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# Site Assessment Report

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**Final Report**

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**Contents**

**Non – Technical Summary ..... 4**

**1 Introduction**
- **1.1 Site Location ..... 5**
- **1.2 Site Description ..... 5**
  - **1.2.1 Grassland ..... 5**
  - **1.2.2 Hedges ..... 5**
  - **1.2.3 Scattered Trees ..... 6**
  - **1.2.4 Standing Water ..... 6**
  - **1.2.5 Ruderal ..... 6**
- **1.3 Proposed Development ..... 6**

**2 Survey Methods**
- **2.1 Data Search ..... 7**
- **2.2 Walkover Survey ..... 7**

**3 Survey Results**
- **3.1 Data Search Results ..... 7**
  - **3.1.1 Sites of Nature Conservation Interest ..... 7**
  - **3.1.2 Species of Nature Conservation Interest ..... 7**
- **3.2 Walkover Survey Results ..... 8**
  - **3.2.1 Badger ..... 8**
  - **3.2.2 Dormouse ..... 8**
  - **3.2.3 Bat ..... 8**
  - **3.2.4 Barn Owl ..... 8**
  - **3.2.5 Reptiles ..... 8**
  - **3.2.6 Amphibians ..... 8**
  - **3.2.7 Nesting Birds ..... 9**
  - **3.2.8 Plants ..... 9**
- **3.3 Survey Constraints ..... 9**

**4 Evaluation**
- **4.1 Conclusions ..... 10**
  - **4.1.1 Badger ..... 10**
  - **4.1.2 Dormouse ..... 10**
  - **4.1.3 Bat ..... 10**
  - **4.1.4 Barn Owl ..... 11**
  - **4.1.5 Reptiles ..... 11**
  - **4.1.6 Amphibians ..... 11**
  - **4.1.7 Nesting Birds ..... 11**

**4.2 Wildlife and the Law ..... 12**
**4.2.1 European Protected Species ..... 12**
**4.2.2 Other Protected Species ..... 12**
**4.2.2.1 Nesting Birds ..... 12**
**4.2.2.2 Reptiles ..... 12**
**4.2.2.3 Barn Owl ..... 12**
**4.2.2.4 Badger ..... 12**
**4.3 References ..... 13**

**5 Glossary ..... 13**

**Appendix A: Photographs of Site ..... 14**

**Appendix B: Phase 1 Habitat Map ..... 16**

**Appendix C: Target Notes ..... 17**

**Appendix D: Desk Study Area ..... 18**

**Appendix E: Strategic Landscape of Site ..... 19**

**Appendix F: Suggested Mitigation and Enhancement Features ..... 20**

**Non – Technical Summary**

[redacted]is a 3 ha site that comprises mainly of improved grassland, with intact/defunct species poor hedges bounding the site, including a number of trees. At the centre of the site there is a small area of standing water, bounded by hedges and overgrown by trees. An initial desk study gave no results for reptile or terrestrial mammal species, however, there were some records of amphibians within 2 km of the site. A walkover survey was carried out and a Phase 1 Habitat Map produced. It was observed that there was potential for reptiles, amphibians, dormice, bats and nesting birds on the site. It is therefore recommended that further survey be carried out for these species and, if present, species specific mitigation or compensation be carried out. Further recommendations for site enhancement have been summarised.

# 1 Introduction

## 1.1 Site Location

[redacted] is located in [redacted] on the outskirts of [redacted] at National Grid Reference (NGR): [redacted]. It can be accessed from [redacted] town centre via [redacted] Road. To the north and west of the site is agricultural land and to the east is a residential area that is the start of [redacted] town centre. Directly to the south of the site is an area of very long unmanaged grassland, beyond this is a main road and more agricultural land.

## 1.2 Site Description

The 3 ha site is part of a larger 17.6 ha proposed development. It is flat and therefore has no major aspect. The majority of the site is improved grassland with intact/defunct species poor hedges bounding the site, including a number of trees. At the centre of the site there is a small area of standing water, bounded by hedges and overgrown by trees. There are areas of ruderal in the corners of the site (See Appendix B and C).

