

# *Greenscape Environmental Ltd*

**IGHTFIELD PARISH COUNCIL**

**ECOLOGICAL APPRAISAL**

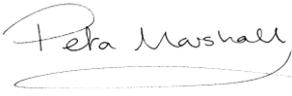
**LAND BETWEEN  
IGHTFIELD AND CALVERHALL**

**AUGUST 2018**

**1981 001R**

**Report by Peta Marshall BSc (hons)**

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The report should be read in its entirety.

Questions arising from the survey report should be directed to the author of this report who will be pleased to clarify any technical issues raised.

Whilst the surveyors make every reasonable effort, Greenscape Environmental Ltd cannot guarantee that all protected species have been identified and survey results are definitive. Many species are cryptic and transitional in habit.

Reports are considered valid for one year for planning purposes after which time further survey information may be required.

Greenscape Environmental Ltd can provide advice and support for recommendations and planning conditions.

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# 1 Summary

## 1.1 Purpose of the Report

Greenscape Environmental Ltd was commissioned by William Heywood Lonsdale on behalf of the Parish Council to undertake an Ecological Appraisal of land between Ightfield and Calverhall to provide supporting information to a planning application for creation of a footpath between the two villages.

The survey report has two principal aims:

- to provide an initial appraisal of the ecological value of the site and local ecological resource
- to identify potential development constraints relating to ecology and recommend measures to avoid, reduce or manage negative effects and potentially to provide ecological gain.

## 1.2 Methodology

The appraisal of the site included a desk study of the area, reviews of other surveys previously conducted in the area by Greenscape Environmental, a phase 1 environmental appraisal and eDNA assessment of a pond within 250m of the proposed path.

The phase 1 ecological appraisal was undertaken at the site, between OS grid reference SJ595 383 to SJ603 375 on 28<sup>th</sup> March 2018 by P Marshall. eDNA analysis was conducted on the 30<sup>th</sup> May with analysis conducted by NatureMetrics Ltd.

## 1.3 Key Issues

No designated sites were found within the vicinity of the site and it is not situated within a Shropshire Environmental Network core habitat or ecological corridor. No negative impact is expected from the development.

Records of protected species within 2km include typical bat species, water vole, otter and great crested newt (GCN). Newts have been recorded at Brown Moss, but not ponds in Calverhall.

The majority of the length of the path is set in well managed arable land of low ecological value. There is a small plantation where some trees will need to be removed. These were assessed for bats and considered to be of negligible potential. A pond within 250m was assessed for GCN, this was positive for the species, but considering the scale of the development an offence is considered to be highly unlikely. Reasonable avoidance measures and enhancements will be recommended. No evidence of badger setts were seen within 30m of the proposed path.

## 1.4 Impacts and Mitigation Measures

Work will follow a method statement and enhancements made for wildlife.

## 1.5 Conclusions

It is considered the development can proceed without the loss of habitat of significant value and without the loss of favourable conservation status of any protected species.

The method statements provided in this report will be followed, and works will be conducted at a suitable time of year to minimise negative impact on flora and fauna.

## 2 Introduction

This report has been compiled by Peta Marshall BSc (hons) MA who has over 10 years' experience conducting ecological appraisals. It has been reviewed in line with Greenscape's Quality Management System.

For details of surveyors and licences please see Appendix A.

Greenscape Environmental Ltd was commissioned by the Parish Council to conduct a survey to determine the presence of protected species and potential for the damage or destruction of habitats of ecological value, as part of the planning application for the creation of a footpath between the two villages.

### 2.1 Project Background

The project involves the creation of a low impact hardcore path along the hedgeline of the fields adjacent to the lane between the villages.

Some trees will need to be removed from a small plantation.

### 2.2 Planning Policy and Legislation

This section provides a brief summary of the key national and local planning policies and legislation with an intention to identify those to be of most relevance to ecology and provide context to the surveys conducted. Survey findings were considered in line with the following.

The Conservation of Habitats and Species Regulations 2017 – as listed in:

- Schedule 2. European protected species of animals
- Schedule 5. European protected species of plants

The Wildlife and Countryside Act 1981 – as listed in:

- Schedule 1. Birds protected by special penalties at all times
- Schedule 5. Protected animals
- Schedule 8. Protected plants

Countryside and Rights of Way Act (2000)

Hedgerow Regulations 1997

The Protection of Badgers Act 1992

Natural Environment and Rural Communities Act 2006 (NERC 2006)

National Planning Policy Framework (2012):

