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# **Preliminary Ecological Appraisal**

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**Land north of Farm Gate Cottage, Wicks Lane,  
Stowmarket**

**for**

**Locus Planning Ltd.**

**1 February 2021**

**Client**

Locus Planning Ltd.  
11 Charing Cross  
Norwich  
NR2 4AX


**Planning authority**

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***Time limit of reliance***

*Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.*

*Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).*

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<i>The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.</i>	
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## SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a development at land north of Farm Gate Cottage, Wicks Lane, Stowmarket, IP14 5HL (grid reference: TM 09432 60099).
- This report outlines the habitat features on site, the likelihood of protected species being present and any potential effects of the proposed development on such species.
- The ecology report is required in support of a planning application for the development of one new dwelling with associated parking and garage.
- The survey and assessment were completed by independent, qualified and experienced ecologists with Natural England survey licences for the relevant protected species.
- The findings of the assessment are that the habitats on the site are of **moderate** ecological value and that there are no significant ecological constraints that would prevent the proposed works.
- If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Protected sites	No statutory and two non-statutory protected sites within 2km.	No significant impacts on protected sites and their qualifying features.	None required.
Protected habitats and habitats subject to conservation designations	Irregularly grazed improved grassland, amenity grassland and tall ruderal vegetation will be removed as part of the proposed works. No Priority Habitats will be affected.	Low scale of habitat loss predicted for wildlife.	<u>Mitigation</u> Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees between plots and around the site. Construction work to be carried out in accordance with BSI (2012), BS 5837:2012, to protect trees and their root protection areas. Aquatic habitats protected from runoff and pollution by implementation of a 5m buffer zone along southern boundary.
Bats	<b>Negligible</b> bat roosting potential in buildings and trees on site. <b>Moderate</b> value commuting and foraging habitat on site.	Low scale loss and potential light disturbance of commuting and foraging habitats on site.	<u>Mitigation</u> Lighting schemes should comply with Bat Conservation Trust and CIE 150:2003 guidance. <u>Enhancement</u> Installation of one integrated bat box.
Breeding birds	Nesting habitats for hedgerow, tree and building nesting birds present on site,	Low scale loss of nesting habitat on site.	<u>Mitigation</u> Works to any hedgerows, trees and buildings on site to be conducted outside bird nesting season or under

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	including potential breeding habitat for two Red and one Amber listed species. Blackbird and woodpigeon nests found on site. Suitable barn owl foraging habitat on site.	Potential disturbance to breeding birds.	watching brief of ecologist if during nesting season. <u>Enhancement</u> Installation of one integrated swift box and one small bird box, installed on the new building and tree respectively. Installation of one barn owl box on a mature tree or building.
Great crested newts	Limited suitable terrestrial habitats on area of field proposed for development. Nine ponds within 250m of the site, five assessed as <b>poor</b> to <b>good</b> suitability, one dry and three could not be accessed for detailed assessment. One GCN record within 2km.	Potential harm to GCN if present on site during works. Low scale loss of GCN terrestrial habitat not considered significant to a local population of GCN, if present. No impacts on potential GCN aquatic habitat.	<u>Mitigation</u> Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works. Removal of refugia by hand. In the highly unlikely event GCN are found, work should cease immediately, and a licenced ecologist contacted. Rough sawn planks placed inside any open excavations. Construction materials should be stored off the ground on pallets.
Reptiles	Habitats on site suitable. No reptile records within 2km.	Potential harm to reptiles if present on site during works. Low scale loss of reptile habitat.	<u>Mitigation</u> Mitigation measures as outlined above for GCN.
Other animals	N/A	Potential harm to animals.	<u>Mitigation</u> Porous hedgehog friendly fencing should be used within and around the site. Rough sawn planks placed inside any open excavations. Night lighting of the construction site should be minimised as far as possible. Construction materials should be stored off the ground on pallets.