The habitats surveyed are described in more detail below:

### 1.2.1 Grassland

The majority of the site is made up of improved grassland. The dominant species was perennial rye grass *(Lolium perenne)*, and other species observed included: Cocksfoot *(Dactylis glomerata*), Red clover *(Trifolium pratense)*; White Clover *(Trifolium repens)*; Ribwort Plantain (*Plantago lanceolata*), Meadow Buttercup (Ranunculus acris), and Birdsfoot Trefoil *(Lotus corniculatus)*.

### 1.2.2 Hedges

The hedge at the north of the site is defunct as there is one end that is only made up of fencing. The hedge consists of Hawthorn *(Crataegus monogyna)* and Dog Rose (*Rosa Canina)* only with a ground flora made up of ruderal species such as Stinging Nettle (*Urtica dioica*), Bramble (*Rubus*) and Ragwort (*Senecio jacobaea*). The hedge to the west of the site also consists mainly of Hawthorn and Dog Rose but also has Elder (*Sambucus nigra*), Elm (*Ulmus Campestris*) and Field Maple (*Acer campestre*) as part of the hedge, the ground flora consists of perennial rye grass. Where the west hedge meets the south hedge the hedgerow is shared by a neighbouring garden and this part of the hedge also included Bird Cherry (*Prunus padus*). This hedge was intact with the only gap being a point of access in the north west corner of the site. The hedge to the south of the site consists of Hawthorn and Dog Rose, and also Elder, Elm and Blackthorn (*Prunus spinosa*). The ground flora of this hedge is more diverse including Hedge Bindweed *(Calystegia sepium*), and Red Campion (*Silene dioica*). This hedge is also considered defunct as there is a large deliberate gap into the adjacent area of grassland. The hedge to the east of the site consists of Hawthorn and Dog Rose (See fig.1 ), with Elm included throughout and Elder observed at the southern end of the hedge. The ground flora was made up of perennial rye grass with some Red Campion. This hedge is also considered defunct as the north end of the site is bounded by a neighbour's garden fence and there is a large gap made for access by members of the public.

There is also a defunct hedge surrounding the area of standing water at the centre of the site, this is made up of Hawthorn and Dog Rose.

#### 1.2.3 Scattered Trees

Most of the scattered trees are found in the hedgerows surrounding the site and are predominantly broadleaved with two conifers, Norway spruces (*Picea abies*), observed in the south west corner of the site (where the site borders on a neighbouring garden and the two sites share the hedge). The north hedge contains 5 large English Oaks (*Quercus robur*) along its length (see fig.7 + 9) and 3 field maples in the northwest corner of the site (see fig. 4). The western hedgerow contains several Elms, 2 Field Maples and another large English Oak. The southern hedge contains a Hawthorn tree, another English Oak and 3 Willows (*Salix*) halfway down the hedgerow (See fig. 2). There are no trees found in on the eastern border of the site. There are also scattered trees surrounding the area of standing water in the centre of the site, these were Elm and Elder.

#### 1.2.4 Standing Water

There is an area of standing water at the centre of the site, which is surrounded by hedgerow and overgrown by Elm and Elder trees, making it very shaded throughout the day (See fig.10 + 14).

#### 1.2.5 Ruderal

An area of ruderal can be found in the south east corner of the site.

### 1.3 Proposed Development

The larger site as a whole is proposed to be developed into 700 houses, the 3 ha site assessed in this survey is proposed to be developed into part of this residential housing and a school (See Appendix E).

#### 1.3.1 Removal of Grassland

The majority of improved grassland on the site will be replaced with housing.

#### 1.3.2 Removal of Hedgerows

The proposed development will mean removing parts of the hedges to the north, west and south of the site to allow road access.