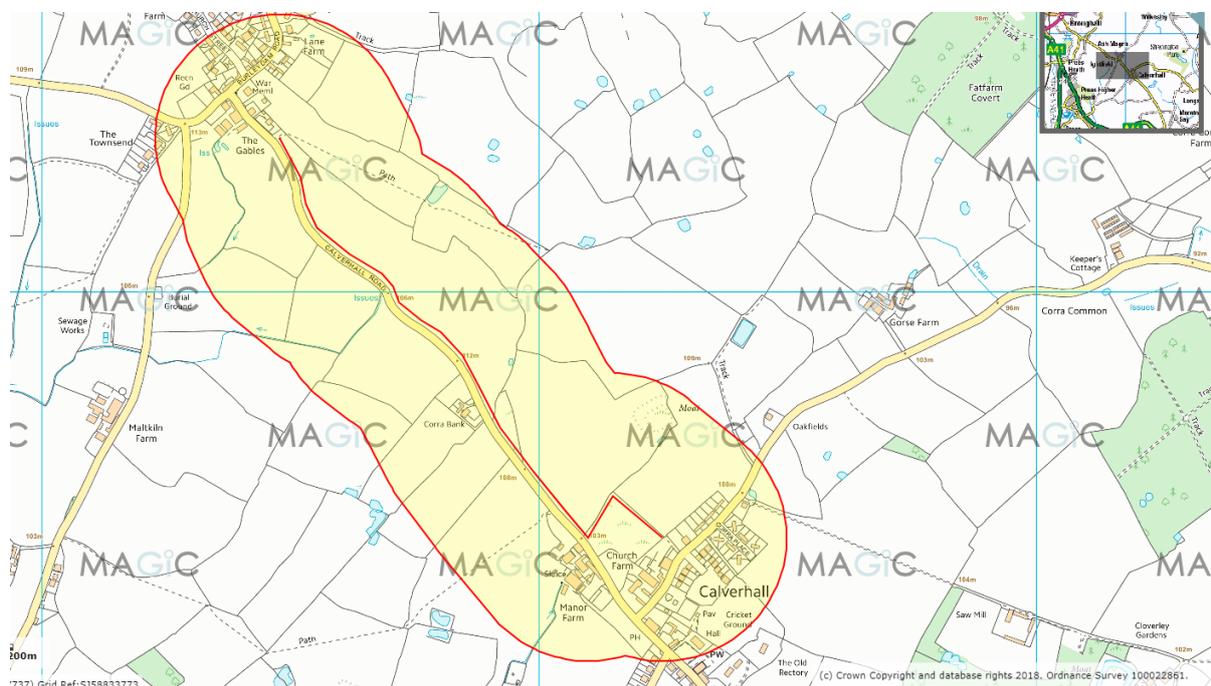
- Policy 15. Conserving and Enhancing the Natural Environment. This indicates the planning system should contribute to and enhance the natural and local environment by protecting and enhancing values landscapes, minimising impacts on biodiversity and providing net gains where possible.

ODPM Circular 06/2005: Biodiversity and Geological Conservation-Statutory obligations and their impact within the Planning System

Shropshire Core Strategy Policy CS17 Environmental Networks. This indicates that development will identify, protect, expand and connect Shropshire's environmental assets.

## 2.3 Site Context and Location

The transect is situated adjacent to the lane between Ightfield and Calverhall. Land adjacent to it is arable.



**Figure 2.1. An OS map showing the site with 250m buffer**

### 2.3.1 Date and Survey Conditions

The phase 1 ecological appraisal was undertaken at the site on 28<sup>th</sup> March by Peta Marshall with an update and eDNA samples taken on the 30<sup>th</sup> May. The conditions on the survey dates were optimal for the type of survey conducted.

**Table 2.1: Survey date and conditions**

Date	Time	Temp °C Start- Finish	Sunset / Sunrise	Condition
28/03/18	Day	13	N/A	Overcast, light breeze
30/05/18	Day	21	N/A	Sunny, light breeze

### **3 Methodology**

Broad methodologies for data collection and interpretation were informed by guidance outlined in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal. The specific survey methodologies used are outlined in Appendix B.

#### **3.1 Desk Study**

The desk study provides contextual information such as the site's proximity to designated areas and known records of protected/notable species. This assists with the evaluation of the ecological value of the site.

The appraisal of the site included a desk study which took place in March 2018.

A review of other surveys conducted in the area by Greenscape Environmental was also conducted, with surveys having been conducted at Calverhall and Ightfield.

This level of desk study is considered adequately proportionate to the development proposals, the low complexity of the site and its surrounding landscape context.

#### **3.2 Field Survey**

##### **3.2.1 Habitats**

An assessment of habitats was conducted following the "Extended Phase 1 Methodology" (Institute of Environmental Assessment 1995) and broadly the JNCC Handbook for Phase 1 Surveys 2010. Target notes were used to identify potential for protected or notable species or habitats, and to give more detailed site descriptions.

The level of survey is aimed to identify field signs of or habitats with the potential to support protected species and therefore assist in the determination for detailed phase 2 surveys.

##### **3.2.2 Hedgerows**

The aim of the assessment is to ascertain whether the hedgerow could be classified as important according to the definitions listed in the Hedgerow Regulations 1997.

#### **3.3 Species Survey**

The hedges and trees were assessed for potential for bat roosts, foraging and commuting. In accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3<sup>rd</sup> edition, Collins (2016).

Badgers surveys were conducted using guidance from Scottish Natural Heritage commissioned Report No 096 (2003).

Trees and hedgerows and fields were assessed for potential for nesting birds and potential for disturbance.