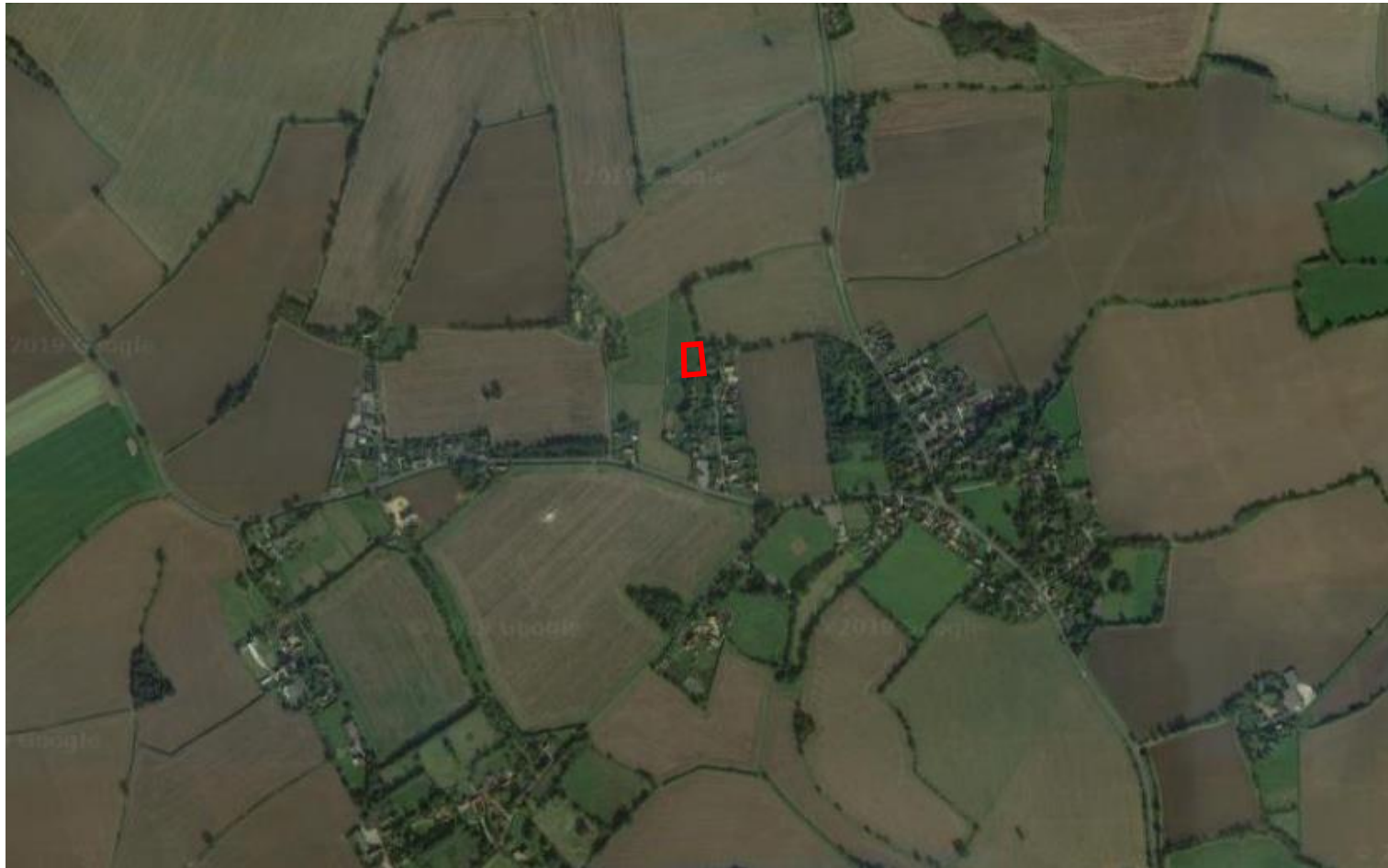
## 1. METHOD

- 1.1. A walkover of the site was conducted on 19<sup>th</sup> December 2019 by Nathan Duszynski – an independent, qualified and experienced ecologist.
- 1.2. All survey methods were carried out in accordance with the most up to date good practice guidance for the relevant protected species. Please refer to Appendix A for the full methodology and species breakdown.
- 1.3. The habitats on and directly adjacent the site were considered unsuitable for the following protected species:
  - Water vole *Arvicola amphibius*
  - Otter *Lutra lutra*
  - White-clawed crayfish *Austropotamobius pallipes*
  - Badger *Meles meles*
  - Hazel dormouse *Muscardinus avellanarius*
  - Natterjack toad *Epidalea calamita*
- 1.4. Therefore, no further surveys or mitigation for the species listed above are detailed in this report.

## 2. SITE CONTEXT

### Location

- 2.1. The general location of the site is shown in Figure 1 below.
- 2.2. The site is situated in the village of Forward Green, approximately 3.2km northeast of the town of Stowmarket and the A14.
- 2.3. The site is enclosed by a mixture of grassland, arable fields and residential. The wider surroundings are predominately comprised of arable fields with residential properties from small villages and some small patches of woodland.



**Figure 1**

Satellite image of site surroundings, site indicated by red line.

Image © Google, date accessed 19/12/19

### 3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the development of one new dwelling with associated parking and garage. Please refer to Appendix I for the proposed plans.

### 4. DESKTOP REVIEW

#### Protected sites

##### *Statutory*

- 4.1. There are no protected sites located within 2km.
- 4.2. The proposed development falls outside of all Sites of Special Scientific Interest (“SSSI”) Impact Risk Zones relating to rural residential developments.

##### *Non-statutory*

- 4.3. There are two non-statutory protected sites located within 2km – two County Wildlife Sites (“CWS”). Please refer to Appendix C for the full citations.
- i. RNR 70 CWS, approximately 900m southeast.  
*“Yellow Vetchling & pyramidal orchids. This site is also a Roadside Nature Reserve.”*
  - ii. Forrold Meadow CWS, approximately 700m southeast.  
*“Neutral grassland.”*

#### Protected habitats and habitats subject to conservation designations

- 4.4. Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on site include: Hedgerows.
- 4.5. Other Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland BAP Priority Habitat. The closest of which, is Deciduous Woodland located approximately 320m northeast of the site.

#### Protected species

- 4.6. The biodiversity data search within 2km of the site indicated 547 records from 108 species.
- 4.7. Records of note within 2km and relevant to the proposed development works are:
- 20 barn owl *Tyto alba* records between 1999 and 2017.



- 11 skylark *Alauda arvensis* records between 2001 and 2013.
- 14 swift *Apus apus* records between 2008 and 2018.
- One GCN *Triturus cristatus* record from 2004, located approximately 550m southwest.
- One otter *Lutra lutra* record from 2000, located approximately 1.9km southeast.
- Two badger *Meles meles* records between 2012 and 2013, with the closest record approximately 1.2km north.
- 51 hedgehog *Erinaceus europaeus* records between 2011 and 2018.
- One water vole *Arvicola amphibius* record from 2001, located approximately 700m southeast.
- Nine bat records between 2009 and 2015 including soprano pipistrelles *Pipistrellus pygmaeus*, brown long-eared bats *Plecotus auritus*, serotines *Eptesicus serotinus*, noctules *Nyctalus noctula* and other unidentified bat species.

#### **Protected species licences**

- 4.8. A 2km search on <http://www.magic.gov.uk/> indicated no records of granted European Protected Species (“EPS”) Mitigation Licences.

## 5. FIELD STUDY

### Habitats

- 5.1. The habitats on the site are of **moderate** ecological value, being mainly irregularly grazed improved grassland, tall ruderal vegetation, amenity grassland and hedgerows on the site periphery. Only the southern end of the field of the site is proposed for development.
- 5.2. Figure 2 provides a phase 1 map of the habitats present on the site. NERC Act 2006 Section 41 habitats have been identified where relevant. A full list of plant species recorded on site is attached in Appendix E.

#### *Improved grassland (phase 1 habitat classification B4)*

- 5.3. The majority of the site is comprised of irregularly grazed improved grassland. The southern end of the field that is proposed for development is regularly grazed short in rotation by horses. Species include: bulbous buttercup *Ranunculus bulbosus*, cock's-foot *Dactylis glomerata*, creeping buttercup *Ranunculus repens*, creeping thistle *Cirsium arvense*, false-oat grass *Arrhenatherum elatius*, ground ivy *Glechoma hederacea*, perennial ryegrass *Lolium perenne*, ragwort *Jacobaea vulgaris*, selfheal *Prunella vulgaris*, spear thistle *Cirsium vulgare* and Yorkshire fog *Holcus lanatus*. Due to extensive periods of higher than average rainfall, the majority of the site was waterlogged.

#### *Tall ruderal (phase 1 habitat classification C3.1)*

- 5.4. The site features two areas of tall ruderal vegetation adjacent manure and straw piles. Species include: common chickweed *Stellaria media*, creeping buttercup, dock *Rumex sp.*, mallow *Malva sylvestris*, nettle *Urtica dioica*, ragwort, red-dead nettle *Lamium purpureum*, wall bedstraw *Galium parisiense*, white-dead nettle *Lamium album*, Yorkshire fog and small quantities of bramble *Rubus fruticosus*.

#### *Amenity improved grassland (phase 1 habitat classification J1.2)*

- 5.5. An area of regularly mown amenity grassland is present along the existing access track. Species include: clover *Trifolium sp.*, cock's-foot, creeping buttercup, daisy *Bellis perennis*, mouse-ear *Cerastium sp.*, perennial ryegrass and ribwort plantain *Plantago lanceolata*.

*Intact, species-poor hedge (phase 1 habitat classification J2.1.2)*

- 5.6. The site features several intact, species-poor hedgerows which are regularly managed. Species include: blackthorn *Prunus spinosa*, bramble, dog-rose *Rosa canina*, field maple *Acer campestre*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and privet *Ligustrum vulgare*. These hedgerows are classified as Priority Habitats under the NERC Act 2006 Section 41 Habitats of Principal Importance, but do not qualify as “important” under The Hedgerow Regulations 1997, lacking the required number of native woody species.

*Defunct, species-poor hedge (phase 1 habitat classification J2.2.2)*

- 5.7. The site features a defunct, species-poor hedgerow along a section of the southern boundary which is occasionally managed. Species include: blackthorn, bramble, dog-rose and hawthorn. This hedgerow is classified as a Priority Habitat under the NERC Act 2006 Section 41 Habitats of Principal Importance, but does not qualify as “important” under The Hedgerow Regulations 1997, lacking the required number of native woody species.

