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Preliminary Ecological Appraisal Including a Protected Species Assessment at Brook Hall, Chruch Road, Crowfield. Ipswich. IP6 9TG.

On behalf of:

Joy Cox

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0 SUMMARY

- 0.1 Skilled Ecology Consultancy Ltd. was commissioned by Jo Cox to undertake a Preliminary Ecological Appraisal including a Protected Species Assessment at Brook Hall, Church Road, Crowfield. Ipswich. IP6 9TG. The report is required for conversion of one barn to residential.
- 0.2 The survey was conducted on the 25th January 2021, by experienced ecologist Roger Spring BSc MCIEEM (licensed to survey for bats (level 2) and great crested newts *Triturus cristatus* (level 1)). The survey consisted of an inspection for preferred habitat types and signs and evidence of protected and priority species, such as for bats, great crested newts, reptiles, badgers *Meles meles* and nesting birds following Natural England (English Nature) Guidelines. A local biological record search was undertaken.
- 0.3 The proposed site is approximately 0.026ha in area and found to include a double-storey, modern, corrugated sheeting, agricultural building used for storage, as well as a grain silo, concrete and a very small area of improved rough grassland. The site is positioned in a rural location amongst other farm buildings, a farmhouse and gardens. The broader landscape was dominated by arable fields. Four ponds were present close to the site.
- 0.4 The ponds were all poor in suitability for great crested newts with fish present in three of the four ponds.
- 0.5 The building was considered negligible in suitability or potential to support protected or priority species such as bats and nesting birds. No signs or evidence of such were discovered. A low risk of impact to great crested newts and other amphibians was noted.
- 0.6 Further ecological surveys or mitigation were considered unnecessary.
- 0.7 However, to minimise any residual risk of impact, precautionary measures for bats, hedgehogs and great crested newts, detailed later in the report, should be followed.
- 0.8 Biodiversity enhancements are also included in the report to create a net-gain in accordance with national planning policy.

1 INTRODUCTION

1.1 Background

- 1.1.1 Skilled Ecology Consultancy Ltd. was commissioned by Jo Cox to undertake a Preliminary Ecological Appraisal including a Protected Species Assessment at Brook Hall, Church Road, Crowfield. Ipswich. IP6 9TG. The report is required for conversion of one barn to residential.
- 1.1.2 Wildlife such as nesting birds, bats, reptiles and great crested newts *Triturus cristatus* are protected by law. Protected and priority species and habitats, are also a material consideration for individual planning decisions under the National Planning Policy Framework, 2019 (NPPF) (MHCLG, 2019).
- 1.1.3 This study and report complies with the Chartered Institute for Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisals (Second Edition, 2017).
- 1.1.4 CIEEM guidelines indicate that ecological surveying typically remains valid for 18 months (CIEEM, 2019).

2 METHODOLOGY

2.1 Desk Study

- 2.1.1 The Suffolk Biodiversity Information Service were consulted for herpetofauna records. In addition to these records, bat survey results are also included for dusk and dawn surveys in Crowfield. The results are listed in Table 1 below.
- 2.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) was also conducted, to check for statutory nature conservation sites.
- 2.1.3 These results were then combined with the findings of the site survey, in order to assess the risk of ecology issues, relevant to planning, occurring on the site.

2.2 Study Limitations

- 2.2.1 No major study limitations were found.
- 2.2.2 Botanical assessment was undertaken at a suitable time of year, though some late flowering species and annuals may no longer be present or identifiable to species level.

2.3 Initial Site Surveys

Habitats and Surroundings

2.3.1 The site was visited on the 25th January 2021 to survey for ecology issues. This included the following:

- Noting the suitability of habitats present on the site, with regard to protected, priority and rare species; including plants, amphibians, reptiles, mammals, nesting birds, invertebrates and protected, priority or red-listed Birds of Conservation Concern (BoCC);
- Assessing the habitats surrounding the site and in the local area;
- Direct survey for evidence of protected species as far as possible, e.g. for bats, reptiles, great crested newts, badgers *Meles meles*, and nesting birds;
- Checking for invasive species such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*.

Bat Inspection

2.3.2 The assessment for bats was conducted by an experienced and licensed ecologist. Boundary trees, the barn and silo were inspected for bat activity, suitability and potential for roosting following English Nature Bat Mitigation Guidelines (English Nature, 2004) and Bat Conservation Trust Best Practice Guidelines, therefore considerations were:

- the availability of access to roosts for bats;
- the presence and suitability of cracks, crevices, gaps around tiles, ivy growth and other places as roosts;
- signs of bat activity or presence, such as; the bats themselves, droppings, grease marks, scratch marks, urine spatter and prey remains.

