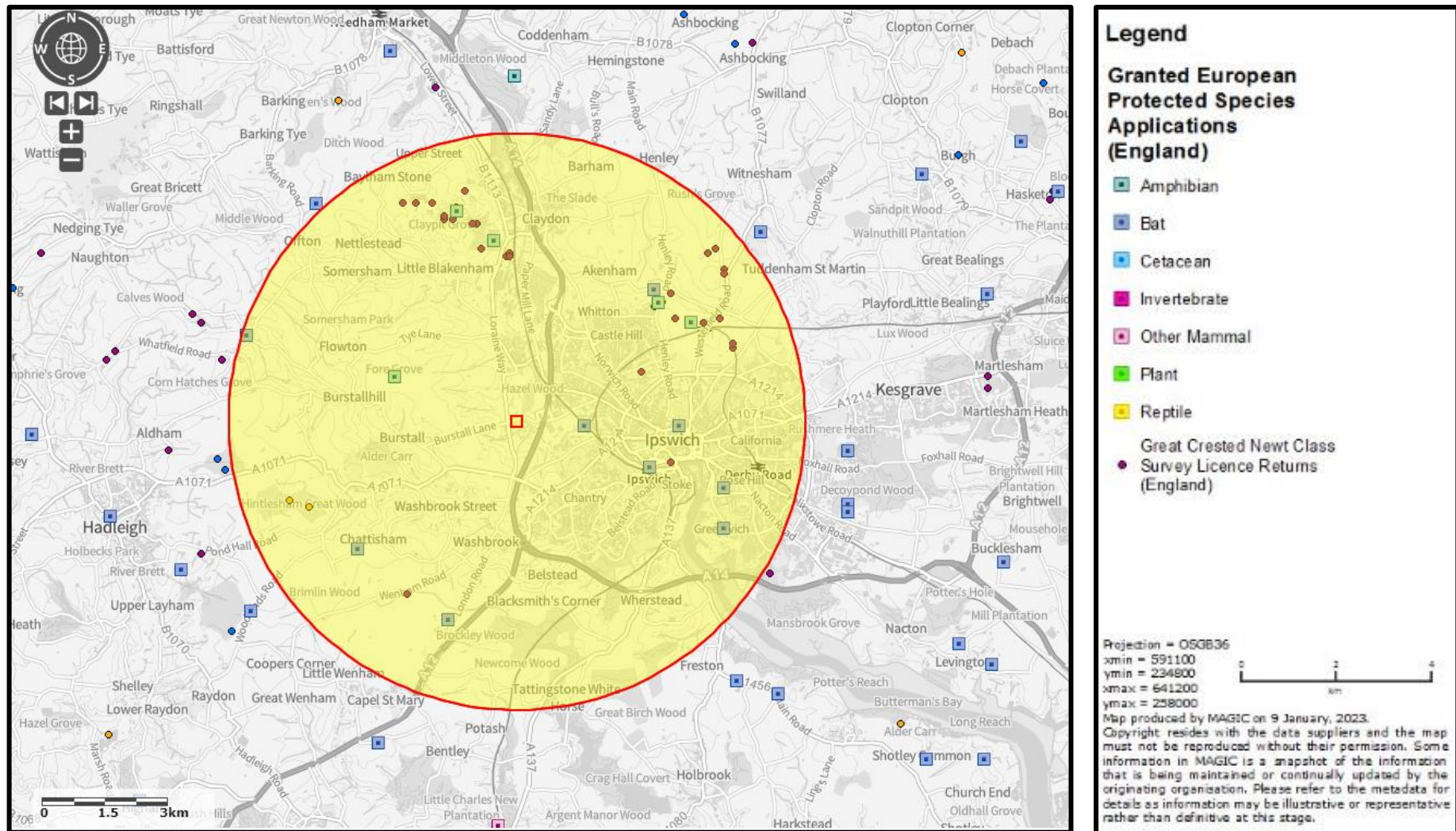


Figure 8: Protected species recorded on MAGIC within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616



Figure 9: Building locations. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616

