
# Comberton Road, Toft, Cambridgeshire

## Ecology Report

Produced for Turnwood (Hardwick Road Ltd)

By Applied Ecology Ltd

November 2014

Document Control:

| Version | Date | Version Details | Prepared by | Checked by | Approved by |
|---|---|---|---|---|---|
| 0.1 | 21/11/2014 | First Draft | PTM | DP | DP |
| 1.0 | 27/11/2014 | Final | PTM | DP | DP |
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Prepared for: Turnwood (Hardwick Road Ltd)

Title: Comberton Road, Toft, Cambridgeshire: Ecology Report

Project number: AEL0968

Document version: 1.0

Document status: Final

Document date: 27/11/2014

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# 1 Introduction

1.1 Applied Ecology Ltd (AEL) were appointed by Turnwood (Hardwick Road Ltd) to conduct an ecological appraisal of land at Comberton Road, Toft, Cambridge, CB23 2RQ, which is centred on National Grid reference TL363561.

1.2 The survey is required in relation to a planning application for the development of the site.

1.3 The site location plan is detailed in **Figure 1.1** and the development proposal in **Figure 1.2**.

1.4 A phase 1 habitat survey, protected species walkover survey and desk study were conducted by Dr Paul Tinsley-Marshall MCIEEM, an experienced Senior Ecologist from AEL.

1.5 This report presents the approach, findings and conclusions of the survey and makes recommendations as to appropriate next steps where necessary, in line with best practice guidelines

## Legislation & Planning

### Legislation

1.6 The Wildlife and Countryside Act 1981 (as amended) provides the main legal framework for nature conservation and species protection in the UK. The Site of Special Scientific Interest (SSSI) is the main statutory nature conservation designation in the UK. Such sites are notable for their plants, or animals, or habitats, their geology or landforms, or a combination of these. Natural England is the key statutory agency in England for advising Government, and for acting as the Government's agent in the delivery of statutory nature conservation designations.

1.7 Designation of a SSSI is a legal process, by which sites are notified under the Wildlife and Countryside Act 1981. The 1981 Act makes provision for the protection of sites from the effects of changes in land management, and owners and occupiers receive formal notification specifying why the land is of special scientific interest, and listing any operations likely to damage the special interest.

1.8 The Countryside and Rights of Way Act 2000, and The Natural Environment and Rural Communities (NERC) Act 2006, provide supplementary protected species legislation. Specific protection for badgers is provided by the Protection of Badgers Act 1992.

### Habitats and Species of Principal Importance in England

1.9 The Natural Environment and Rural Communities (NERC) Act came into force on 1 October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

1.10 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural

Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

### *Habitats of Principal Importance*

1.11 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and sub-tidal sands and gravels.

### *Species of Principal Importance*

1.12 There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the Hen Harrier has also been included on the list because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

1.13 In accordance with Section 41(4) the Secretary of State will, in consultation with Natural England, keep this list under review and will publish a revised list if necessary.

## National Planning Policy Framework

1.14 The National Planning Policy Framework (NPPF) was published in March 2012 and replaces previous planning policy guidance (PPS 9) on biodiversity. NPPF states the following in relation to biodiversity and planning:

*1.15 "When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:*

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *opportunities to incorporate biodiversity in and around developments should be encouraged;*