*Intact, species-rich hedge with trees (phase 1 habitat classification J2.3.1)*

- 5.8. The site features an intact, species-rich hedgerow with trees along the eastern boundary, which is partly managed. Hedgerow species include: blackthorn, bramble, dog-rose, elm *Ulmus minor*, field maple and hawthorn. Tree species include: ash *Fraxinus excelsior*, English oak *Quercus robur* and field maple. This hedgerow is classified as a Priority Habitat under the NERC Act 2006 Section 41 Habitats of Principal Importance, but does not qualify as “important” under The Hedgerow Regulations 1997, lacking the required number of native woody species.

*Fence (phase 1 habitat classification J2.4)*

- 5.9. The site contains a mixture of close board, electric and post and rail fences around the site.

*Buildings (phase 1 habitat classification J3.6)*

- 5.10. There is a building on site that is used as a stable block and store. Please refer to the bat section detailed below for further information.

Target note number	Comments
1	Manure and straw piles.
2	Waterlogged ground due to extensive period of higher than average rainfall over recent days/weeks.

**Table 1**, phase 1 target notes.



**Figure 2**

Phase 1 habitats on site.

Image © Google, date accessed 19/12/19



**Photo 1**, existing southeast access to the site, looking northwest.



**Photo 2**, target notes one and two, and improved grassland in southwest corner, looking southwest.



**Photo 3**, improved grassland, looking north from the southeast corner.



**Photo 4**, tall ruderal vegetation in field to north of the proposed site, looking west.



**Photo 5**, improved grassland in field to north of site proposed for development, looking south from the northern field boundary.



**Photo 6**, intact hedgerow with trees along the eastern boundary, looking northeast.

## Bats

5.11. There is one building located on site, as indicated in Figure 2 and photo 7.

### *Building one – stable block*

5.12. The stable block is a timber framed structure situated on a brick plinth and concrete base. The walls feature single skin featheredge timber cladding, with stable doors and acrylic windows. The roof is comprised of bitumen felt and soffit boxes. The building is currently being used as a stable block and storage room.

5.13. Internally, the building features several interconnected open voids with shallow timber trusses. The roof is lined with plywood, lacks a ridge beam and is moderately cobwebbed. The building features a significant amount of natural daylight.

5.14. There were no signs of use by bats on the building exterior or interior and the structure provides an unsuitable roost environment, with no suitable cavities for roosting bats. The buildings are assessed as **negligible** roost suitability for bats.



**Photo 7**, east aspect of building one, looking west.



*Trees*

- 5.15. The trees around the site boundary were assessed for bat roosting potential and were considered unsuitable due to their age and/or lack of features.

*Foraging and commuting links*

- 5.16. The landscape immediately adjacent to the site is considered of **moderate** value for foraging and commuting bats, with linked gardens, hedgerows and treelines providing links to the wider landscape. Residential dwellings adjacent the site and within Forward Green have the potential to provide roosting opportunities for bats.
- 5.17. The site itself provides **moderate** value foraging habitat for bats along the boundary hedgerows.

**Birds**

- 5.18. Birds in the UK are classified into three categories of conservation importance - red, amber and green. Factors such as global threat level, population decline, breeding population decline and contraction of breeding range are taken into account to determine classification.
- 5.19. The following bird species were observed during the site visit:

***Amber listed:***

Dunnock	<i>Prunella modularis</i>
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***Green listed:***

Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Great tit	<i>Parus major</i>
Pied wagtail	<i>Motacilla alba</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

- 5.20. The site provides suitable nesting habitats for hedgerow, tree and building nesting species. A number of blackbird *Turdus merula* and woodpigeon *Columba palumbus* nests were present within the hedgerow and trees.
- 5.21. The site provides potential breeding habitat for the following Red listed species: house sparrow *Passer domesticus* and yellowhammer *Emberiza citrinella*.
- 5.22. The site provides potential breeding habitat for the following Amber listed species: dunnock *Prunella modularis*.

5.23. Although no barn owl nests or pellets were identified on site, suitable foraging habitat is present within the improved grassland and tall ruderal vegetation.

### **Great crested newts**

- 5.24. Although there are no ponds on site, two ponds are directly adjacent the southern boundary and a further seven ponds are present within 250m, which for the size of the development and nature of terrestrial habitat on the site, is a sufficient distance to consider for assessment (Figure 4). GCN are most likely to occupy good quality terrestrial habitat within 250m of a breeding pond (English Nature, 2001).
- 5.25. The terrestrial habitats on the proposed southern area of the field proposed for development is considered mainly unsuitable for GCN, consisting of regularly grazed improved grassland.
- 5.26. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields and residential dwellings with associated gardens and hardstanding) and suitable (irregularly managed improved grassland, scrub, hedgerows and deciduous woodland) GCN foraging, commuting and hibernating habitats.
- 5.27. Ponds 2-6 were assessed as **poor to good** suitability for GCN (Table 3). Pond one did not appear to exist, having been filled in or dry for a prolonged period of time and ponds 8-11 were not assessed in detail, as authorised access to the ponds was not available.
- 5.28. Residents of Farm Gate Cottage (ponds 2-5) and Weylands Farmhouse (pond six) reported seeing both smooth newts *Lissotriton vulgaris* and GCN on numerous occasions, with individuals regularly seen under loose paving slabs.
- 5.29. The A1120 to the south acts as a habitat barrier and ecologically separates the site from ponds in the local vicinity.

Pond	1	2	3	4	5	6	7-9
<b>Geographic location</b>	Dry for a prolonged period of time	Zone A	Zone A	Zone A	Zone A	Zone A	Unable to access for detailed assessment
		1.00	1.00	1.00	1.00	1.00	
<b>Pond surface area (m<sup>2</sup>)</b>		<50m <sup>2</sup>	100m <sup>2</sup>	50m <sup>2</sup>	100m <sup>2</sup>	50m <sup>2</sup>	
		0.05	0.20	0.10	0.20	0.10	
<b>Desiccation rate</b>		Annually	Annually	Annually	≤2 years in 10	≥3 years in 10	
		0.10	0.10	0.10	1.00	0.50	
<b>Water quality/ invert density</b>		Poor	Poor	Poor	Moderate	Moderate	
		0.33	0.33	0.33	0.67	0.67	
<b>Shoreline shade (%)</b>		20%	50%	90%	20%	20%	
		1.00	1.00	0.40	1.00	1.00	
<b>Waterfowl impacts</b>		Absent	Minor	Minor	Minor	Absent	
		1.00	0.67	0.67	0.67	1.00	
<b>Fish impacts</b>		Absent	Absent	Absent	Absent	Absent	
		1.00	1.00	1.00	1.00	1.00	
<b>Ponds within 1km</b>		13+	13+	13+	13+	13+	
		1.00	1.00	1.00	1.00	1.00	
<b>Terrestrial habitat quality</b>		Moderate	Moderate	Moderate	Moderate	Moderate	
		0.67	0.67	0.67	0.67	0.67	
<b>Macrophyte cover (%)</b>		0%	5%	0%	30%	95%	
		0.30	0.35	0.30	0.60	0.85	
<b>HSI Score</b>	<b>Poor</b>	<b>Below average</b>	<b>Poor</b>	<b>Good</b>	<b>Average</b>		
	0.45	0.50	0.42	0.72	0.67		

Table 3, HSI score for ponds within 250m of the proposed site.