#### 1.3.3 Removal of Scattered Trees

The development will also require removal of some of the scattered trees, including two field maples in the south east of the site, the largest willow roughly halfway along the southern hedgerow and the conifers observed in the south west of the site. It is unclear whether any of the elms in the western hedgerow would need to be removed as part of the hedge removal for road access. None of the large oaks that surround the site are proposed to be removed.

#### 1.3.4 Removal of Standing Water

The standing water at the centre of the site, as well as the trees and hedgerow that surround it, are proposed to be removed as part of the new development.

## 2 Survey Methods

### 2.1 Desk Study

The aim was to identify existing records of protected or otherwise notable species and conservation sites from a range of search areas radiating in all directions from a central point in the site NGR ST 52100 16470 (See Appendix D). Sites of were recorded to a radial distance of 5km and species, 2km.

Information was compiled from the following sources:

- The Multi-Agency Geographic Information for the Countryside (MAGIC) website
- [redacted]BAP
- UK BAP
- National Biodiversity Network website
- Natural England's 'Nature on the Map' Database

### 2.2 Walkover Survey

Georgina Timmis undertook an ecological walkover survey of the site on 18th July 2011. Standard Phase 1 Habitat Survey methodology was employed (JNCC 2010) which involved walking the survey area and surrounding land and noting each habitat type, as well as indicators of potential need for further study. An extensive photographic record was taken (see Appendix A).

## 3 Survey Results

### 3.1 Data Search Results

#### 3.1.1 Sites of Nature Conservation Interest

There is a Green Flag Country Park, Montacute, 2.5 km away from the site. There are also two SSSIs, Ham Hill and Hardington Moor, within a 5 km radius. Hardington Moor is also a National Nature Reserve.

#### 3.1.2 Species of Nature Conservation Interest

There were no records of any terrestrial European protected or UK Bap priority terrestrial mammal or reptile within 2 km of the site. There were, however, records of amphibian species, details of which are listed in Table 1.

| Species | Protection | Record | Location/Date |
|---|---|---|---|
| Great Crested Newt (Triturus cristatus) | European Protected Species<br>UK BAP Priority Species | Biological Records Centre: Reptiles and Amphibians Dataset | [redacted]1984 |
| Common Frog (Rana temporaria) | Schedule 5 Wildlife and Countryside Act | Biological Records Centre: Reptiles and Amphibians Dataset | [redacted]1988 |
| Palmate Newt (Lissotriton helveticus) | Schedule 5 Wildlife and Countryside Act | Biological Records Centre: Reptiles and Amphibians Dataset | [redacted]1988 |
| Smooth Newt (Lissotriton vulgaris) | Schedule 5 Wildlife and Countryside Act | Biological Records Centre: Reptiles and Amphibians Dataset | [redacted]1988<br>[redacted]<br>[redacted]1988 |

**Table 1: Species Records within 2km of [redacted]Development Site.**

## 3.2 Walkover Survey Results

### 3.2.1 Badger

No signs of badgers (*Meles meles*), such as setts, latrines or likely badger paths were observed on the sites. The agricultural land directly to the north of the site, and the elder trees observed in the hedgerows would provide suitable food for badgers, however, there are no banks or woodland nearby and therefore the site would be unsuitable for a sett.

### 3.2.2 Dormouse

The hedgerows, although not very diverse, are bushy and have good connectivity with other hedgerows and small copses to the north west of the site. They are also predominantly Hawthorn, the flowers of which are important dormouse food in spring. The oaks on the site could be an important source of insect food and Dormice (*Muscardinus avellanarius*) can also eat the oak flowers. There is therefore potential for dormice within the site.

### 3.2.3 Bats

The hedgerows and trees surrounding the site provide good connectivity and could provide bats with foraging routes. Hollow trees are used by a wide variety of bat species, for both summer and winter roosting, and bats will also roost in crevices in otherwise sound trees. The area of standing water at the centre of the site has high potential as a bat habitat, particularly for Noctules and Pipistrelles, as the water will attract insects that bats will feed on, and the overhanging trees provide shelter.