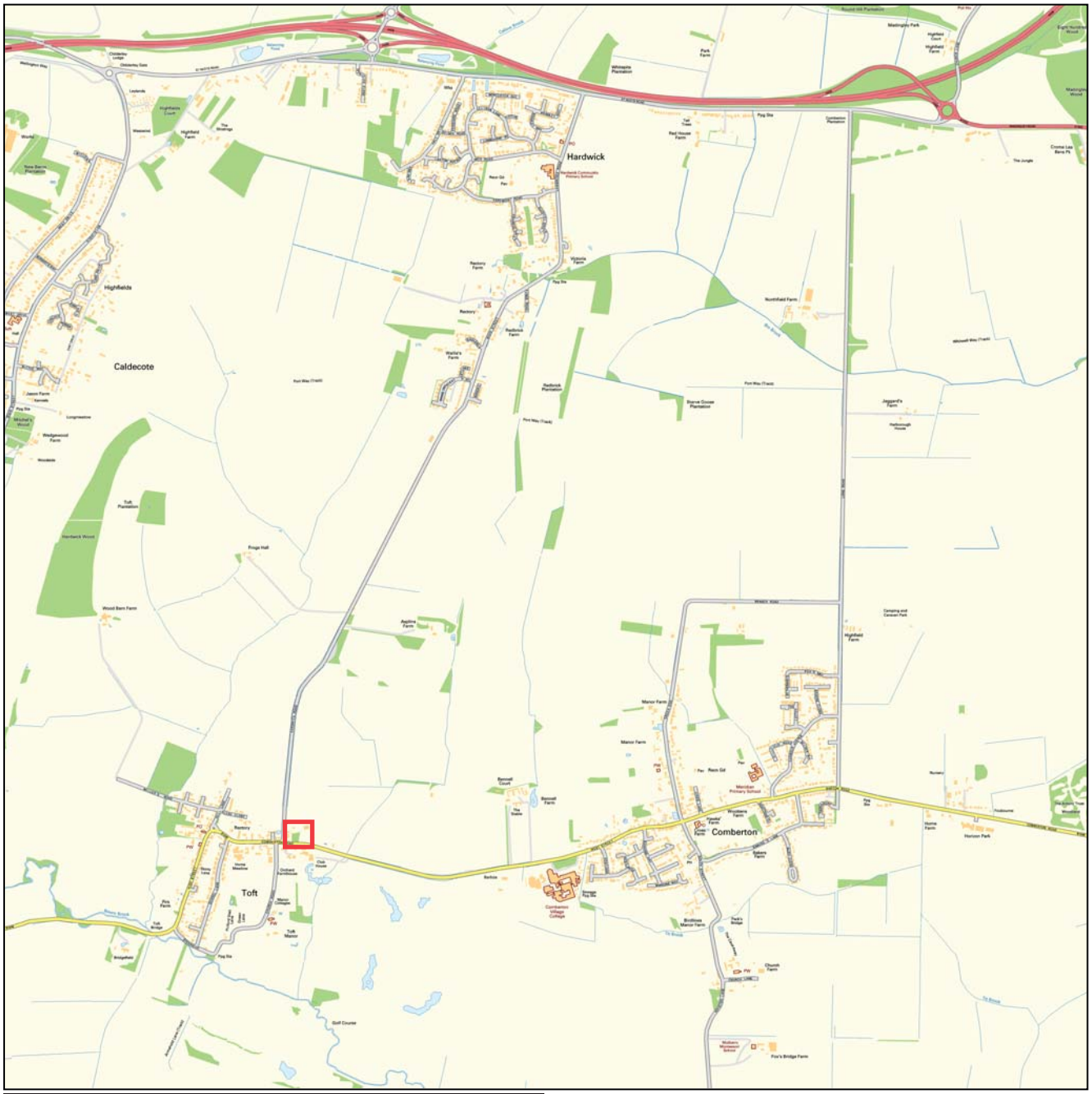
- *planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and*
- *the following wildlife sites should be given the same protection as European sites:*
  - *potential Special Protection Areas and possible Special Areas of Conservation;*
  - *listed or proposed Ramsar sites; and*
  - *sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

*1.16 The presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined."*

## Summary

1.17 In order to assess the nature conservation and biodiversity value of the proposed development site in accordance with current wildlife legislation and planning policy an walkover ecology field survey has been completed and is described in this report.

1.18 **Chapter 2** describes the survey approach, **Chapter 3** provides the survey findings and **Chapter 4** provides conclusions and recommendations.