2.3.3 Equipment available for use during the survey included a ladder, digital camera, high-powered torch, video endoscope, and binoculars.

2.3.4 The availability of access to roosts was assessed based upon the presence of holes large enough to allow entry to bats and lack of cobwebs and dirt.

2.3.5 The outside of trees, silo and the inside and outside of the barn was inspected for gaps, cavities, access points and crevices, and any signs of bats (droppings, staining, urine spatter), in accordance with Natural England (English Nature) guidelines (English Nature, 2004).

Reptiles & Amphibians

2.3.6 The site was inspected for potentially suitable terrestrial habitats for foraging, sheltering or dispersing amphibians and foraging, sheltering, breeding and basking habitat for reptiles. High quality terrestrial refuges searched for, included:

- Log piles & rockeries,
- Thick leaf litter,
- Compost & manure heaps,
- Mammal burrows,
- Deep ground cracks;
- Refuse suitable for shelter;
- Tussock grassland;
- Hedgerows and any other potential habitats.

2.3.7 The closest ponds to the site were assessed for suitability for great crested newts by undertaking a Habitat Suitability Index assessment as developed by Oldham *et al.* 2000.

Badgers, Water Voles & Other Mammals

2.3.8 Signs and evidence of badgers, water voles and other protected, priority and rare mammal activity searched for included the following:

- Setts, holes and burrows;
- Foraging holes and other diggings;
- Latrines, droppings, spraints and scats;
- Mammal hairs;
- Paw prints and other tracks;
- Feeding remains;
- Scratch marks, bedding material and other signs.

3 RESULTS AND RISK

3.1 Site Description & Location

3.1.1 The proposed site is approximately 0.026ha in area and found to include a double-storey, modern, corrugated sheeting, agricultural building used for

storage, as well as a grain silo, concrete and a very small area of improved rough grassland. The site is positioned in a rural location amongst other farm buildings, a farmhouse and gardens. The broader landscape was dominated by arable fields. Four ponds were present close to the site. Ponds within 250m included:

- Pond 1 a small ditch widening located in scrub approximately 75m west of the site.
- Pond 2 a medium sized garden fish pond adjacent to the farmhouse approximately 50m west
- Pond 3 a medium sized garden fish pond approximately 10m east of the site.
- Pond 4 a medium sized garden fish pond approximately 45m east of the site.
- Pond 5 a medium sized garden pond approximately 230m south.

3.1.2 Ponds 1-4 were surveyed. Access to pond 5 was not available at the time of the survey.

3.2 Nature Conservation Sites

3.2.1 The closest statutorily designated nature conservation is Gosbeck Wood Site of Special Scientific Interest (SSSI) designated for its ancient coppice woodland with notable uncommon plants (MAGIC 2021).

3.3 Data Search

3.3.1 The following information is a summary of modern, local herpetofauna and bat records collated through SBIS and Skilled Ecology Consultancy Ltd. (2021).

Table 1 - Summary of local biological records.

Species	Approximate Location	Year
Bats		
Common pipistrelle (UK and EU protected)	1km north west	2020
Soprano pipistrelle (UK and EU protected)	1km north west	2020
Brown long-eared (UK and EU protected)	1km north west	2020
Natterers (UK & EU protected)	1km north west	2020
Noctule (UK & EU priority)	1km north west	2020
Herpetofauna		

Great crested newt (UK and EU protected)	650m south east	2010
Common Toad (UK protected)	Pettaugh	2008

3.4 Protected, Priority & Rare Species

Vegetation & Habitats

3.4.1 Habitats included mostly buildings and concrete with a small area of rough improved grassland including: elder (sapling) *Sambucus nigra*, hawthorn (sapling) *Crataegus monogyna*, sycamore (sapling) *Acer pseudoplatanus*, cow parsley *Anthriscus sylvestris*, bramble *Rubus fruticosus*, nettle *Urtica dioica*, white dead nettle *Lamium album*, cocksfoot *Dactylis glomerata*, broad-leaved dock *Rumex obtusifolius*, perforate st Johns wort *Hypericum perforatum* and black horehound *Ballota nigra*.

3.4.2 No protected, priority or notable plants were present and habitats were unlikely to support such species. No priority habitats are proposed for impact. No Schedule 9 Invasive Plants were present.