**Photo 8**, pond one, looking east.



**Photo 9**, pond two, looking southeast.



**Photo 10**, pond three, looking east.



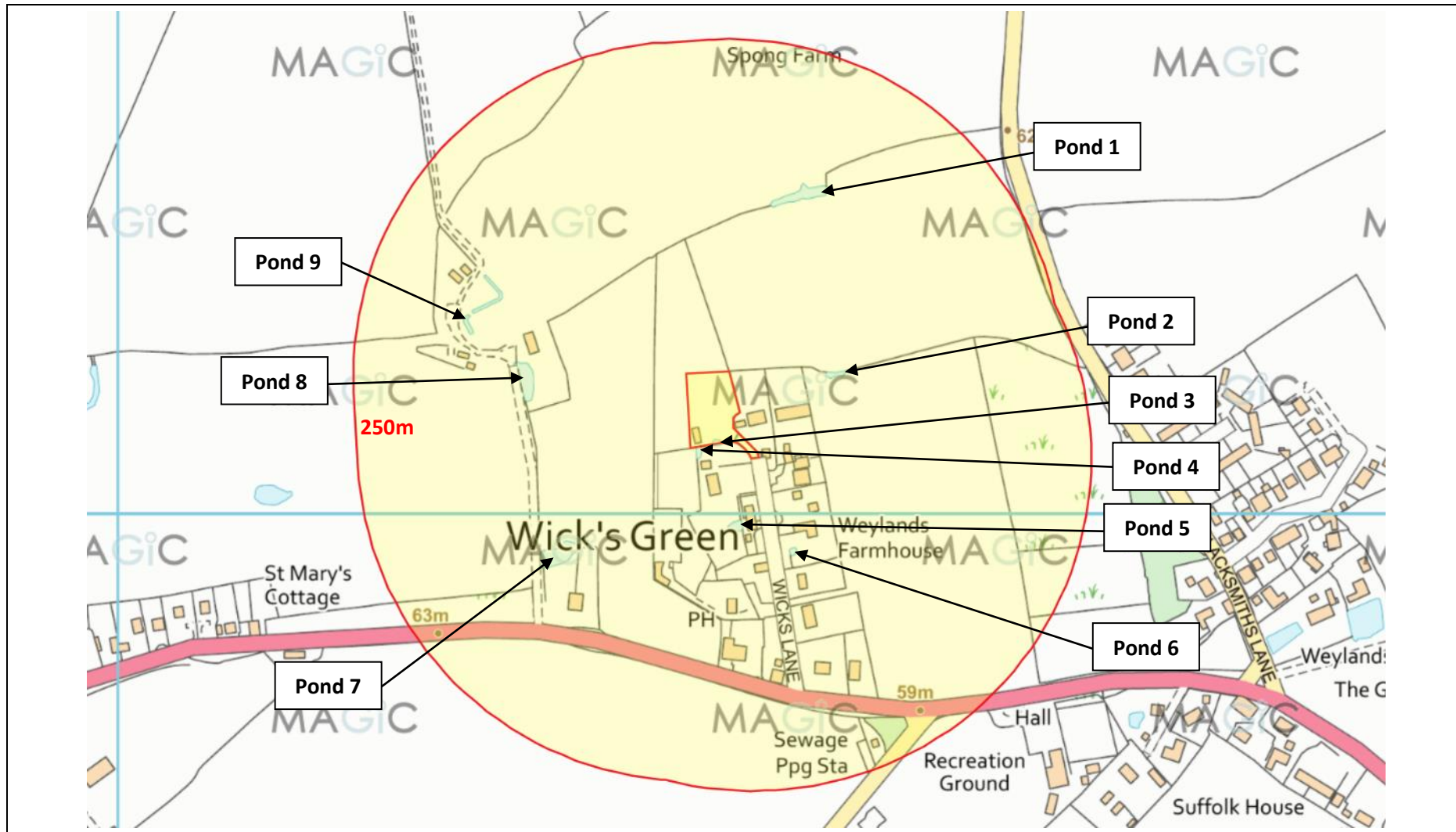
**Photo 11**, pond four, looking north.



**Photo 12**, pond five, looking east.



**Photo 13**, pond six, looking southwest.



**Figure 4**  
Ponds within 250m of the proposed site.  
Image © MAGiC, date accessed 31/01/21

## **Reptiles**

- 5.30. The habitats on the site are considered mainly unsuitable for reptiles, comprising regularly grazed improved grassland.
- 5.31. Habitats located on the site boundaries including the base of the hedgerows could be used as commuting habitats by reptiles if they were present in the area.
- 5.32. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields and residential dwellings with associated gardens and hardstanding) and suitable (irregularly managed improved grassland, scrub, hedgerows and deciduous woodland) reptiles foraging, commuting and hibernating habitats.
- 5.33. The A1120 to the south acts as a habitat barrier and ecologically separates the site from habitats further afield.



## 6. DISCUSSION AND CONCLUSIONS

### Protected sites

- 6.1. The development footprint falls outside all identified protected sites (statutory and non-statutory). There are no statutory protected sites and two non-statutory protected sites located within 2km of the site.
- The closest non-statutory protected site (Forrold Meadow CWS), is located approximately 700m southeast of the site and designated for its neutral grassland.
- 6.2. The proposed development falls outside of any SSSI Impact Risk Zones relating to rural residential developments.
- 6.3. The proposed development is expected to have no effects on statutory or non-statutory protected sites or their qualifying features, owing to its relatively small scale, distance to protected sites and limited predicted impacts beyond the area of works.

### Habitats

- 6.4. Only ≈0.25ha will be affected by proposed works, which involves the demolition of the stable block and clearance of regularly grazed grassland habitats. No priority habitats will be affected by the proposed development. This is expected to result in a low scale loss of nesting habitat for hedgerow, tree and building nesting birds, and a low scale loss of foraging features for bats. Please refer to the bat section below for predicted impacts on buildings and trees with potential bat roosts.
- 6.5. As a precautionary measure, the following mitigation is recommended to avoid impacts on habitats from the proposed works:
- i. A soft landscaping scheme to include the planting of new native species-rich (≥5 species), hedgerows and trees around the site (see Appendix H for suggested species).
  - ii. Construction works carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction – recommendations, to protect trees which are to be retained and their root protection areas.
  - iii. Aquatic habitats to be protected from runoff and pollution from the proposed development by the erection of a 5m buffer zone along the southern boundary (ponds three and four).