Site location

N

**Comberton Road, Toft, Cambridgeshire**

**Figure 1.1:** Site Location

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# Comberton Road, Toft


Figure 1.2: Site Development Proposal

| |
|---|
| Surveyed by: NA |
| Survey date: NA |
| Drawn by: NA |
| Edited: NA |
| Status: Final |

# 2 Survey Approach

2.1 The objectives of the survey were to:

- map the main ecological features within the site and compile a plant species list for each habitat type;
- make an initial assessment of the presence or likely absence of species of conservation concern;
- identify any legal and planning policy constraints relevant to nature conservation which may affect the development;
- determine any potential further ecological issues;
- determine the need for further surveys and mitigation

## Desktop Survey

2.2 Prior to completing any survey, the 1:25,000 scale Ordnance Survey (OS) map and various online mapping tools were consulted in order to identify any ponds within 500 m of the survey site that could potentially support protected great crested newt (GCN) *Triturus cristatus*.

## Phase 1 Habitat Survey

2.3 A Phase 1 habitat survey of the site was undertaken by AEL ecologist Dr Paul Tinsley-Marshall MCIEEM on 19th November 2014. All habitats present were classified and mapped according to standard Phase 1 habitat survey categories[1].

2.4 Notes were made of the key habitats and features and, where appropriate, a list of the plant species present and an estimate of their individual relative abundance was recorded according to the DAFOR scale. The habitat map was digitised and presented using a Geographical Information System (ArcView GIS).

2.5 Target notes were used as appropriate to record land areas of typical and unique botanical character, and areas or features too small to map accurately in the field.

## Protected Species Walkover Survey

2.6 A protected species walkover survey of the site carried out by experienced Applied Ecology Ltd ecologist Dr Paul Tinsley-Marshall MCIEEM on 19th November 2014 in conjunction with the Phase 1 habitat survey.

2.7 All ground within the site boundary was walked and carefully investigated for evidence of the presence of animal species that could be protected by wildlife law or covered by biodiversity planning initiatives.

[1] JNCC (1993). Handbook for Phase 1 Habitat Survey – A technique for Environmental Audit. JNCC. Peterborough.

2.8 Protected species include but are not limited to badgers, otters, water voles, reptiles, bats, dormice and birds.

2.9 In the absence of field evidence of protected animal species, a professional judgement assessment of habitat suitability for protected species was made.

## Tree inspection for bat roost potential

2.10 All trees on the site in proximity to the development area were inspected from the ground for bat roost potential, and categorised following best practice guidance[2] as follows:

- Category 1*: Trees with multiple, highly suitable features capable of supporting larger roosts
- Category 1: Trees with definite bat roost potential, supporting fewer suitable features than category 1* trees, or with potential for use by single bats.
- Category 2: trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.
- Category 3: Trees with no potential to support bats.

2.11 Using close focusing binoculars, the surveyor looked for features indicative of bat roosts, which included natural holes, woodpecker holes, cracks/splits in major limbs, loose bark, dense thick stemmed ivy, hollows/cavities, within dense epicormic growth, and bird and bat boxes.

2.12 The surveyor also searched for signs indicating possible use by bats, which included tiny scratches around entry points, staining around entry points, bat droppings in/around/below entrances, audible squeaking at dusk or in warm weather, flies around entry point, distinctive smell of bats, and smoothing of surfaces around cavities.

[2] Bat Conservation Trust (2007) Bat Surveys: Good Practice Guidelines.

# 3 Survey Findings

## Phase 1 Habitat Survey

3.1 The Phase 1 habitat map is detailed in **Figure 3.1**. The habitats depicted are described briefly below and photographs provided in the photo sheet **Figure 3.2**.

### Survey site description

3.2 The site appeared to have been relatively recently cleared and was dominated almost entirely by a tall ruderal vegetation community, with a small number of scattered trees and introduced shrub planting.

3.3 No habitat of Principal Biodiversity Importance in England under Section 41 of the NERC Act was present within or close to the development area

3.4 More detailed description of the habitats on site is provided below, and the plant species lists and abundance are detailed in the target notes in **Appendix 1**.