Bats

3.4.3 A small number of early mature trees were present south of the site. It is understood that these will not be impacted by the development. The trees were all either too small in trunk diameter or immature to support roosting bats.

3.4.4 The barn and adjacent silo were relatively modern constructions using modern materials, negligible in suitability or potential for roosting bats. No internal or external signs or evidence of bat activity were discovered associated with the structures.

3.4.5 The proposed construction zone was considered negligible in suitability for foraging bats, though surrounding habitats were at least moderate in suitability and potential for foraging bats with a likelihood of several common bats species being present locally.

Other Protected or Priority Mammals

3.4.6 Habitats present were small in area and low in suitability and potential to support other notable mammals, such as hedgehogs *Erinaceus europaeus* and badgers *Meles meles*, and negligible in suitability for other notable mammals such as brown hare *Lepus europaeus* and dormouse *Muscardinus avellanarius* etc.

3.4.7 No signs or evidence of badgers, hedgehogs or any other protected, priority or rare mammals were observed on or adjacent to the site.

Birds

- 3.4.8 Birds observed or heard on or close to the site during the survey included; fieldfare *Turdus pilaris*, house sparrow *Passer domesticus*, wood pigeon *Columba palumbus*, goldfinch *Carduelis carduelis* and blackbird *Turdus merula*.
- 3.4.9 Fieldfare and UK protected birds. House sparrow are UK priority species and red-listed Birds of Conservation Concern (BoCC) species. All other birds recorded are common and widespread species.
- 3.4.10 No old bird nests were observed. The site was considered negligible in suitability or potential for nesting by protected or priority birds. The site was considered low in suitability for nesting by common and widespread birds.
- 3.4.11 The BoCC ratings are summarised as follows:
- Red-listed - highest conservation concern;
 - Amber-listed - moderate conservation concern;
 - Green-listed - least conservation concern.

Reptiles

- 3.4.12 The proposed development area was considered negligible in suitability or potential to support reptiles of any species. Habitats offered negligible basking, breeding or foraging habitat.
- 3.4.13 No reptiles were observed during the survey visit.

Great Crested Newts & Other Amphibians

- 3.4.14 The proposed construction zone is small and includes mostly a barn, a silo and concrete unsuitable as terrestrial habitat for great crested newts or other amphibians. A small area (0.009ha) of rough grassland was present south of the site which is included in the redline boundary and may be impacted during works.
- 3.4.15 This area is so small that when using the Natural England Rapid Risk Assessment Tool to determine the risk of potential harm to great crested newts the tool concluded that the risk of impact was very low (Highly Unlikely). See Table 2 below.

Table 2: Natural England Rapid Risk Assessment Tool.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.05
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.05
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

3.4.16 Great crested newts were not discovered during the survey visit.

3.4.17 A Habitat Suitability Index assessment of the four closest ponds to the site indicated that the four ponds were 'poor' in suitability for great crested newts (see Table 3 below). Pond 1 is a small seasonal pond with high shade and no aquatic vegetation. Ponds 2-4 contained fish.

Table 3: Habitat Suitability Index score for Ponds 1-4 close to the site.

Pond	Pond 1	Pond 2	Pond 3	Pond 4
SI1 - Location	1	1	1	1
SI2 - Pond area	0.05	1	1	0.4
SI3 - Pond drying	0.1	0.9	0.9	0.9
SI4 - Water quality	0.67	0.33	0.33	0.33
SI4 - Shade	0.7	1	1	1
SI6 - Fowl	1	0.67	0.67	0.67
SI7 - Fish	1	0.01	0.01	0.01
SI8 - Ponds	1	1	1	1
SI9 - Terr'l habitat	0.67	0.67	0.67	0.67
SI10 - Macrophytes	0.3	0.4	0.4	0.4
HSI	0.46	0.47	0.47	0.43

HSI Pond suitability
 <0.5 = poor
 0.5 – 0.59 = below average
 0.6 – 0.69 = average
 0.7 – 0.79 = good
 > 0.8 = excellent

Invertebrates

3.4.18 The proposed development area was negligible in ecological value or potential to support an assemblage of invertebrates of conservation concern.

3.4.19 Protected, priority or rare invertebrates were not observed during the survey visits.

Other Protected, Priority or Rare Species

3.4.20 No signs or evidence of any other protected or priority species were observed on the site, nor were there any particularly suitable habitats present for such species.