## **Bats**

- 6.6. The proposed works are expected to result in a low scale loss and disturbance of foraging and commuting features for bats, through the demolition of the stable block and increased noise and light levels.
- 6.7. As a precautionary measure, the following mitigation is recommended to avoid impacts on bats from the proposed works:
- i. Lighting schemes should follow guidance from the Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters should be fitted as close to the ground as possible. Lighting units should be angled below 70° and equipped with movement sensors, baffles, hoods, louvres and horizontal cut off units at 90°.
  - ii. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees around the site (see Appendix H for suggested species).
- 6.8. Building Regulations state that the energy efficiency of buildings must be improved where possible and that contractors must assess the condensation risk within the roof space and make appropriate provisions in line with BS 5250:2011. This British Standard states that both High Resistance (bitumen type 1F) and Low Resistance (breathable roof membranes “BRM”) underlays are acceptable as long as appropriate ventilation is provided. As BRM are proven to entangle bats through regular contact, which also compromises the integrity of the membrane, the Bat Conservation Trust recommend only traditional type 1F bitumen is used.
- 6.9. As enhancements, we recommend the installation of:
- i. One integrated bat box installed on the new dwelling (Schwegler 1FR Bat Tube – Appendix F).
- 6.10. After these precautionary mitigation measures, we predict no impact on bats as a result of the development plans. We consider that a European Protected Species Licence will not be required, and no further surveys are necessary.

## **Birds**

- 6.11. The proposed works are expected to result in a low scale loss of bird nesting habitat through the demolition of the stable block and increased noise and light levels.
- 6.12. Any works affecting bird nesting habitat such as management of hedgerows, trees or buildings would ideally need to be conducted outside the main nesting season, which lasts from March to August. If work is planned during the bird nesting season then a precautionary check of all habitats, should be conducted by a qualified ecologist immediately prior to starting any work.

If any nesting birds are found, an appropriate protection zone from the nest will be required and should be maintained until the young have fledged.

6.13. As enhancements, we recommend the installation of:

- i. One integrated swift box installed on the new dwelling (WoodStone Build-in Swift Nest Box B – Appendix F).
- ii. One small bird box (Schwegler 1B or 2H Nest Box – Appendix F).
- iii. One barn owl box erected on a mature tree or building (Eco Barn Owl Nest Box – Appendix F).
- iv. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees around the site (see Appendix H for suggested species).

6.14. Natural England and Local Planning Authorities (“LPA”) have recognised a significant decline in swift populations across the country, and are actively endorsing integrated swift boxes to provide a net gain in biodiversity, as is encouraged by NPPF 2019.

#### **Great crested newts**

6.15. Only  $\approx 0.2$ ha of mostly unsuitable grazed grassland will be affected by proposed works, with aquatic habitats unaffected. The following mitigation is recommended:

- i. Vegetation on site should be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.
- ii. A hand destructive search of all suitable amphibian habitat and with an awareness that amphibians may be present. In the highly unlikely event that any GCN are found, work should cease immediately and a licenced ecologist contacted to remove any GCN to safety and advice on how to proceed.
- iii. Construction materials should be stored off the ground on pallets, to prevent providing shelter for animals and subsequent harm when materials are moved.
- iv. Any excavations should have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations should be checked each morning works are scheduled for, to remove any animals trapped.

6.16. We consider that the above mitigation will be adequate to avoid adverse impacts on GCN and that further surveys or a EPS Mitigation Licence from Natural England will not be required for the proposed development to proceed.

### **Reptiles**

6.17. The mitigation recommended above for GCN is considered sufficient to avoid impacts on reptiles from the proposed works and no further surveys are recommended.

### **Other animals**

6.18. The surrounding habitat of the site is considered suitable for hedgehogs, which have been recorded within 2km. To maintain potential hedgehog routes within the site and between the site and further habitats, we recommend that any fencing installed is porous and provides access openings for hedgehogs (see Appendix G for examples).

6.19. General mitigation to protect wildlife during the construction period are as follows:

- Any excavations should have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations should be checked each morning works are scheduled for, to remove any animals trapped.
- Lighting of the construction site at night should be minimised as far as practicable, to reduce the risk of possible disruption to nocturnal animals such as bats and badgers.
- Construction materials should be stored off the ground on pallets, to prevent providing shelter for animals and subsequent harm when materials are moved.

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## Appendix A Methods

### Desktop Review

A desktop review of published data, such as records of protected sites and species, OS maps and satellite images has been carried out. A data search was carried out with the Suffolk Biodiversity Information Service ("SBIS").

A field survey visit was conducted to confirm the findings of the desktop review and to record habitats and species located on site.

Equipment available for use during the survey were binoculars, ladders, torches, endoscope and a digital camera.

### Habitats

The habitats on site have been defined using the Handbook for Phase 1 habitat survey (JNCC, 2010). Natural Environment and Rural Communities (NERC) Act (2006) habitats listed under section 41 have been identified where appropriate.

### Bats

An assessment of the habitats on and surrounding the site for bat interest was made, in accordance with latest bat survey guidelines (Collins, 2016).

The building(s) on site was assessed for its potential to support roosting bats and involved a thorough internal and external search of all suitable cavities, holes and crevices. All suitable areas, including objects, ledges and floors were inspected for the following signs:

- Bat droppings
- Stains around roosting places and entrance points
- Urine marks
- Prey remains
- Areas devoid of cobwebs
- Live or dead bats
- Suitable cracks and crevices for bats to enter

In exposed conditions, the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain.

An evaluation system was applied to the building(s) using the following criteria:

- **Negligible roost suitability for bats.** These buildings have no potential roosting features for bats, or very few or minor features in an isolated or unsuitable location such that the presence of a bat roost is considered highly unlikely. Such buildings usually fall into two main types: generally, well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall, or without an attic space; or those which contain some or all of the above features, but are both draughty and thick in cobwebs

or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. When no suitable habitats for bats are found, no further surveys or European Protected Species (“EPS”) mitigation licence are required.

- **Low roost suitability for bats.** Buildings in this category have one or more potential roost sites that could be used by individual bat opportunistically. These buildings do not however provide suitable conditions (such as space, shelter, temperature, humidity, or light and noise disturbance) to be used on a regular basis by a large number of bats. Structures with low roost suitability for bats will require **one dusk emergence or one dawn re-entry survey** conducted between May and August to assess their current use by bats.
- **Moderate roost suitability for bats.** These buildings contain one or more potential roosting sites which could be regularly used by bats owing to their size, shelter, protection and conditions. These buildings are however unlikely to support a roost of high conservation status (maternity roost or hibernation roost). Structures with moderate roost suitability for bats will require two surveys, **one dusk emergence and one dawn re-entry survey** conducted between May and September with at least one of the surveys undertaken between May and August, to assess their current use by bats.
- **High roost suitability for bats.** This group includes buildings with one or more potential roost sites which are obviously suitable for use by a larger number of bats on a regular basis and potentially for longer periods of time owing to their size, shelter, protection and conditions. These buildings may support a roost of high conservation status (maternity roost or hibernation roost) and will require three activity surveys to assess their current use by bats. The surveys should include at least **one dusk emergence and** at least **one dawn re-entry survey** (the third survey can either be at dusk or dawn) and should be conducted between May and September with at least two of surveys undertaken between May and August.

Trees on and around the site were assessed for their suitability to support roosting bats. The assessment involved a ground level inspection of the exterior of the trees to search for features offering roosting potential to bats such as split limbs, woodpecker holes, cavities, lifted bark and dense thick-stemmed ivy.