### 3.2.4 Barn Owl

No barn owls (*Tyto alba*), or signs of barn owls, were observed during the survey. The large oak trees that surround the site have potential for barn owls, but there are no large areas of woodland nearby. There is an abandoned building in the area immediately south of the site that could provide habitat for Barn Owls and therefore there is potential that they would use the site itself and the area of agricultural land to the north for foraging.

### 3.2.5 Reptiles

The long grass and ruderal that runs round the edge of the site and leads onto shorter, managed grass, allows reptiles to come out of the shelter to bask and become active and is good potential habitat.

### 3.2.6 Amphibians

The standing water in the centre of the site provides ideal amphibian habitat as ponds provide very important amphibian breeding sites and are used by all the UKs native newts, frogs and toads, including European Protected Species (see section 4.2.1), the Great Crested Newt (*Triturus cristatus*). The pond is small and shallow which is ideal as it does not support fish and is likely to have fewer invertebrate tadpole predators than permanent ponds.

### 3.2.7 Nesting Birds

There are a large number of scattered trees around the site, including several large oaks that would provide good nesting sites for wild birds. Although no nests were observed in these trees during the survey, a nest was observed in the trees overhanging the small area of standing water in the centre of the site.

### 3.2.8 Plants

Due to the lack of diversity present in the improved grassland and hedge ground flora, no protected plant species were observed on the site.

## 3.3 Survey Constraints

The walkover survey was restricted to areas where public and safe access was possible or where access permissions were in place.

Ecological surveys are also limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The ecological survey has not therefore produced a complete list of plants and animals and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, these observations permit an initial assessment to be completed for the site.

Very few species records could be found in the area from online sources, this may be because it is a predominantly urban area with few designations nearby and therefore has been of little conservation interest.

# 4 Evaluation

## 4.1 Conclusions

### 4.1.1 Badger

As there are no current records of Badgers within 2 km of the site, no signs of Badgers were observed during the initial survey and little suitable habitat available on site, no further survey work is recommended for this species.

### 4.1.2 Dormouse

It is recommended that a further nest tube survey be carried out for this species. If dormice are found to be present on the site, hedge removal may prevent dispersal and isolate a small population, and the high density housing will mean greater human activity and disturbance where previously the site has been rarely visited by people. Suggested compensation includes replanting hedges to replace those removed and maintain connectivity in the south, west and north of the site. Hedge removal work should be carried out in winter and without heavy machinery as this is when dormice will be hibernating on the ground and are less likely to be disturbed by the removal work. Potential enhancement could include making the replanted hedges more diverse than the original hedges that were removed. Further enhancement could involve creating a small wooded area on the site, planted with suitable trees such as hazel, bramble and honeysuckle (See Appendix F).

### 4.1.3 Bat

Further survey is recommended in the form of an activity survey. Likely impacts of the development include disturbance caused by increased human activity, both during construction and once there is high density housing on the site. As the large oak trees are not going to be removed, it is unlikely that there will be any impact due to roost loss; however, the removal of hedges may lead to lack of connectivity, loss of foraging routes and isolation. Removal of the area of standing water could also have an impact as it may provide foraging habitat. Suggested mitigation would be to amend the current development plans in order to retain the area of standing water at the centre of the site, possibly moving the proposed houses to the east, into the south west corner of what is currently proposed to be the school site (see Appendix F). If roosts are identified through further survey, it is suggested that work be carried out at a time that is unlikely to disturb roosting bats (for example, if an oak is being used as a summer roost, carrying out work in that area during the winter). Street lighting could also be designed to face away from the hedges surrounding the site so that bats can continue to forage along them without being disturbed. Suggested compensation for impacts includes replanting hedges to replace those removed and maintain connectivity in the south, west and north of the site (as in section 4.1.3) Where hedgerows are being removed for road access, trees could be planted on either side of the road with touching canopies to retain connectivity or bat bridges could be installed. Potential enhancement could include providing new roost opportunities by planting trees around the current area of standing water and putting up bat boxes, as well as planting a new hedgerow to enhance connectivity to this area from the rest of the site.