The assessment of aquatic habitat for GCN is based on the Habitat Suitability Index (HSI). The terrestrial habitats at the application site were surveyed and assessed regarding their suitability and potential value in supporting GCN.

eDNA assessment was conducted using standard methodology.

### **3.4 Constraints of the Survey**

All areas were accessible for this survey. It was conducted at an optimal time of the year for the assessment of flora and fauna. Standard techniques were followed, as outlined in Appendix B. No specific constraints have been identified. Phase 2 population surveys for newts were not considered necessary due to the small scale of the development and the lack of potential for an offence to be committed.

## **4 Site Description**

### **4.1 Desk Study**

#### **4.1.1 Designated Sites**

The map from Natural England presented in Appendix C indicates that the site is not within 1km of a designated area. Brown Moss is 3km to the NW. This is known to support great crested newts.

The proposed development site is not situated within a core area as described by the Shropshire Environmental Network (SEN).

#### **4.1.2 Records**

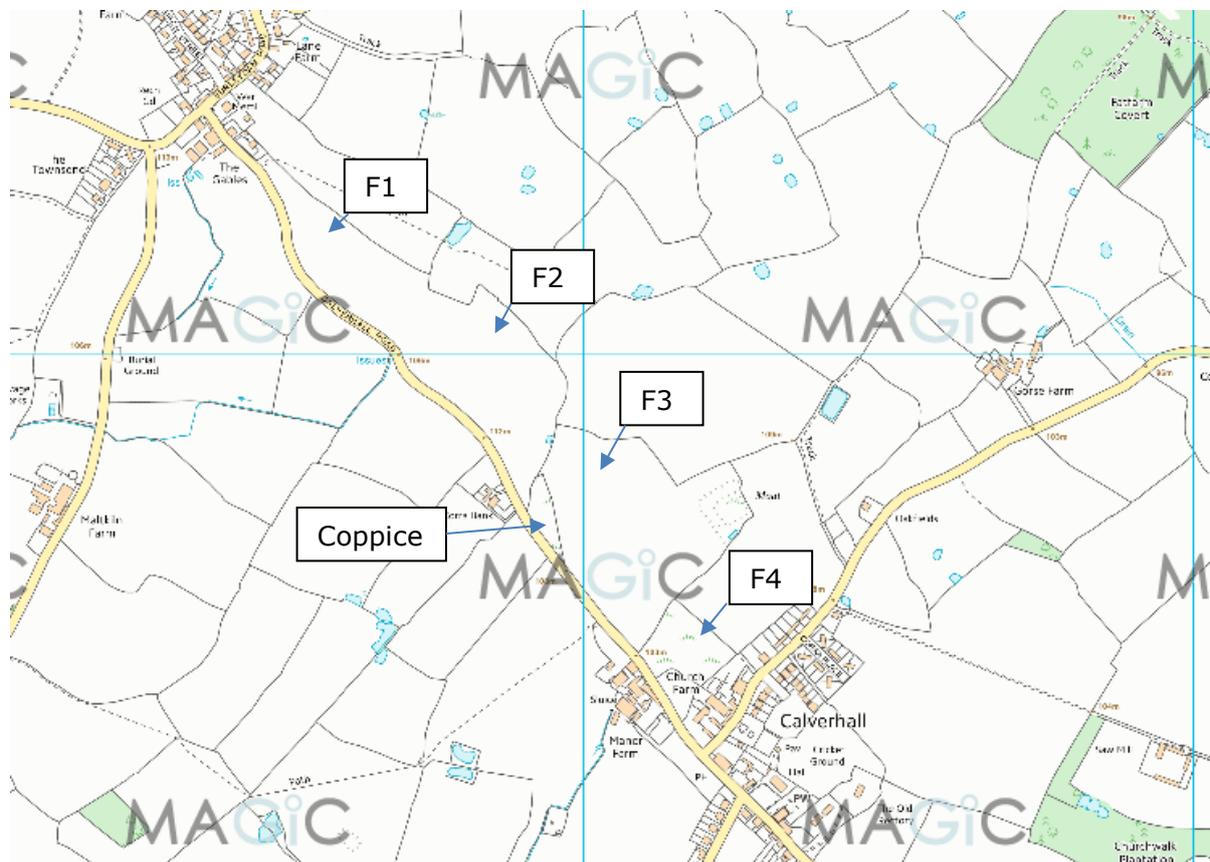
Ponds within the locality of Calverhall have previously been assessed by Greenscape and no newts recorded. Ponds within the close vicinity will be taken into consideration as they have been recorded at Brown Moss.

Bats have been recorded in redundant farm buildings close to the proposed path at Church Farm and buildings in Ightfield. No negative impact would be anticipated on these.

Full records from the desk study can be found in Appendix C.

## 4.2 Field Survey-Phase 1 Description and Observations

The proposed footpath will be constructed across 4 fields, along the field boundaries 1m from the hedge line. It will pass through a small coppice area which was once used as an undeveloped area for storage.



The fields are arable or improved grassland and under constant management.