### Habitats and higher plants

#### *Tall ruderal*

3.5 The vast majority of the site was characterised by tall ruderal vegetation, dominated by broad-leaved willowherb *Epilobium montanum* and abundant common nettle *Urtica dioica*. A minor scrub component contained bramble *Rubus fruticosus* agg, buddleia *Buddleia davidii* and elder *Sambucus nigra*, though other tall ruderal species were far more abundant, and included green alkanet *Pentaglottis sempervirens*, hedge garlic *Alliaria petiolata*, spear thistle *Cirsium vulgare*, ragwort *Senecio jacobaea* , creeping thistle *Cisium arvense*, and more rarely opium poppy *Papaver somniferum* and great mullein *Verbascum thapsus*. The ground flora was sparse under the tall ruderal canopy, consisting of occasional patches of ground ivy *Glechoma hederacea*, cleavers *Galium aparine*, and rosettes of broad-leaved willowherb *E. montanum*.

#### *Scattered trees*

3.6 There were occasional scattered trees including walnut *Jugulans* spp, ash *Fraxinus excelsior*, apple *Malus* spp, and *Prunus* spp, the locations of which are indicated in **Figure 3.1**.

#### *Introduced shrub*

3.7 On the northern boundary was a short length of introduced shrub hedgerow of privet *Ligustrum* spp.

### Habitat Summary

3.8 Tall ruderal vegetation and introduced shrub are of relatively low botanical value in terms of the habitats and plant species present.

3.9 There were no plant species of particular conservation importance or species protected by wildlife or biodiversity legislation.

3.10 Given the utilisation of a site of low overall value in terms of habitats and plant species, there are not anticipated to be any planning implications in general habitat respects as a result of the development proposal.

# Protected Species Survey

## Great Crested Newt

### *Desk Study*

3.11 Seven ponds were identified on the OS map within 500 m of the site boundary. The nearest pond was located approximately 50m to the west (Pond 1), with a further 6 located within 500m to the east, southwest and south east. OS grid references for each pond are detailed below, and pond locations indicated on the map in **Figure 3.3**.

Pond 1: TL36265618 Pond 2: TL36075581
Pond 3: TL36485612 Pond 4: TL36405602
Pond 5: TL36435595 Pond 6: TL36425600
Pond 7: TL36805580

3.12 All but pond 2 were inaccessible due to their positions on private land. Pond 2 was inspected from a public footpath, and a GCN Habitat Suitability index for this pond is presented below.

### *Field Survey*

#### *Habitat Suitability Index*

3.13 The Habitat Suitability Index (HSI) for the great crested newt[3] is a numerical index between 0 and 1. Values close to 0 indicate unsuitable habitat, 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors known to affect this species. The HSI for great crested newts is a measure of habitat suitability, though it is not a substitute for newt surveys.

3.14 The results of the HSI assessment for this water-body are presented in **Table 3.1** below.

[3] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155.

**Table 3.1 Summary of Great Crested Newt HSI score**

| | SI1: Location | SI2: Surface area ($m^2$) | SI3: Desiccation rate | SI4: Water quality | SI5: Shade (%) | SI6: Waterfowl | SI7: Fish | SI8: Pond density | SI9: Terrestrial habitat | SI10: Macrophyte cover % | HSI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Determination** | A | 100 | Rarely | Moderate | 100 | Absent | Possible | 7 | Moderate | 5 | |
| **SI Value** | 1.00 | 0.20 | 1.0 | 0.67 | 0.20 | 1.00 | 0.67 | 1.00 | 0.67 | 0.36 | **0.58** |

3.15 Pond 2 attained a HSI score of 0.58. A score of between 0.5-0.59 is indicative of 'below average' quality habitat for Great Crested Newts, the second lowest ranking in the suitability index. While this is indicative of sub-optimal habitat, the presence of GCN during the breeding season cannot be wholly discounted on this basis.

*Risk Assessment Calculation*

3.16 As a precautionary exercise the Natural England GCN rapid risk assessment calculator was used, on the theoretical assumption that GCN are present in each of the identified ponds, to determine the likelihood of the development causing an offence under the Wildlife and Countryside Act.

3.17 Upon inspection Hardwick Road which separates the development site from Pond 1, (the nearest pond at 50m from the site), did not present a barrier to newt movement between this pond and the site.