#### 4.1.4 Barn Owl

As there are no current records of Barn Owls within 2 km of the site, no signs of Barn Owls were observed during the initial survey, and the suitable habitats available on site (the large Oak trees) are to be maintained, no further survey work is recommended for this species.

#### 4.1.5 Reptiles

There is a large amount of potential habitat on the site, it is therefore recommended that a reptile survey be carried out by laying tiles of tin or bitumen roofing felt at regular intervals in areas where reptiles are likely to bask and frequently checking them to confirm if reptiles are present. If reptiles are present on the site then likely impacts of development include loss of habitat and disturbance due to work on site during development and a long term increase in human activity. Suggested mitigation would be to look for alternative sites to develop, and if that is not possible, to accommodate the reptile interest within site by a redesign of development scheme. It is not possible to relocate the reptiles in situ as there is no area large enough to replace the habitat lost, therefore, if it is not possible to redesign the development site, it is suggested that reptiles be excluded from the site completely using reptile fences and carrying out a destructive search. The receptor site could be enhanced by making the area a nature reserve and preserving reptile habitat from destruction and disturbance.

#### 4.1.6 Amphibians

Due to the ideal amphibian habitat provided by the area of standing water, it is recommended that a presence/absence survey be carried out using the appropriate method, between mid March and mid June. If Great Crested Newts are found to be present, likely impacts of development include loss of habitat and disturbance due to work on site during development and a long term increase in human activity, and potential isolation of the population. Suggested mitigation would be to look for alternative sites to develop, and if that is not possible, capturing and excluding newts to a designated receptor site (See Appendix F). Enhancement includes setting aside land for newts around their current habitat, enhancement of the receptor site, and post-development commitments to ensure the population is safeguarded.

#### 4.1.7 Nesting Birds

No further survey work is recommended for this species, as it has already been established that birds nest on this site. It is therefore recommended that any work likely to cause disturbance to nesting birds, e.g. hedge and tree removal, be carried out during the winter when birds are unlikely to be nesting on the site.

## 4.2 Wildlife and the Law

### 4.2.1 European Protected Species

European Protected Species are animals and plants that receive protection under The Conservation of Habitats and Species Regulations 2010. In relation to a development it is an offence to:

- Deliberately capture, injure or kill a European Protected Species
- Deliberately or recklessly disturb wild animals of any such species in such a way as to be likely significantly to affect:
    - the ability of any significant group of animals to survive, breed, or rear or nurture their young, or
    - the local distribution or abundance of that species
- Damage or destroy a breeding site or resting place (even if unintentional or when the animal is not present)
- Intentionally or recklessly obstruct access to a structure or place used for protection or shelter

This legislation applies to all **species of Bats, the Common Dormouse and the Great Crested Newt**, regardless of life stage

### 4.2.2 Other Protected Species

#### 4.2.2.1 Nesting Birds

All wild birds, their eggs and their nests are protected, under the Wildlife and Countryside Act 1981, from taking, killing or destroying whilst nesting.

#### 4.2.2.2 Reptiles

All native reptiles are protected in the UK under the Wildlife and Countryside Act 1981 (and subsequent amendments) making it an offence to intentionally kill or injure them.

#### 4.2.2.3 Barn Owls

Barn owls are protected under the same legislation as all nesting birds (see section 4.2.2.1). In addition, Barn Owls are afforded special protection under schedule 1 of the Wildlife and Countryside Act, 1981, and so it is also illegal to intentionally or recklessly disturb them while nesting.

#### 4.2.2.4 Badgers

Badgers are fully protected under the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act, 1981. It is therefore illegal to intentionally kill or injure them, intentionally or recklessly damage, destroy or obstruct access to a badger sett, or disturb a badger while it is occupying a sett.