10.4. Appendix IV: Desk Study

Table 2: 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>Acanthis cabaret</i>	BoCC Red; S41	2021
Skylark	<i>Alauda arvensis</i>	BoCC Red, Sect.41, UKBAP	2021
Kingfisher	<i>Alcedo atthis</i>	WCA1i	2017
Greylag Goose	<i>Anser anser</i>	WCA 1ii	2020
Swift	<i>Apus apus</i>	BoCC Red	2020
Pochard	<i>Aythya ferina</i>	BoCC Red	2017
Goldeneye	<i>Bucephala clangula</i>	WCA 1ii	2011
Dunlin	<i>Calidris alpina</i>	BoCC Red	2011
Cetti's Warbler	<i>Cettia Cetti</i>	WCA 1ii	2017
Ringed Plover	<i>Charadrius hiaticula</i>	BoCC Red	2011
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2020
Marsh Harrier	<i>Circus aeruginosus</i>	WCA 1i	2020
Cuckoo	<i>Cuculus canorus</i>	BoCC Red, S41	2020
Whooper Swan	<i>Cygnus cygnus</i>	WCA1i	2008
House Martin	<i>Delichon urbicum</i>	BoCC Red	2019
Lesser Spotted Woodpecker	<i>Dryobates minor</i>	BoCC Red, UKBAP	202-
Yellow Hammer	<i>Emberiza citrinella</i>	BoCC Red, UKBAP; S41	2020
Reed Bunting	<i>Emberiza schoeniclus</i>	UKBAP; S41	2020
Peregrine falcon	<i>Falco peregrinus</i>	WCA1i	2020
Hobby	<i>Falco subuteo</i>	WCA1i	2021

Brambling	<i>Fringilla montifringilla</i>	WCA1i	2011
Black-throated Diver / Loon	<i>Gavia arctica</i>	WCA1i	2020
Shag	<i>Gulosus aristotelis</i>	BoCC Red	2008
White-tailed Eagle	<i>Haliaeetus albicilla</i>	WCA1i	2020
Mediterranean gull	<i>Ichthyaetus melanocephalus</i>	WCA1i	2020
Herring Gull	<i>Larus argentatus</i>	BoCC Red, UKBAP	2021
Black-tailed Godwit	<i>Limosa limosa</i>	BoCC Red, WCA1i	2021
Linnet	<i>Linaria cannabina</i>	BoCC Red; S41	2019
Crossbill	<i>Loxia curvirostra</i>	BoCC Red, UKBAP, S41	2020
Woodlark	<i>Lullula arborea</i>	BoCC Red, UKBAP; S41	2009
Nightingale	<i>Luscinia megarhynchos</i>	BoCC Red	2020
Red Kite	<i>Milvus milvus</i>	WCA1i	2021
Yellow Wagtail	<i>Motacilla flava</i>	BoCC Red; S41	2008
Spotted flycatcher	<i>Muscicapa striata</i>	BoCC Red, UKBAP, S41	2021
Curlew	<i>Numenius arquata</i>	BoCC Red; S41	2007
Whimbrel	<i>Numenius phaeopus</i>	BoCC Red, UKBAP, S41	2021
Osprey	<i>Pandion haliaetus</i>	WCA1i	2016
House Sparrow	<i>Passer domesticus</i>	BoCC Red, UKBAP, S41	2019
Honey Buzzard	<i>Pernis apivorus</i>	WCA1i	2020
Black Redstart	<i>Phoenicurus ocburnus</i>	BoCC Red, WCA1i	2012
Slavonian Grebe	<i>Podiceps auritus</i>	BoCC Red, WCA1i	2011
Duncock	<i>Prunella modularis</i>	UKBAP	2008
Bullfinch	<i>Pyrrhula pyrrhula</i>	UKBAP	2020
Firecrest	<i>Regulus ignicapilla</i>	WCA1i	2008
Woodcock	<i>Scolopax rusticola</i>	BoCC Red	2017

Garganey	<i>Spatula querquedula</i>	WCA1i	2013
Turtle dove	<i>Streptopelia turtur</i>	BoCC Red, UKBAP, S41	2020
Starling	<i>Sternus vulgaris</i>	BoCC Red, UKBAP	2020
Green sandpiper	<i>Tringa ochropus</i>	WCA1i	2010
Redwing	<i>Turdus iliacus</i>	WCA1i	2020
Songthrush	<i>Turdus philomelos</i>	BoCC Red, UKBAP, S41	2021
Fieldfare	<i>Turdus pilaris</i>	BoCC Red, WCA1i	2020
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red	2020
Barn Owl	<i>Tyto alba</i>	WCA1i	2022
Lapwing	<i>Vanellus vanellus</i>	BoCC Red, UKBAP, S41	2020