Figure 4.1: Field one



**Figure 4.2: Field 1 to the northern end of the proposed path**

Field 1 is arable land, with an area of hard standing between it and Field 2. This was seen not to support plants in the visit in May.

A wet land area has developed between Field 1 and Field 2 and is not highlighted on the OS map. (See section 4.2.1)



**Figure 4.3: Pond to the north of the proposed path area**

The distance between this and the proposed path is approximately 30m of cleared hardstanding where there has been recent drainage and clearance works undertaken and there is a busy access into the fields.

Field 2 is an area of improved grassland of low ecological value.



**Figure 4.4: Field 2**

The coppice between field 2 and 3 comprises semi-mature trees, mainly prunus and holly. Some will need pruning back to enable the path to be created.

No significant mature trees will require removal and it is not anticipated that the boundary with the road will be impacted.



**Figure 4.5: Coppice to the south of Field 2.**

Ground flora within the coppice is mainly nettle and bramble with some mosses. No evidence of species such as bluebells were visible close to the proposed pathway.



**Figure 4.6: Ground flora**

Some of the trees within this area are failing as they are planted close together with little light. Creation of the footpath will enable the area to be managed and enhanced for wildlife.

Field 3 is also arable land.



**Figure 4.7: Field 3**

The hedge boundary between field 3 and 4 will need a small section removed. This is a mature hedgerow, but no significant trees will be impacted.



**Figure 4.8: Field 3 boundary**

The length of hedge requiring removal is not considered to be significant. Old bird nests were seen in this section, so reasonable avoidance measures for birds will be necessary.

Field 4 comprises an area of semi improved grassland and has been assessed for 2 previous projects within the last 5 years. These projects were for appraisal of Church Farm.



**Figure 4.9: Field 4**

The line of the path was examined as well as the central features of the field. No axiophytes or invasive plant species were recorded. No signs of badger setts were observed.

No evidence of badger activity was recorded along the proposed line of the path.

Birds recorded along the path were associated with the hedgerow and comprise typical passerine birds such as goldfinch (*Carduelis carduelis*), robin (*Erithacus rubecula*),

blackbird (*Turdus merula*). Lapwing (*Vanellus vanellus*) were recorded to the south of the site in May, but not associated with these fields.

#### 4.2.1 Open Water

Scrutiny of the OS map (Fig 2.1) and a walk around the locality showed there is one pond within 250m of the site.

**Table 4.1: Ponds within 250m**

Pond Number	OS Grid Reference	Distance from Site (m)	HSI score
1.	SJ59703804	30	0.79- Good

#### Pond 1

The wetland area has been created as an enhancement for biodiversity on the estate. It comprises an area of open water heavily inundated with reedmace, willow and rough grassland. It is set in an arable field which is a less favourable terrestrial habitat for newts.

A sample was collected for eDNA testing and sent to NatureMetrics for analysis. This was positive for GCN but considering the habitat to be impacted for this development and the potential timing of works, no further surveys are considered necessary.

No evidence of newt eggs was observed in the pond and no newts were found in the land immediately around the pond during the first site visit.

No evidence of water vole was observed close to this wetland area and it is considered highly unlikely to be used by otters.

## 5 Evaluation of Results

### 5.1 Potential Impacts on Designated Sites and Recorded Species

#### 5.1.1 Designated Areas

The nearest SSSI is approximately 3km away. No negative impact is anticipated on this. The length of the path is not situated in a core area as described by the SEN. No negative impact is anticipated.

### 5.2 Habitats potentially impacted

**Table 5.1: Summary of habitats on site**

Habitat type	Is the habitat capable of supporting protected species	Impact without consideration
Arable land	Low ecological value	No negative impact
Semi improved grassland	Low ecological value	No negative impact
Trees	Some semi mature trees to be removed	No negative impact
Hedge	Short section to be removed	Low negative impact

The fields are all considered to be of low ecological value and the path to have no significant impact on the habitats.

There will be the loss of some trees in the copse. These are not considered to have potential for bat roosts so phase 2 surveys for bats are not considered necessary.

#### 5.2.1 Hedgerow

All hedgerows are potentially protected by the Hedgerow Regulations 1997. Under these regulations it is against the law to remove or destroy certain hedgerows without permission from the LPA. These Regulations do not apply to any hedgerow within the curtilage of or marking the boundary of a dwelling house.

Permission is required before removing hedges that are least 20m in length and over 30 years old. Permission is gained by submitting a Hedgerow Removal Notice to the LPA as set out in Schedule 4 of the Regulations.

The amount of hedge to be removed is not considered to be of high significance so the council can permit this.

There is potential for improving habitat in and around the copse with some management and removal of dead trees. This would offset the negative impact of the removal of this section of hedge.