### 4.3 References

Eurasian Badger Factsheet (2008) Badger Trust

Dormouse Conservation Handbook (2006) Natural England

Bat Workers Manual 3rd Edition (2004) Joint Nature Conservation Comittee

Bat Surveys – Good Practice Guidelines (2007) Bat Conservation Trust

Barn Owls on Site – A Guide For Developers and Planners (2002) The Barn Owl Trust

Herpetofauna Workers Manual (2003) Gent,T., Gibson S

Great Crested Newt Mitigation Guidelines (2001) English Nature

Wild Birds and the Law – England and Wales (2010) Royal Society for the Protection of Birds

Handbook for Phase 1 Habitat Survey (2003) Joint Nature Conservation Committee

## 5 Glossary

**Nest Tube Survey** - A tube is tied tightly to the underside of a suitable branch with wire. A plywood tray, with attached end stop, slides into the outer tube. Tubes are readily adopted as nest sites by dormice, providing a relatively cheap and easy way of detecting their presence. It is recommended that tubes be placed every 20 metres along the hedgerow surrounding the site and that they be monitored for several months, ideally between March and November.

**Bat Activity Survey –** A bat detector is used to detect bats presence and activities within a site. The surveyor will walk a route around the site and stop in strategic places to determine bat activity.

## Appendix A: Photographs of Site

**Fig. 1: Species poor hedgerow at east of site.**

**Fig. 2: Willow trees halfway along southern hedgerow.**

**Fig. 3: More diverse hedgerow at south of site.**

**Fig. 4: Field maples and site access in north west of site.**

**Fig. 5: Field maples and in spp poor northern hedgerow.**

**Fig. 6: Butterfly observed on Dog Rose in western hedge.**

**Fig. 7: One of the large Oaks that grow on site**

**Fig. 8: Sorrel growing beneath Oak trees.**

Fig. 9: Another large Oak

Fig. 10: Overgrown area of standing water

Fig. 11: Hedgerow at north of site.

Fig. 12: Fence in north east boundary of site.

Fig. 13: Nest observed in tree overgrowing area of standing water.