10.5. Appendix V: 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.

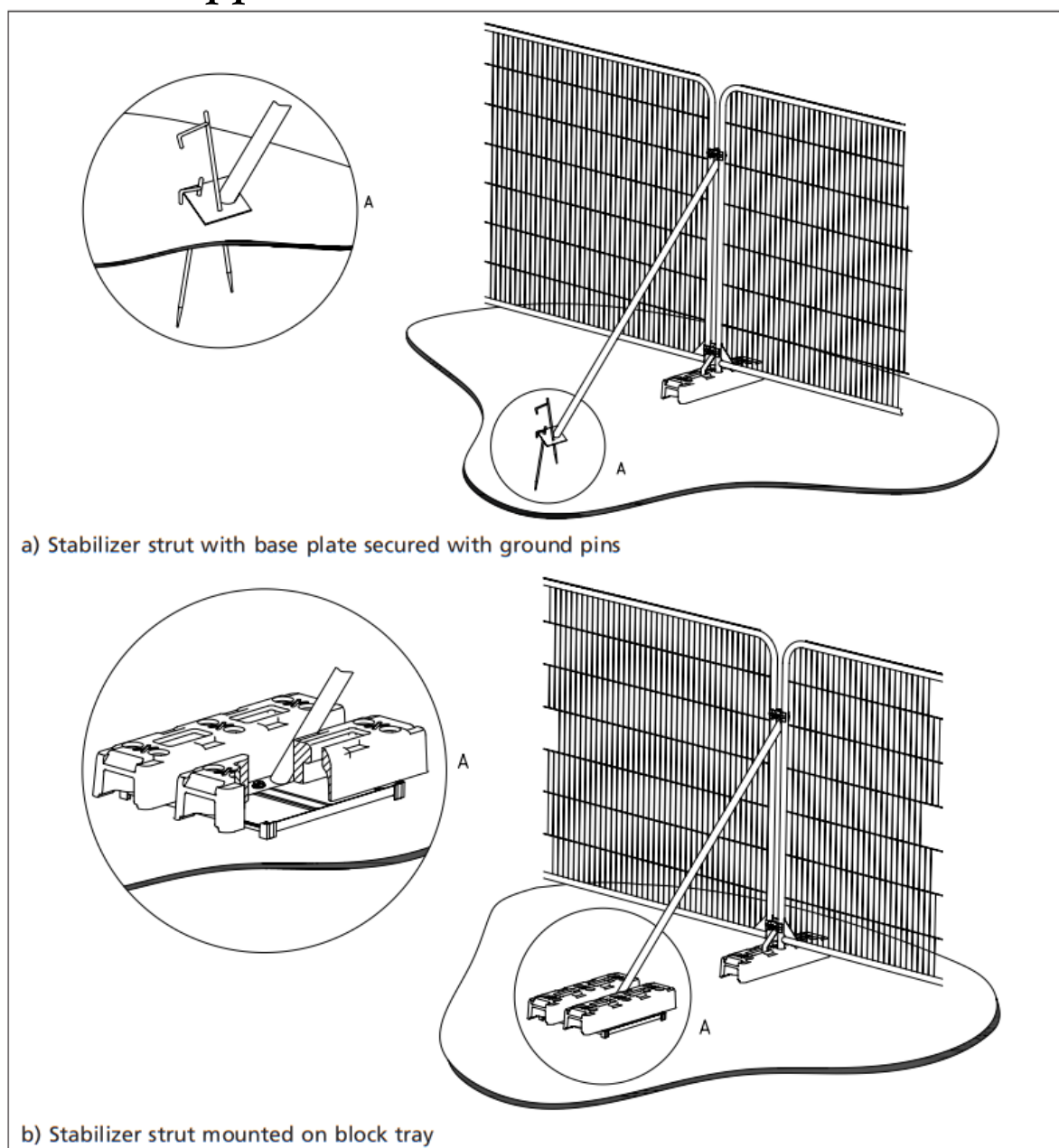
Table 3: Relevant Protected Species Legislation

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) 	It is an offence to: <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) 	It is an offence to: <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) 	It is an offence to: <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) 	It is an offence to: <ul style="list-style-type: none"> ▪ Intentionally kill, injure or take any wild bird ▪ 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>

10.6. Appendix VI: Abbreviations

Table 4: List of abbreviations	
BAP	Biodiversity Action Plan
BARB	Barbastelle (bat)
BCT	Bat Conservation Trust
BLE	Brown long-eared (bat)
BoCC	Birds of Conservation Concern
CHSR	Conservation of Habitats and Species Regulations 2017
CIEEM	Chartered Institute of Ecology and Environmental Management
C. PIP	Common pipistrelle (bat)
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
HSI	Habitat Suitability Index
HRA	Habitat Regulations Assessment
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
LPAs	Local Planning Authorities
MAGIC	Multi-Agency Geographic Information for the Countryside
NATT	Natterer's (bat)
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
S41	Section 41 of the NERC Act (2006)
SAC	Special Area of Conservation
SBAP	Suffolk Biodiversity Action Plan
SBIS	Suffolk Biodiversity Information Service
SPA	Special Protection Area
S. PIP	Soprano pipistrelle (bat)
SSSI	Special Site of Scientific Interest
WCA	Wildlife and Countryside Act 1981 (as amended)
UKBAP	United Kingdom's Biodiversity Action Plan

10.7. Appendix VII: Illustrations



6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Figure 10: Example of above ground stabilising systems (such as heras fencing)