### 5.3 Ecologically Important Species

**Table 5.2: Summary of protected species on site with recommendations**

Species	Observations	Impact without consideration	Recommendations
<b>Mammals</b>			
Bats	No suitable habitat	No negative impact	No action required
Badgers	No evidence found around site	No negative impact	No action required
Water vole	No suitable habitat around site	No negative impact	No action required
Hazel Dormouse	No suitable habitat on site	No negative impact	No action required
Otter	No suitable habitat on site	No negative impact	No action required
<b>Birds</b>			
Barn Owl	No evidence in trees on site	No negative impact	No action required
Nesting birds	Hedges likely to support birds	Low negative impact	All clearance to be undertaken outside nesting period Feb-Aug inclusive New nest box provision
<b>Herpetofauna</b>			
Reptiles	No suitable habitat around site	No negative impact	No action required
Great Crested Newts	Presence proven in pond. Terrestrial habitat to be disturbed is poor	Low negative impact	Works to be conducted under RAMS

#### 5.3.1 Bats

All bat species are protected under the Conservation of Habitats and Species Regulations 2017 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- deliberately capture or kill any wild animal of a EPS.
- deliberately disturb any such animal.
- damage or destroy a breeding site or resting place of such a wild animal.
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a EPS, or any part of, or anything derived from such a wild animal or plant.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine or to both.

#### Consideration

The hedge along the lane is maintained at a low level and has very few standard trees. It is unlikely to be a significant corridor for foraging bats.

There is opportunity to enhance the path with the planting of trees along it.

The trees in the copse requiring removal or pruning had no roosting opportunities for bats. It is recommended the tree management occurs out of the bird nesting season when bats are least likely to be present.

An offence is considered highly unlikely.

### **5.3.2 Other Mammals**

#### **Badgers**

Badgers and their setts are specifically protected under the Protection of Badgers Act 1992. The act was primarily brought into force to prevent the deliberate injury to or death of badgers. Some aspects of the act affect developers. It is important that developers are aware of any badger setts located on the land they intend to develop.

All personnel working on sites where there are badgers should be aware of the Protection of Badgers Act 1992. Under this legislation it is an offence to:

- Damage a badger sett or any part of it.
- Destroy a badger sett.
- Obstruct access to, or any entrance of a badger sett.
- Causing a dog to enter a badger sett.
- Disturbing a badger when it is occupying a badger sett.

A badger sett is defined by the Act as "any structure or place, which displays signs indicating current (within the last 12 months) use by a badger".

No evidence of badger setts were observed within 30m of the proposed path.

### **5.3.3 Birds**

Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), birds, their nests and young are all protected from damage, particularly during the breeding season. The Act allows for fines or prison sentences for every bird, egg or nest destroyed. It makes it an offence to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built.
- Take damage or destroy the egg of any wild bird.
- To have in one's possession or control any wild bird, dead or alive or egg or any part of a wild bird or egg.

It is recommended that the clearance of significantly sized plants will be conducted out of the bird nesting season (February to August inclusive) and there will be enhancements in the form of the erection of nesting boxes post construction.

### **5.3.4 Amphibian and Reptiles**

All species of amphibians receive a measure of protection under legislation.

The Wildlife and Countryside Act 1981 has been amended by the Countryside and Rights of Way Act (CRoW) 2000. This applies to England and Wales only. The key relevant fact is:

- Section 9(4) is amended to create an additional offence of reckless damage to, destruction of, or obstruction of access to, any structure or place used for shelter or protection; and reckless disturbance while occupying such a structure or place.

This means that any application for planning permission has to offer mitigation to the planners to alleviate any potential damage (i.e. provide reasonable avoidance).

### **Great Crested Newts**

GCN are protected under the Conservation of Habitats and Species Regulations 2017 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- Deliberately capture or kill any wild animal of an EPS.
- Deliberately disturb any such animal.
- Deliberately take or destroy eggs of any such wild animal.
- Damage or destroy a breeding site or resting place of such a wild animal.
- Keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of an EPS, or any part of, or anything derived from such a wild animal or plant.

GCN are listed as a priority species on the UK Biodiversity Action Plan (BAP) and Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine, or to both.

Work can be conducted under derogation licence from Natural England providing suitable compensation and mitigation is provided and the "three tests" can be met. These are:

1. Regulation 55(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety" or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
2. Regulation 55(9)(a) States: the appropriate authority (Natural England) shall not grant a licence unless they are satisfied "that there is no satisfactory alternative"
3. Regulation 55(9)(b) states that the appropriate authority shall not grant a licence unless they are satisfied "that the action licensed will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in its natural range."

Natural England will only issue a licence if it is considered an offence is likely to be committed.

Although presence of GCN is anticipated in the pond closest to the development area, there is very little terrestrial land to be impacted. The trees and hedges to be removed are more than 350m from this pond.

There will no direct negative impact on the pond.

The anticipated amount of land within 50m of the pond extends to less than 100m<sup>2</sup>.

This section is mainly disturbed hard standing used by tractors between the fields. It is kept clear of plants.

The offences have been taken into consideration:-

**Deliberately capture or kill a great crested newt**

Highly unlikely as they are unlikely to be in this area with the good habitat immediately surrounding the pond.

**Deliberately disturb any such animal.**

The land to be used for the path is of low ecological value, especially close to the pond as it is hardstanding in this area and plant free. There is no potential for hibernation.