3.18 Based on an estimate of a 0.2ha (approx.) development footprint, the calculator indicates a result of *Amber: Offence likely* for pond 1, and *Green: Offence highly unlikely* for ponds 2 – 7.

**Table 3.2 Pond 1: Great Crested Newt Risk Assessment Calculation**

| Component | Likely Effect | Notional offence probability score |
|---|---|---|
| Great crested newt breeding pond(s) | No effect | 0 |
| Land within 100m of any breeding pond(s) | 0.1-0.5ha lost or damaged | 0.5 |
| 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 | 0.5 |
| Rapid risk assessment result: | Amber: OFFENCE LIKELY | |

**Table 3.3 Ponds 1-7: Great Crested Newt Risk Assessment Calculation Overview**

| Pond | Distance from survey boundary | Rapid risk assessment result |
|---|---|---|
| 1 | 50m | Amber: OFFENCE LIKELY |
| 2 | 360m | Green: OFFENCE HIGHLY UNLIKLEY |
| 3 | 120m | Green: OFFENCE HIGHLY UNLIKLEY |
| 4 | 100m | Green: OFFENCE HIGHLY UNLIKLEY |
| 5 | 140m | Green: OFFENCE HIGHLY UNLIKLEY |
| 6 | 130m | Green: OFFENCE HIGHLY UNLIKLEY |
| 7 | 430m | Green: OFFENCE HIGHLY UNLIKLEY |

3.19 "*Amber: offence likely*" indicates that the development activities are of such a type, scale and location that an offence is likely, if GCN are present in pond 1 during their breeding season. "*Green: offence highly unlikely*" suggest that the development area is sufficiently distant from ponds 2-7 to result in an offence, should GCN be present in these ponds.

## Badger

3.20 No badger setts or field signs indicating use of the site by badgers were found.

## Reptiles

3.21 No habitat suitable for reptiles was present on the site at the time of survey.

## Bats

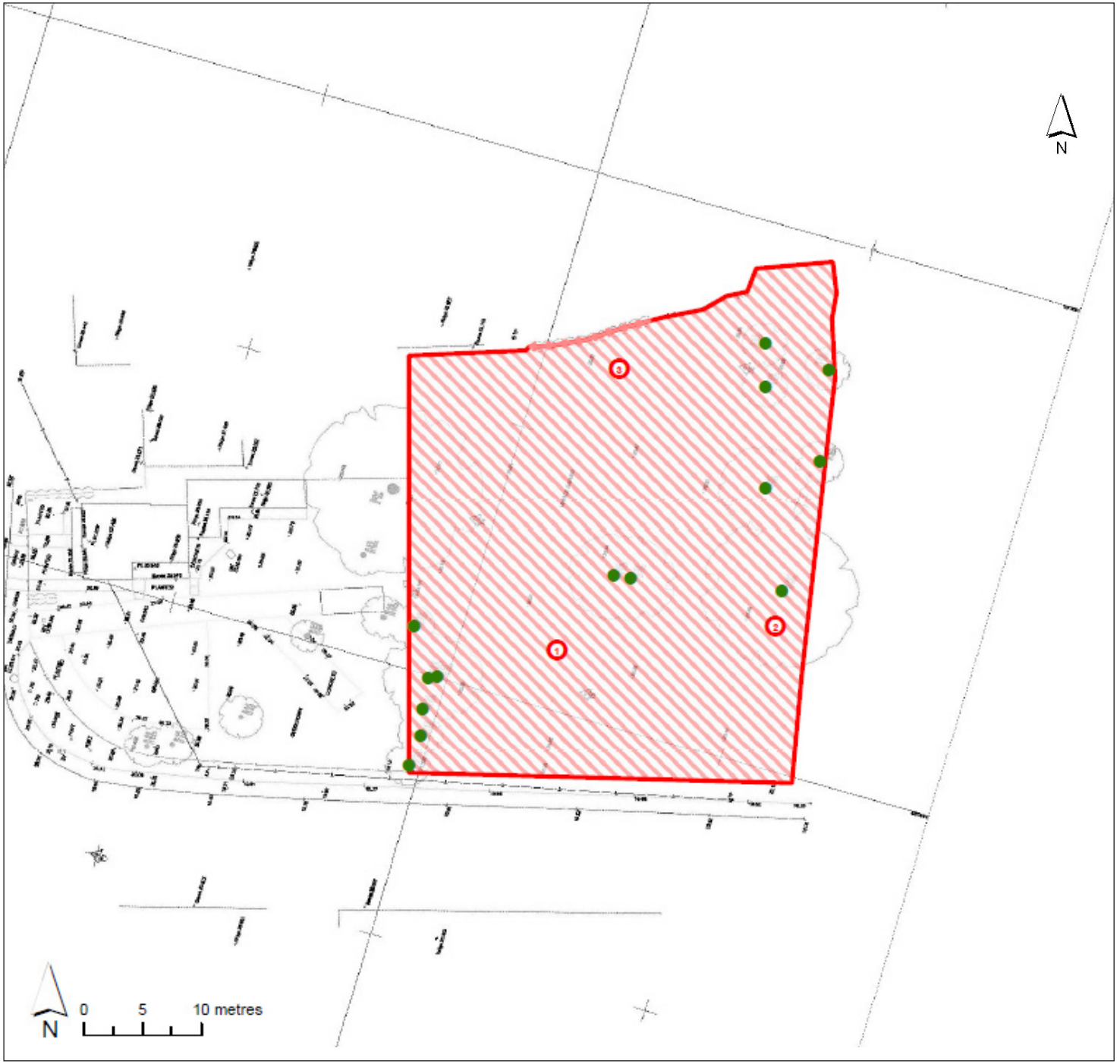
**3.22** A mature walnut tree indicated by the location of *Target Note 2* in **Figure 3.1,** and **Photo 5** & **Photo 6**, was covered in thick stemmed ivy which is a feature of potential value to roosting bats, and the tree was assessed as *Category 1 – definite bat roost potential.*