4 DISCUSSION OF RISK AND LEGISLATION

4.1 Protected & Priority Species

Bats

4.1.1 Bats are protected under the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000 and under the Conservation of Habitats and Species Regulations 2017. Some bats are also UK priority species. A summary of the offences likely to be relevant to development are:

- Intentionally or deliberately kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection, whether bats are present or not;
- Damage or destroy a breeding site or resting place of any bat;
- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection;
- Deliberately disturb a bat anywhere.

4.1.2 Several bat species have been recorded locally and it is highly likely that bats will use the adjacent habitats for foraging, though the site was considered negligible for foraging bats and negligible in suitability or potential for roosting bats.

4.1.3 No signs or evidence of bats were discovered.

4.1.4 Therefore, the risk of significant impact or harm to bats or local bat conservation was considered negligible.

4.1.5 Therefore, further bat surveys or mitigation were considered unnecessary. However, to minimise any residual risk of impact, precautionary measures, detailed later in the report, should be followed.

Other Protected, Priority or Rare Mammals

- 4.1.6 Badgers and hedgehogs are likely to be present locally given the rural location of the site. However, the proposed development site is small and negligible in suitability or potential for such species. It is possible that badgers and hedgehogs may cross through the site, though significant use was considered highly unlikely.
- 4.1.7 Therefore, further surveys or mitigation for such were considered unnecessary. However, to minimise impact to hedgehogs, recommendations, detailed later in the report, should be followed.

Reptiles

- 4.1.8 Widespread reptile species including, grass snake, adder, slow worm and common lizard, are protected from intentional killing and injuring under the Wildlife and Countryside Act 1981. They are also UK priority species.
- 4.1.9 Habitats present and proposed for impact were largely negligible in suitability or potential for reptiles. No safe basking, foraging or breeding habitat was present or proposed for impact.
- 4.1.10 Overall, it was considered unnecessary to undertake further reptile surveys or provide mitigation.

Amphibians

- 4.1.11 Great crested newts are protected under the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000, and the Conservation of Habitats and Species Regulations 2017. Great crested newts are also UK priority species. A summary of the offences likely to be relevant to development are:
- Intentionally or deliberately capture or kill;
 - Intentionally injure;
 - Deliberately disturb, or intentionally or recklessly disturb in a place of shelter or protection;
 - Damage or destroy a breeding site or resting place;
 - Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.
- 4.1.12 Ponds are present close to the site and records of great crested newts are present for Crowfield (SBIS, 2021). However, the area of greenspace proposed for impact as part of the site and development is very small significantly minimising the risk of impact to great crested newts or any other amphibians, if breeding in nearby ponds.

- 4.1.13 The ponds themselves were all identified as poor in suitability for great crested newts with three ponds supporting fish and the pond without fish being a small seasonal pond likely dry for most of the summer each year.
- 4.1.14 Overall, it was considered that the small size of the site, habitats present and poor suitability of nearby ponds meant the risk of significant impact to great crested newts or a significant population of any other amphibians was considered very low. This is confirmed by the Natural England Rapid Risk assessment.
- 4.1.15 Therefore, further surveys or mitigation were considered unnecessary. However, to minimise any residual risk of impact, precautionary measures, detailed later in the report, should be followed.

Birds

- 4.1.16 Wild birds are protected under the Wildlife and Countryside Act 1981 and, with certain exceptions (e.g. pest species) in certain situations, it is an offence to intentionally:
- Kill or injure any wild bird;
 - Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - Take or destroy the egg of any wild bird.
- 4.1.17 Some bird species (such as barn owls) are also specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 and others are UK priority species.
- 4.1.18 Protected and priority birds were recorded during the survey visit and other such species are likely to use the surrounding landscape given the rural location of the site. However, habitats present were negligible in suitability for nesting birds or any other significant use by birds.
- 4.1.19 Consequently, further bird surveys or mitigation were considered unnecessary. However, to minimise any residual risk of impact to birds generally, precautionary measures, detailed later in the report, should be followed.

Plants & Habitats

- 4.1.20 The site supports habitats negligible in suitability or potential for protected, priority or rare botanical interest. No UK priority habitats are proposed for impact.
- 4.1.21 No Schedule 9 Invasive plants were discovered.
- 4.1.22 Further botanical surveys or mitigation were considered unnecessary.

Invertebrates

- 4.1.23 The site is small and considered low in suitability for priority and other notable invertebrates.
- 4.1.24 Consequently, the risk of impact to rare or priority invertebrates was considered negligible. Further invertebrate surveys or mitigation were considered unnecessary.