**Deliberately take or destroy eggs of any such wild animal.**

These would be in the pond and this will not be negatively impacted

**Damage or destroy a breeding site or resting place of such a wild animal.**

There is no terrestrial habitat along the line of the path close to the pond where there is potential for newts to be resting. The hedge trees to be removed are over 250m from a pond.

**Summary**

An offence is considered to be highly unlikely. A method statement outlining reasonable avoidance measures will be recommended as there will be stock piling of materials during the construction of the path.

## 6 Impacts and Mitigation Measures

To reduce or minimise negative impact on biodiversity, the following recommendations have been made.

### 6.1 Landscaping

1. It is recommended that the landscaping along the path will include some replacement hedging and tree planting, with management of the cops, to enhance the area for biodiversity.
2. Plants to be used will include locally sourced native species. These will be planted in accordance with BS3936 (part 1, 1992, Nursery Stock, Specifications for trees and shrubs). Planting will occur between November and April of the following year depending on timing of development.

**Table 6.1: Recommended plants for landscaping**

Plant	Latin Name
Blackthorn	<i>Prunus spinosa</i>
Crab apple	<i>Malus sylvestris</i>
Field rose	<i>Rosa arvensis</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Spindle	<i>Euonymus europaeus</i>
Wild cherry	<i>Prunus avium</i>
Wild pear	<i>Pyrus communis</i>
Wild service tree	<i>Sorbus torminalis</i>

3. Trees to be used should be from the list below. Oak should particularly be encouraged as it is the dominant species in the vicinity and it supports a large diversity of invertebrates.

**Table 6.2: Recommended trees for landscaping**

Common Name	Latin Name
English oak	<i>Quercus robur</i>
Sessile oak	<i>Quercus petraea</i>
Lime	<i>Tilia cordata</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>

## 6.2 Birds

### 6.2.1 Reasonable Avoidance Measures

1. Tree and hedge will occur out of the bird nesting season, which is February to August inclusive. If this is not possible, a suitably experienced ecologist will conduct a check within the 24 hours prior to work commencement to ensure no nesting birds will be affected.
2. All nesting birds will be left undisturbed until young have fledged. A 4m buffer will be left.

### 6.2.2 Enhancements for Birds

1. It is recommended that at least 3 woodcrete boxes are erected in the copse to provide an enhancement for passerine birds. The following nest box is recommended.



Schwegler 1b Bird Box

**Figure 6.1: Provision for bird boxes**

## **6.3 Newts**

### **6.3.1 Reasonable Avoidance Measures**

#### **Pre-construction Phase**

1. The proposed line of the path in fields 1 and 2 will be kept ploughed prior to construction. This will reduce the potential for newts to cross the land and reduce the potential for the terrestrial features to improve. All plants will be kept short (<10cm) to ensure there is no shelter for GCN on the site.

#### **Site set up**

2. A consultant will be employed as the Ecological Clerk of Works (ECoW) to oversee the work in areas sensitive to GCN on site. This person will need to be licensed and an experienced surveyor for GCN.
3. The ECoW will provide contractors with a toolbox talk prior to work commencing. This will include information about the legal status of newts and responsibilities of the construction company to ensure no offence is committed. A document to assist the identification of newts will be left on site and available for all contractors to view.
4. The site will be checked thoroughly by the ECoW prior to construction commencing with a walkover search. This will confirm there are no newts present and that there are no places where newts could be sheltering, prior to commencement.
5. Soil and vegetation will be stripped in the presence of the ECoW.