**3.23** The adjacent pasture land and broadleaved trees to the east of the site offer suitable foraging habitat for bats.

## Birds

3.24 A number of common bird species typical of the habitats present were recorded, including robin, great tit, collared dove, chaffinch, goldfinch, dunnock, blue tit, goldcrest and green woodpecker.

3.25 The survey was conducted outside of the bird breeding season, though based on the relative paucity of suitable nesting habitat for birds the site did not offer especially valuable habitat in this respect. It is unlikely that the site is used by any species of particular conservation or biodiversity importance, and no further survey or measures to inform mitigation (other than standard guidance for vegetation clearance outside of the bird breeding season, detailed in **Chapter 4**) are anticipated.




# Comberton Road, Toft

**Phase 1 Habitat Map**

site boundary

**Habitats:**

tall ruderal

non-native hedgerow

individual tree (indicative location)

target notes

Figure 3.1: Phase 1 Habitat Map

| |
|---|
| Surveyed by: PTM |
| Survey date: 19/11/2014 |
| Drawn by: RH |
| Edited: RH |
| Status: Final |

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Photo 1: Tall ruderal vegetation

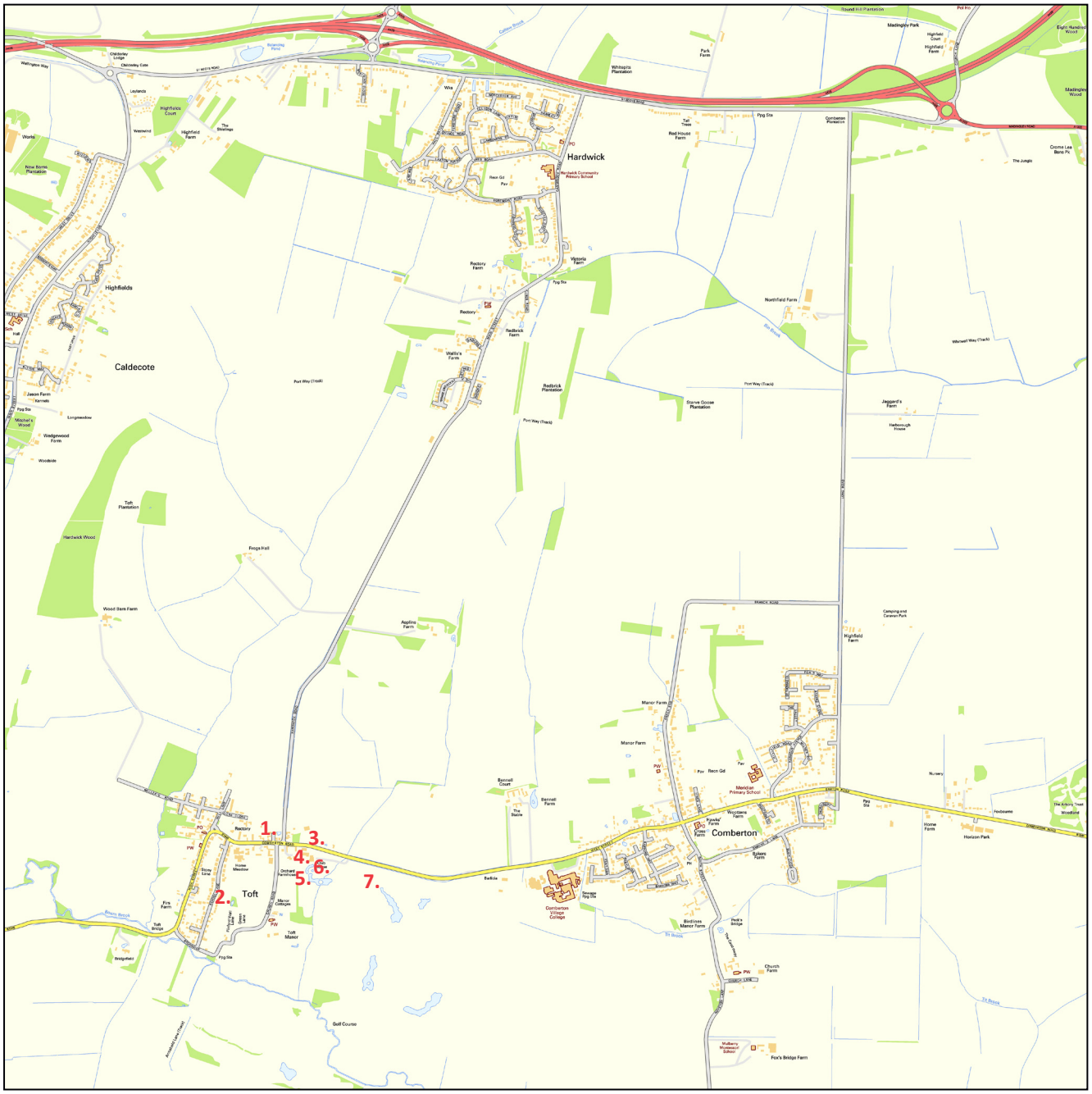
Photo 2: Tall ruderal vegetation and scattered trees

Photo 3: Intruduced shrub hedgrow, tall ruderal vegetation and scattered trees

Photo 4: Tall ruderal vegetation

Photo 5: Thick stemmed ivy on trunk of walnut tree - a potential bat roost feature

Photo 6: Close up of thick-stemmed ivy on trunk of walnut tree - a potential bat roost feature



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**Comberton Road, Toft, Cambridgeshire**

**Figure 3.3:** Pond Locations

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# 4 Conclusions and Recommendations

## Conclusions

### Habitats

4.1 The site was dominated almost entirely by a tall ruderal vegetation community, with a small number of scattered trees and introduced shrub planting. No habitat of Principal Biodiversity Importance in England under Section 41 of the NERC Act was present within or close to the development area

4.2 In general terms, the site is of low ecological value in terms of habitats and plant species, and no further survey or mitigation requirements are anticipated in this respect.

### Protected Species

#### *Great Crested Newt*

4.3 The Natural England GCN risk calculator returned a result of Amber: Offence likely, based on the theoretical assumption that GCN are present during the breeding season in Pond 1, approximately 50m to the west, and Green: Offence Highly Unlikely for ponds 2-7.