An evaluation system was applied to the trees using the following criteria:

- **Negligible roost suitability for bats.** Trees unlikely to be used by roosting bats.
- **Low roost suitability for bats.** A tree of sufficient size and age to contain Potential Roosting Features (“PRFs”), but with none seen from the ground or features seen with only very limited roosting potential.
- **Moderate roost suitability for bats.** A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.

- **High roost suitability for bats.** A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection and surrounding habitat.

The habitats on and around the site were assessed for their commuting and foraging potential for bats. An evaluation system was applied to the commuting and foraging potential using the following criteria.

- **Negligible commuting and foraging potential for bats.** Habitat features unlikely to be used by commuting or foraging bats.
- **Low commuting and foraging potential for bats.** Habitats that could be used by a small number of commuting or foraging bats such as, a gappy hedgerow, unvegetated stream or lone trees, but are isolated and not well connected to the surrounding landscape.
- **Moderate commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, lines of trees, scrub, linked back gardens, grasslands and water features.
- **High commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, river valleys and tree lined watercourses, hedgerows, lines of trees, deciduous woodland, and grazed parkland. These habitats are likely to be used regularly by commuting or foraging bats and are likely to be close to, or connected to, known roosts.

## **Birds**

The site and its surrounding habitats were assessed for their potential to support breeding birds. Bird nesting habitat could include grassland, hedgerows, scrub, trees and buildings.

Bird species noted during the site visit were recorded. Trees, buildings and grassland were checked for use by barn owls swifts and skylarks.

## **Great crested newts**

Habitats on and near the site were assessed for their suitability for great crested newts ("GCN").

Water features on and near the site were assessed for their suitability for occupation by GCN, according to a Habitat Suitability Index ("HSI"). The HSI is a theoretical index of a waterbody's suitability to support a breeding population of GCN and is calculated from a series of ten variables recorded on site, as detailed in Table 4.



Indices	Name	Description
SI1	Geographic Location	Lowland England or upland England, Scotland and Wales
SI2	Pond area	To the nearest 50m <sup>2</sup>
SI3	Permanence	Number of years' pond dry out of ten
SI4	Water quality	Measured by invertebrate diversity
SI5	Shade	Percentage shading of pond edge at least 1m from shore
SI6	Fowl	Level of waterfowl use
SI7	Fish	Level of fish population
SI8	Pond count	Number of ponds within 1km divided by 3.14
SI9	Terrestrial habitat	Quality of surrounding terrestrial habitat
SI10	Macrophytes	Percentage extent of macrophyte cover on pond surface

**Table 4**, HSI indices.

The HSI score is the geometric mean of the ten suitability indices calculated:

$$HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$$

Once calculated, the HSI score for a waterbody can be categorised as follows:

Excellent (>0.8)

Good (0.7 – 0.79)

Average (0.6 – 0.69)

Below Average (0.5 – 0.59)

#### **Water voles, otters and white-clawed crayfish**

Water features on and adjacent to the site were assessed for use by water vole, otter and white-clawed crayfish. Otters in England typically use areas of fresh water and streams and ditches for moving between habitats. Otter holts are usually located underneath tree roots, in tunnels. Field signs of presence include spraints on prominent features such as bridges, tree bases or boulders, and footprints.

Water voles inhabit burrows in the banks of ponds, ditches, streams and rivers. Field signs include droppings left in latrine spots, burrow entrances or feeding remains.

White-clawed crayfish inhabit streams and rivers with a moderate flow rate, and lakes. Clear, well-oxygenated water is preferred. Typical habitat features include crevices in rocks, gaps between stones, submerged plants and tree roots.

#### **Reptiles**

The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.

### **Badgers**

An inspection of all habitats with the potential to support badger *Meles meles* sett construction and foraging activities on the application site was undertaken. Any incidental observations of badger signs were also recorded. The survey comprised searching for evidence of badger activity in the form of setts, droppings, pathways, snuffle holes, hair and footprints.

### **Dormice**

Dormice habitats include deciduous woodland, hedgerows and scrub. Dormice are found mainly in the south of England, including Kent and Sussex, with sporadic populations elsewhere. An assessment of the suitability of site habitats for occupation by dormice was made.