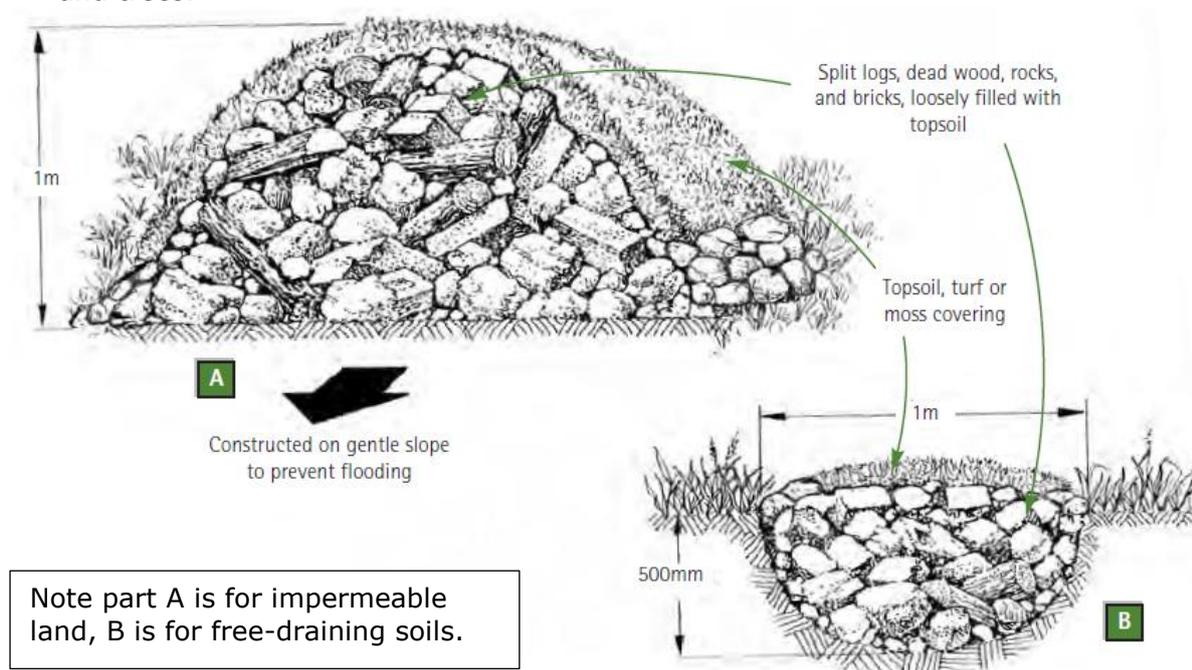
#### **Construction phase**

6. The Site Foreman will be responsible for ensuring all contractors are aware of the potential to find newts and that they are familiar with the appearance of newts. If in doubt the ECoW will be contacted.
7. Contractors are advised NOT to handle newts at any time.
8. There will be no sub or top soil stored within 100m of the pond. Subsoil must not be tipped onto any tall vegetation. The location of the storage area will be checked by the ECoW immediately before the topsoil is moved to the storage area.
9. Plants along the path will be kept short to stop the development of a long sward suitable for the terrestrial habitat for newts.
10. All work will be conducted during daylight hours as newts are least likely to move during this time.
11. Major construction work within 100m of the pond will be conducted between November to February when there is least movement of newts between ponds and newts are hibernating.
12. Any heavy machinery will be stored close to Church Farm.
13. Stored material will be raised on pallets in builders' bags to reduce the potential for creating a temporary resting place. This reduces the potential for damage or destruction of individual newts
14. All waste will be placed straight into skips to reduce the potential of creating refugia.

15. If a newt is found, then work WILL stop immediately and the ECoW contacted for advice.
16. GCN will not be handled or moved without express permission from Natural England as this would constitute an offence.
17. It is recommended that regular site visits are carried out by the ECoW to ensure compliance with the legislation and the Method Statement. A record of these visits will be made as part of the audit trail.

### 6.3.2 Enhancement for Newts

1. A hibernaculum will be created adjacent to the pond. This will be comprised of a pile of clean rubble, notably large stones, logs and branches from the removed hedgerow and trees.



**Figure 6.2. A suggested design for a great crested newt hibernaculum (taken with permission from the "Great Crested Newt Conservation Handbook (2001)" by Froglife©).**

2. The ECoW will oversee the construction of this.

## **7 Concluding Remarks**

The survey has focused on the potential for negative impact on bats, badgers and great crested newts.

Habitat for all these species is considered to be poor, with terrestrial features unlikely to support newts in hibernation or foraging in summer.

The method statements provided in this report will be followed, and works will be done at a suitable time of year. This will result in there being no further ecological constraints to the development.

## **Appendices**

- A**        **Details of Surveyors**  
              Sheet(s): 1
  
- B**        **Detailed Methodology**  
              Sheet(s): 4
  
- C**        **Desktop Study**  
              Sheet(s): 3
  
- D**        **Site Plans**  
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- E**        **HSI Scores**  
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## A Details of Surveyors

**Table A.1: Surveyor experience and licences**

Name	Membership of associations/ experience	Licenses
Peta Marshall BSc(hons)MA	<p><b>Principal Consultant</b> MCIEEM PIEMA</p> <p>Peta has a degree in Applied Biology and has been working in commercial environmental assessment for over 10 years. She has 10+ years' experience surveying for protected species.</p> <p>As a member of the CIEEM she is bound by professional conduct.</p>	<p>Holder of survey licenses for bats and newts in England and Wales. Registered Consultant for Low Impact Class Licence for Bats England:</p> <p>2015-12200-CLS-CLS Bats RC084 BLICL</p> <p>2015-18939-CLS-CLS GCN Dormice-2017-29225-CLS-CLS</p> <p>Wales:</p> <p>Bats-77554:OTH:CSAB:2017 GCN-77574:OTH:SA:2017</p>
Logan Maggs BSc(hons)	<p><b>Lead Consultant</b></p> <p>Logan has a degree in Conservation and Land Management.</p> <p>He has 9 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales. He continues his personal development by attending courses on different species and survey methods.</p>	<p>Holder of survey licenses for bats and newts in England and Wales. England:</p> <p>Bats - 2016-24901-CLS-CLS GCN - 2017-29218-CLS-CLS</p> <p>Wales:</p> <p>Bats - 75748:OTH:CSAB:2017 Newts - 75963:OTH:SA:2017</p>
Ben Jones BSc(hons) MSc	<p><b>Consultant</b></p> <p>Ben has a degree in Marine and Freshwater biology and a Master's degree in "Managing the Environment".</p> <p>He has 3 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.</p>	<p>Holder of survey licenses for bats and newts in England and Wales. England:</p> <p>Bats - 2017-29112-CLS-CLS GCN - 2016-25209-CLS-CLS</p> <p>Wales:</p> <p>Bats - 76324:OTH:CSAB:2017 GCN - 78716:OTH:SA:2018</p>