Other Protected & Priority Species

- 4.1.25 No signs or evidence of other protected, priority or rare species were observed on the site. The risk of presence or impact to such species was very low. Further ecological surveys or mitigation for any other protected, priority or rare species was considered unnecessary.

4.2 Other Issues

Designated Conservation Sites & Sensitive Habitats

- 4.2.1 The site is a significant distance from statutorily designated nature conservation sites. The proposed development is small scale and unlikely to significant impact (directly or indirectly) such sites.
- 4.2.2 Consequently, further surveys or mitigation were deemed unnecessary.

5 RECOMMENDATIONS

5.1 Impact Avoidance Precautionary Measures & Habitat Compensation

Bats

- 5.1.1 Risk of significant impact to bats was considered negligible, to further minimise impact, the below recommendations, should be followed:
- Roofing materials should be removed by hand during demolition. If at any point bats or evidence of bats are discovered (droppings etc.) works should cease and an ecologist called for advice;
 - Any proposed external lighting should be minimised. Where external lighting is required it should be warm white LED lamps with glass glazing, rather than plastic, as these produce the least amount of UV light possible, minimising the attraction effects on insects and minimising disturbance to local bats;

- Any external lighting proposed for the development should be aimed carefully, to minimise illumination of boundary habitats and avoid light spillage into the sky, or horizontally out, by using hoods or directional lighting;
- External lighting should be set on short timers and be sensitive to large moving objects only, to prevent any passing bats switching them on.

Birds

- 5.1.1 It is recommended that to prevent harm to nesting birds, any tree or shrub reduction should commence outside of the main bird breeding season (March until the end of August). If this timescale is not possible then an ecologist should check the site for active bird nests before vegetation clearance.
- 5.1.2 If an active bird nest was found, it would be necessary to protect the nest from harm or disturbance until the bird had finished nesting.

Amphibians & Hedgehogs

- 5.1.3 The risk of significant impact or harm to amphibians or hedgehogs was considered low. To minimise any residual risk of harm, the following construction related precautionary measures should be followed:
- Debris and refuse should be cleared away by hand, as far as practically possible. Heavy items should be lifted carefully by machine. If at any point notable wildlife are observed, works should stop and the animal allowed to disperse of its own accord;
 - Before works commence, grass should be cut short by slow strimming in fine and dry weather between March and October;
 - Construction materials should be stored on hardstanding to prevent wildlife from sheltering in the materials and being harmed by movement of the materials;
 - Any temporary excavations for the development should be covered at night or should have a roughly sawn plank placed in them to facilitate escape for any wildlife which may fall in;
 - No development/construction activities at night when amphibians and hedgehogs are mostly active;
 - In the unlikely event that an amphibian or hedgehog is observed on the site, activities in that area should cease and the animal should be allowed to disperse of its own accord or an ecologist should be contacted for advice.

5.2 Enhancements

- 5.2.1 By following the below biodiversity enhancements, the development will improve the site for local wildlife and provide a net-gain in accordance with national planning policy (NPPF, 2019).
- 5.2.2 The addition of bat boxes and bird boxes on the newly constructed building and/or adjacent trees, will increase the potential roosting and nesting sites for local bats and birds. Specifically, the following boxes should be used;
- 1 x Vivara pro sparrow terrace (or similar if limited stock) for installation high into the walls of the new building.
 - 1 x Schwegler 1b general purpose bird box for installation high on a tree;
 - 2 x Eco Integrated Bat Boxes (or similar if limited stock) for installation high into the walls of the new building.
- 5.2.3 Bat and bird boxes can be purchased on-line through suppliers such as The Wildlife Shop and NHBS.
- 5.2.4 Any new or restored lawn areas following development will be created by using a wildflower meadow mixture such as EM1 by Emorsgate Seeds.
- 5.2.5 Any other new soft landscaping will be native and wildlife attracting.

6 CONCLUSION

- 6.1 The site is small in area and supports common and widespread habitats low in ecological value with negligible potential to support protected, priority or rare species. No signs or evidence of such were discovered during the survey visit.
- 6.2 Further ecological surveys or mitigation were considered unnecessary. However, to minimise any residual risk of impact to protected and priority species, recommendations are provided and should be followed.
- 6.3 By implementing the biodiversity enhancements provided, the proposed development will be enhanced further for the benefit of local wildlife to provide a net-gain in accordance with national planning policy.