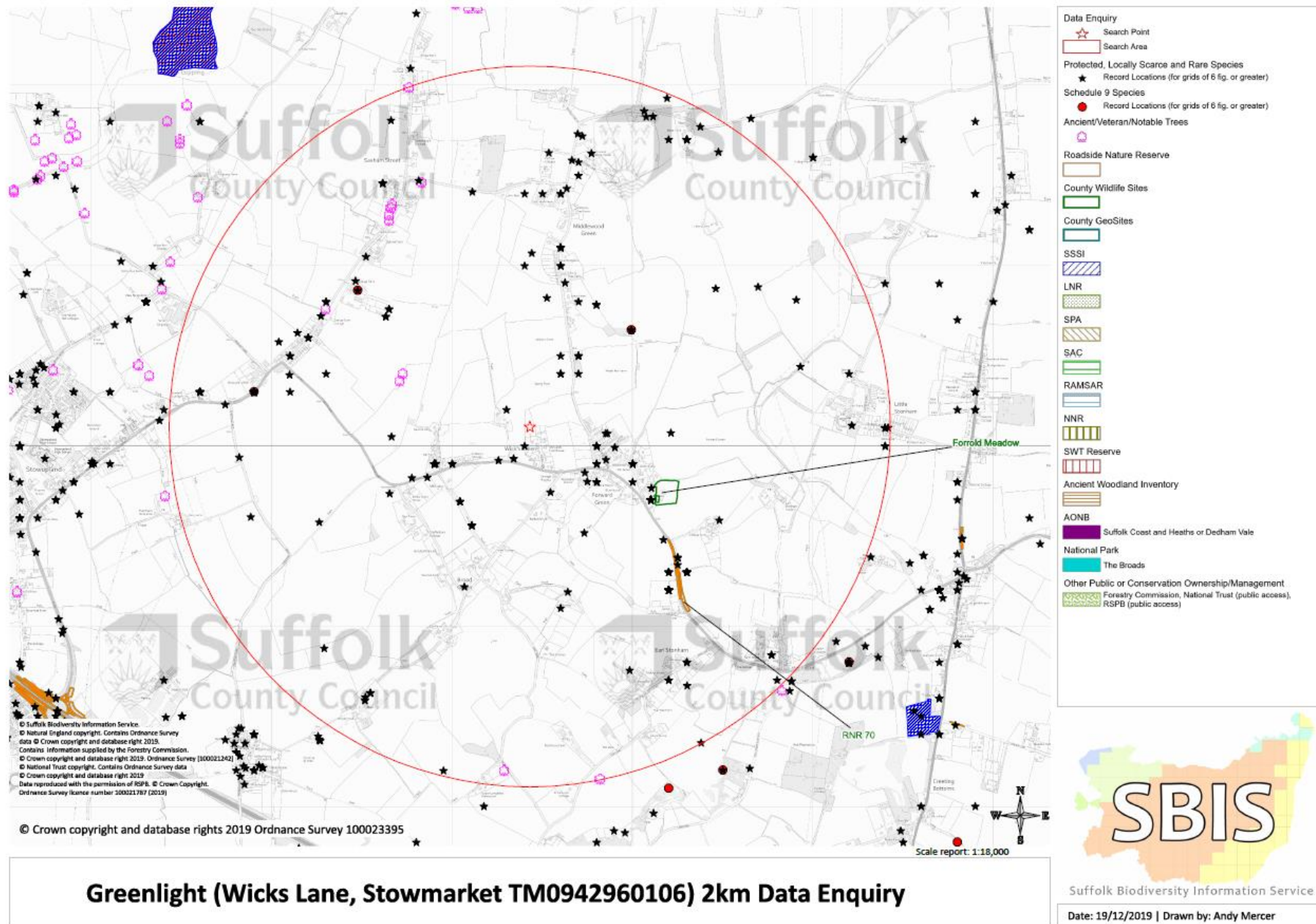
### **Other protected species**

Particular regard was made to the nature of the proposed development and the potential of impact upon any other protected species, species which are nationally or locally scarce, or species subject to other conservation designations such as Red Data Book or Priority S41 species, from the development work, should these be present in the area.

### **Constraints**

The field survey was conducted outside of the optimal survey period for flowering plants. Although the habitats recorded on site are unlikely to change to those described in this report, flora biodiversity is likely to be under recorded.

**Appendix B**  
**Map of protected sites within 2km**



## Appendix C Protected sites citations

### County Wildlife Sites citations

<b>CWS Number</b>	Mid Suffolk 177
<b>Site Name</b>	RNR 70
<b>Parish</b>	Stonham Earl
<b>District</b>	Mid Suffolk
<b>NGR</b>	TM 10255933 - TM 10315908
<b>Description</b>	Yellow Vetchling & pyramidal orchids. This site is also a Roadside Nature Reserve.
<b>RNR Number</b>	70
<b>Area</b>	0.44

<b>CWS Number</b>	Mid Suffolk 199
<b>Site Name</b>	FORROLD MEADOW
<b>Parish</b>	STONHAM EARL
<b>District</b>	Mid Suffolk
<b>NGR</b>	TM101597
<b>Description</b>	Awaiting description – Netural grassland
<b>RNR Number</b>	0
<b>Area</b>	1.52

## Appendix D Legislation

### European Protected Species

**The Ramsar Convention (1971)** on Wetlands of International Importance especially as Waterfowl Habitat seeks to promote the conservation and wise use of wetlands, particularly those which support internationally significant numbers of water birds. This is achieved through the designation of Ramsar Sites.

**The European Community Council Directive on the Conservation of Wild Birds (79/409/EEC)** sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It requires member states to designate Special Protection Areas (SPAs) for protection of certain species.

The main piece of legislation relating to nature conservation in Great Britain is **The Wildlife and Countryside Act 1981 (as amended)**. This Act is supplemented by provision in **The Countryside and Rights of Way (CROW) Act 2000** and **The Natural Environment and Rural Communities Act 2006 (in England and Wales)**. This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds, their nests and eggs.

**The Countryside and Rights of Way Act 2000** strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

UK wildlife is also protected under **The Conservation (Natural Habitats &c.) Regulations 1994** (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2017, these Regulations, together with subsequent amendments, were consolidated into **The Conservation of Habitats and Species Regulations 2017**.

The Regulations 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. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

**The Protection of Badgers Act 1992** consolidates previous badger legislation by providing comprehensive protection for badgers and their setts, with a requirement that any authorised sett disturbance or destruction be carried out under licence.

**The Hedgerows Regulations 1997** aim to protect important hedgerows in the countryside. They make it illegal to remove most countryside hedges without first notifying the local planning authority, and provide protection for 'important hedgerows'.

**County Wildlife Site** is a non-statutory designation used to identify high quality wildlife habitats in a county context. Local Authorities have a responsibility as part of their planning function to take account of sites of substantial nature conservation value and to consider them alongside other material planning considerations. The location of County Wildlife Sites will be included in Local Plans and Development Documents.

#### **National Planning Policy - National Planning Policy Framework (NPPF)**

Section 15 of the National Planning Policy Framework 2019 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

#### **Implications of legislation and policies**

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

#### **Bats**

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30<sup>th</sup> November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species (“EPS”) and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

#### **Barn Owls**

The Habitats Regulations (1994), as amended, states that a person commits an offence in the case of Barn Owl only if this species is disturbed in the breeding season. This applies equally to all those bird species listed under Schedule 1.

#### **Breeding Birds**

It is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built (even of "pest" species); take or destroy the eggs of any wild bird.

#### **Great Crested Newts**

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

#### **Water Vole**

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;



- possess or control a dead or live water vole, or any part of a water vole;
- intentionally or recklessly damage or destroy access to any structure or place which water voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for sale live or dead Water Voles

Water voles, their breeding sites and resting places are protected by law. In most cases, work can be planned to avoid harming water voles. If works cannot avoid disturbing them or damaging their habitats, you may be able to get a licence from Natural England.

### **Otters**

Otters are protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and revised by the Countryside and Rights of Way Act 2004, making it an offence to:

- intentionally kill, injure or take an otter;
- possess or control any (live or dead) otter, or any part of or anything derived from an otter;
- intentionally or recklessly damage or destroy or obstruct access to any structure or place used for shelter or protection by an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place for that purpose;
- to sell, offer for sale, possess or transport for the purpose of sale any (live or dead) otter or part or derivative of an otter;
- to advertise for buying and selling such things.

Furthermore, otters are included on Schedule 2 of the Conservation (Habitats &c.) Regulations (1994), making it an offence to:

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

Otters are also listed as a priority species on the UK and Biodiversity Action Plans.

### **White-Clawed Crayfish**

This crayfish is listed under Annex II of the habitats directive and areas are designated as Special Areas of Conservation to protect this species. Outside of this a licence is required to capture this species. It is listed as a priority species under the Biodiversity Action Plan and is a Species of Principal Importance under section 41 of the NERC Act 2006.

### **Reptiles**

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure

any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

### **Badger**

The Wildlife and Countryside Act (1981) and its subsequent amendment in 1985 made it an offence to take, kill, injure or ill-treat a badger. The badger gained further protection under the auspices of The Protection of Badgers Act (1992) which consolidates all former protective legislation in relation to badgers, except their inclusion on Schedule 6 of the Wildlife and Countryside Act 1981.

Under the 1992 Act, the badger sett is protected against obstruction, destruction, and damage; furthermore, the animal's access to and from the sett must not be impeded. It should be noted that the concept/definition of the sett extends beyond the main sett to include annexe, subsidiary and outlying setts. However, although the badger and its sett are protected (including access to the sett), the wider habitat and foraging ground is not.

### **Dormice**

Dormice are protected from being killed, injured, captured or disturbed and their resting and breeding places should not be damaged or destroyed.