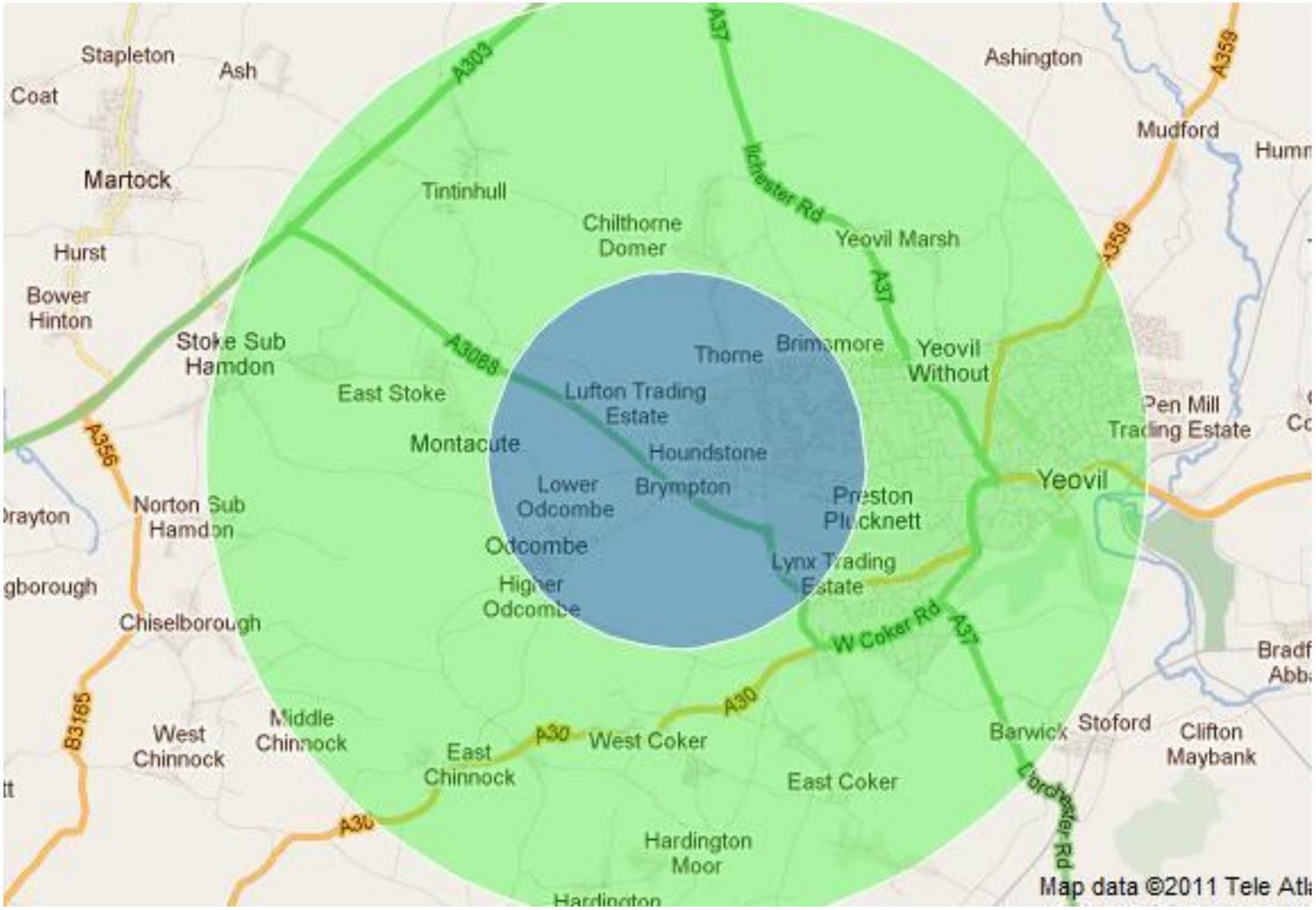
Fig. 14: Bank of area of standing water.

**Appendix B: Phase 1 Habitat Map**

**Appendix C: Target Notes**

| | |
|---|---|
| **Target Note 1** | Access to Site (see fig. 4). |
| **Target Note 2** | Oak Tree – Potential Bat and Bird (including Barn Owl) habitat. |
| **Target Note 3** | Oak Tree – Potential Bat and Bird (including Barn Owl) habitat (see fig. 7). |
| **Target Note 4** | Oak Tree – Potential Bat and Bird (including Barn Owl) habitat (see fig. 9). |
| **Target Note 5** | 2 Oak Trees– Potential Bat and Bird (including Barn Owl) habitat. |
| **Target Note 6** | Bushy hedges that surround site – Potential Bird and Dormouse habitat (See fig. 1). |
| **Target Note 7** | Access to Site. |
| **Target Note 8** | Ruderal – Potential Reptile habitat. |
| **Target Note 9** | Gap in hedge adjacent to area of tall grass – Potential reptile habitat. |
| **Target Note 10** | Area of tall grass. |
| **Target Note 11** | Oak Tree – Potential Bat and Bird (including Barn Owl) habitat. |
| **Target Note 12** | Bird nest observed (see fig. 13). |
| **Target Note 13** | Area of standing water, overgrown with vegetation – Potential Bat, Bird and Amphibian habitat (see fig. 10 + 14). |

**Appendix D: Desk Study Area**



**Appendix E: Strategic Landscape of Site**

**Appendix F: Suggested Mitigation and Enhancement Features**


Extent of Hedge Removal within the Option Land.

Landscape Features to be removed.

Part of boundary of development site area as a whole.

Hedges to be replanted or retained.

Bat bridges or planted trees with canopies overhanging the road.

Habitat Creation (for enhancement or receptor sites)

Areas with limited lighting.

Suggested area to develop in order to retain area of standing water.