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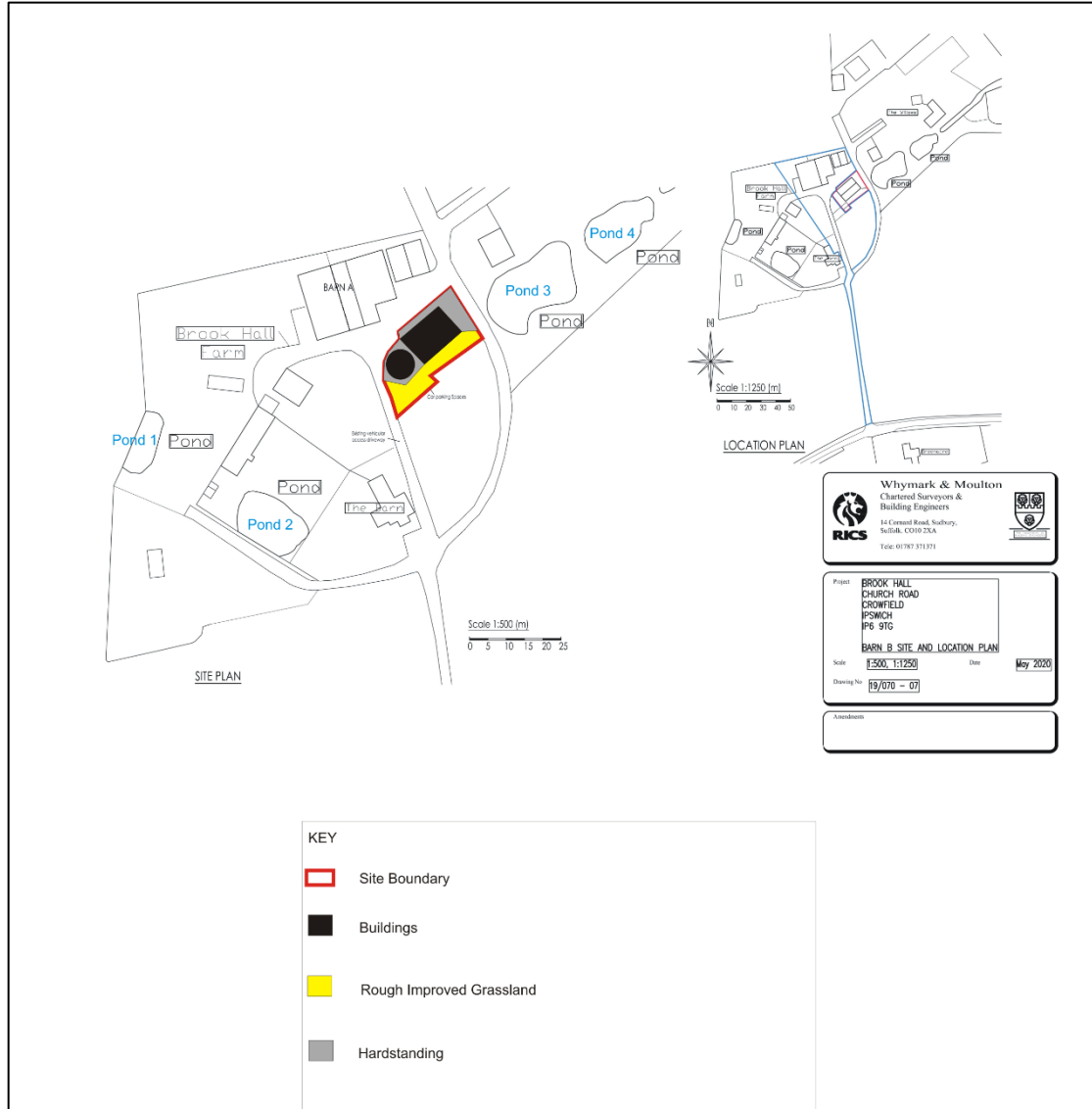
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8 APPENDICES

8.1 Appendix 1: Maps

Figure 1 – Map of proposed site.



8.2 Appendix 2: Photographs

Photograph 1 – Main site area.



Photograph by Roger Spring 2021

Photograph 2 – Main site area.



Photograph by Roger Spring 2021

Photograph 3 – Main site area.



Photograph by Roger Spring 2021

Photograph 4 – Inside the barn.



Photograph by Roger Spring 2021

Photograph 5 – Pond 1 near the site.



Photograph by Roger Spring 2021

Photograph 6 – Pond 2 near the site.



Photograph by Roger Spring 2021

Photograph 7 – Pond 3 near the site.



Photograph by Roger Spring 2021

Photograph 8 – Pond 4 near the site.



Photograph by Roger Spring 2020