### **Natural England Licensing - EPS Mitigation Licensing**

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

## Appendix E

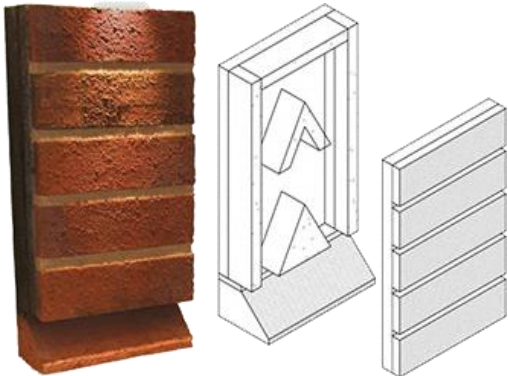
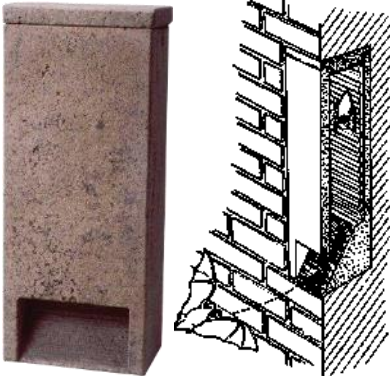


### Plant species recorded on site

English name	Scientific name
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Bristly oxtongue	<i>Helminthotheca echioides</i>
Bulbous buttercup	<i>Ranunculus bulbosus</i>
Clover	<i>Trifolium sp.</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common chickweed	<i>Stellaria media</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping thistle	<i>Cirsium arvense</i>
Daisy	<i>Bellis perennis</i>
Dock	<i>Rumex sp.</i>
Dog-rose	<i>Rosa canina</i>
Dove's-foot cranesbill	<i>Geranium molle</i>
Elm	<i>Ulmus minor</i>
English oak	<i>Quercus robur</i>
False-oat grass	<i>Arrhenatherum elatius</i>
Field maple	<i>Acer campestre</i>
Ground ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Ivy	<i>Hedera helix</i>
Mallow	<i>Malva sylvestris</i>
Mouse-ear	<i>Cerastium sp.</i>
Nettle	<i>Urtica dioica</i>
Perennial ryegrass	<i>Lolium perenne</i>
Privet	<i>Ligustrum vulgare</i>
Ragwort	<i>Jacobaea vulgaris</i>
Red-dead nettle	<i>Lamium purpureum</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Selfheal	<i>Prunella vulgaris</i>
Spear thistle	<i>Cirsium vulgare</i>
Wall bedstraw	<i>Galium parisiense</i>
White-dead nettle	<i>Lamium album</i>
Yorkshire fog	<i>Holcus lanatus</i>

## Appendix F

### Examples of bat and bird boxes

(images sourced from [www.nhbs.com](http://www.nhbs.com), [www.habibat.co.uk](http://www.habibat.co.uk) and [www.manthorpe.co.uk](http://www.manthorpe.co.uk))

<p style="text-align: center;"><b>Integrated bat box</b> Habibat Bat Box</p> 	<p style="text-align: center;"><b>Integrated bat box</b> 1FR Schwegler Bat Tube</p> 
<p style="text-align: center;"><b>Standalone bat box</b> 2F Schwegler Bat Box (General purpose)</p> 	<p style="text-align: center;"><b>Standalone bat box</b> 1FF Schwegler Bat Box with built-in wooden rear panel</p> 

#### **Recommendations for installing bat boxes:**

(Sourced from Bat Conservation Trust [www.bct.org](http://www.bct.org))

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

Locate boxes:

- Where bats are known to feed close to hedges and tree lines (some bats use a tree line or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.
- On buildings: boxes should be placed as close to the eaves as possible.
- As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).
- In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.

<p><b>Small bird nesting box</b> 1B Schwegler Nest Box</p> 	<p><b>Small bird nesting box</b> 2H Schwegler Robin Box</p> 
<p><b>Integrated swift box</b> WoodStone Build-in Swift Nest Box B</p> 	<p><b>Integrated swift box</b> Manthorpe Swift Brick</p> 
<p><b>Integrated sparrow terrace</b> 1SP Schwegler Sparrow Terrace</p> 	<p><b>Integrated sparrow terrace</b> Terraced Sparrow Box</p> 

<p><b>Integrated barn owl and kestrel box</b> Schwegler Barn Owl Nest Box 23</p> 	<p><b>Standalone barn owl box</b> Eco Barn Owl Nest Box</p> 
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### Recommendations for installing bird boxes:

(Sourced from British Trust for Ornithology [www.bto.org](http://www.bto.org) and Manthorpe [www.manthorpe.co.uk](http://www.manthorpe.co.uk))

The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.

Tips for putting up a nest box:

- Boxes should be sited 1-3m from the ground, ideally on tree trunks but can be placed on the side of a shed or wall. Avoid areas where foliage obscures the entrance hole.
- Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours.
- Shelter your nest box from prevailing wind, rain and strong sunlight. The box should face between north and east, and angled vertically or slightly downwards to prevent rain entering.
- Make sure cats cannot get into the box.
- Keep nest box away from bird feeders.
- Use galvanized or stainless steel screws or nails. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached.

Tips for putting up house sparrow terraces and swift bricks/boxes:

- Locate  $\geq 5$ m high on the gable wall of the property and above the level of the insulation zone.
- Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board.



Tips for putting up barn owl/kestrel boxes:

- The box should be installed on a building or tree in open farmland, on an isolated hedgerow or along the edge of a woodland.
- Boxes should be sited at least 4m from the ground, with a clear flight-path for entry and exit.
- Where possible, install boxes facing southeast or away from the prevailing wind.

## Appendix G

### Examples of hedgehog friendly fencing

(images sourced from [www.quercusfencing.com](http://www.quercusfencing.com) and [www.jackson-fencing.co.uk](http://www.jackson-fencing.co.uk))

<p style="text-align: center;"><b>Quercus Fencing</b></p> <p style="text-align: center;">Hedgehog friendly oak woven fencing panels</p> 	<p style="text-align: center;"><b>Jacksons-Fencing</b></p> <p style="text-align: center;">Hedgehog friendly gravel board for use with slotted posts</p> 
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**Recommendations for installing hedgehog friendly fencing:**

(Sourced from Hedgehog Street [www.hedgehogstreet.org](http://www.hedgehogstreet.org))

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

## Appendix H

### Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus spp.</i>
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>



## **Appendix I**

### **Proposed plans**



Proposed Site Plan 1:200 @ A1

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**LAND NORTH OF FARM GATE COTTAGE, WICKS LANE, STOWMARKET.  
PROPOSED SITE PLAN**

Proposed Residential Development on land north of Farm Gate Cottage, Wicks Lane, Forward Green, Stowmarket, IP14 5HL.  
Date: Jan. 2021 Scale: 1:200 Dwg No. TL-4335-21-11  
Proposed Site Plan

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**LAND NORTH OF FARM GATE COTTAGE, WICKS LANE, STOWMARKET.  
 PROPOSED DWELLING DETAILS**

**Proposed Residential Development on land north of Farm Gate Cottage, Wicks Lane, Forward Green, Stowmarket, IP14 5HL.**  
 Date: Jan. 2021 | Scale: 1:100 | Dwg No. TL-4335-21-12  
**Proposed Dwelling Details**

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