4.4 Further investigation and/or survey are therefore deemed necessary in order to fully discount any potential impact of the development on GCN.

#### *Bats*

4.5 A mature walnut tree covered in thick stemmed ivy is a feature of potential value to roosting bats. The adjacent pastureland and broadleaved trees to the east of the site are suitable foraging habitat for bats.

4.6 Further survey to determine whether this tree is used by day roosting bats may be required if the tree with ivy in situ is not to be retained as part of the development going forward, though it is understood that the tree will be retained going forward.

## Recommendations

#### *Breeding birds*

4.7 To avoid detrimental impacts on breeding birds and committing an offence under the Wildlife and Countryside Act, any clearance of vegetation including scrub, hedgerow or trees required as part of the development proposals should take place outside of the recognised bird breeding season (March to August inclusive, i.e. works during September to February), or immediately following inspection and confirmation by a Suitably Qualified Ecologist that the habitats to be cleared are not being used by breeding birds or their dependant young.

### *Great Crested Newt*

4.8 In the first instance GCN survey should take the form of a site visit for which access permission must be arranged, to collect data to parameterise a GCN Habitat Suitability Index.

4.9 If suitable habitat for GCN is determined, further trapping survey may be required. It should be noted that this type of survey can only take place within the survey window of April – early June.

### *Bats*

4.10 It is understood that the mature walnut tree is to be retained as part of the development going forward. Further investigation in the form of a detailed inspection for roosting bats and/or a bat emergence is therefore not deemed necessary.

4.11 It should be noted that if the retention of this tree is subject to change, bat roost inspections and/or emergence survey will be necessary, and can take place only within the survey window May – September.

4.12 The tree should be protected from development impacts in line with BS 3857.

4.13 The tree should not be directly lit at night either in the construction or post-construction phases.

# Appendix 1
## Target notes

## Target notes

**Notes**: DAFOR: D = dominant, A = abundant, F = frequent, O = occasional, R = rare, (LA = locally abundant).

1. Tall ruderal

The vast majority of the site was characterised by tall ruderal vegetation, dominated by broad-leaved willowherb *Epilobium montanum* and abundant common nettle *Urtica dioica*. A minor scrub component contained bramble *Rubus fruticosus* agg, buddleia *Buddleia davidii* and elder *Sambucus nigra*, though other tall ruderal species were far more abundant, and included green alkanet *Pentaglottis sempervirens*, hedge garlic *Alliaria petiolata*, spear thistle *Cirsium vulgare*, ragwort *Senecio jacobaea* , creeping thistle *Cisium arvense*, and more rarely opium poppy *Papaver somniferum* and great mullein *Verbascum thapsus*. The ground flora was sparse under the tall ruderal canopy, consisting of occasional patches of ground ivy *Glechoma hederacea*, cleavers *Galium aparine*, and rosettes of broad-leaved willowherb *E. montanum*.

| Common name | Scientific name | DAFOR |
|---|---|---|
| Broad-leaved Willowherb | *Epilobium montanum* | D |
| Bramble | *Rubus fruticosus agg* | R |
| Ground Ivy | *Glechoma hederacea* | F |
| Green Alkanet | *Pentaglottis sempervirens* | O |
| Common Nettle | *Urtica dioica* | A |
| Hedge Garlic | *Alliaria petiolata* | O |
| Spear Thistle | *Cirsium vulgare* | O |
| Cleavers | *Galium aparine* | O |
| Ragwort | *Senecio jacobaea* | R |
| Buddleia | *Buddleia davidii* | R |
| Creeping Thistle | *Cisium arvense* | O |
| Opium Poppy | *Papaver somniferum* | R |
| Great Mullein | *Verbascum thapsus* | R |
| Elder | *Sambucus nigra* | R |
| Greater Periwinkle | *Vinca major* | R |

2. Scattered trees including walnut *Jugulans spp*, ash Fraxinus excelsior, apple *Malus spp*, and *Prunus spp*

3. Introduced shrub hedgerow of privet *Ligustrum spp*.