## B Detailed Methodology

### Desk Study

**Table B.1: Data sources**

<b>Organisation/Resource</b>	<b>Information Assessed</b>
Freely available online species datasets (NBN Atlas)	Statutory Designation (2km) Non-statutory designations (2km) <ul style="list-style-type: none"> <li>Local Nature Reserves</li> </ul> Protected/UK BAP Species records (2km)
MAGIC website	International statutory designations (1km) <ul style="list-style-type: none"> <li>Special Protection areas (SPA)</li> <li>Special Areas of Conservation (SAC)</li> <li>RAMSAR sites</li> </ul> National statutory designations (1km) <ul style="list-style-type: none"> <li>Sites of Special Scientific Interest (SSSI)</li> <li>National Nature Reserves (NNR)</li> </ul> EPS Licenses for protected species (2km)
Local Records Centre	Protected/UK BAP Species records (2km)

The appraisal of the site included a desk study which took place in March 2018.

The National Biodiversity Network (NBN) Atlas was checked to identify the protected species that have formally been recorded in the area. This was considered proportionate to the size of the development, as the Shropshire Environmental Data Network (SEDN) provides most of its records to the NBN.

A search on Multi Agency Geographic Information for the Countryside (Magic Maps) determined nearby designated areas. The map is presented in Appendix A.

A review of other surveys conducted in the area by Greenscape Environmental was also conducted.

## Field Survey

### Hedgerows

The aim of the assessment is to ascertain whether the hedgerow could be classified as important according to the definitions listed in the Hedgerow Regulations 1997.

The hedgerow is measured and gaps within a hedge included in the total length as long as the gaps are 20m or less in length.

The total number of woody species present was recorded in the following manner:

- Where the length of the hedgerow did not exceed 30m the total number of woody species present in the hedgerow was recorded
- Where the hedgerow was between 30m and 100m the number of woody species present in the central 30m was recorded
- Where the length was between 100m and 200m the number of woody species in the central 30m stretches of 2 halves of the hedgerow were counted and the mean of the 2 halves calculated
- Where the length of the hedge was over 200m the hedge was divided into thirds and the central 30m of each section counted and the mean calculated

The hedgerow height, width, integrity, structure and management history was recorded.

Notes were made of the following in accordance to the criteria outlined in Schedule 1 of the Hedgerow Regulations 1997:

- Evidence of certain species of birds, animals or plants listed in Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended)
- Number of woody species on average in a 30m length
- Presence of rare tree species such as Black Poplar, Large Leaved lime, Small leaved Lime, Wild Service tree
- Number of standard trees within each 50m length
- Percentage of gaps in the hedge
- Presence of ditches, banks or walls
- Numbers of connections with other hedgerows, ponds or woodland
- Presence of parallel hedgerow within 15m of the hedge
- Presence of bridleways, footpaths, byways of public paths

Non-woody ground flora species listed in Schedule 2 of the Hedgerow Regulations were recorded.

## Species Survey

### Bats

The trees and hedgerows were assessed for potential for bat roosts, foraging and commuting.

All trees examined were categorised on their potential roost features. These features include cracks, splits in limbs, cavities, loose bark and thick stemmed ivy. Where appropriate these features were assessed using binoculars and/or endoscopes.

Methodology used is in accordance with recommendations by BCT, Bat Surveys for Professional Ecologists: Good Practice Guidelines 3<sup>rd</sup> edition, Collins (2016).

### Badgers

Surveys were conducted using guidance from Scottish Natural Heritage commissioned Report No 096 (2003).

Daytime surveys for badgers involved looking for:

- Scrapings where badgers have dug for food or used as latrines.
- Signs of a sett, including signs of use such as presence of badger hair
- Tracks and prints.

### Water Vole

An assessment of habitat suitability for water vole and otter was conducted by methods adapted from Harris *et al.*, (2009). The standard survey methodology; Strachan and Moorhouse (2006), was used for surveying for water vole. This involved searching for latrines, burrows, footprints, runs, feeding remains or lawns. Signs of otter and mink are also recorded.

### Birds

Evidence of nesting birds, including barn owls using the area involved looking for:

- Presence of nests
- Collections of droppings and/or feathers
- Highly distinctive droppings or splats under roosting points.
- Presence of owl pellets/feathers

Bird song was also recorded.

### Amphibians and Reptiles

The assessment of aquatic habitat is based on the Habitat Suitability Index (HSI) and is applied according to guidance set out by the Oldham 2000, superseded by ARG in 2010, ARG UK Advice note 5. The HSI is a quantitative method of assessing the potential quality of a body of water in terms of its ability to sustain a population of great crested newts.

The terrestrial habitats at the application site were surveyed and assessed for their suitability and potential value for the support of GCN. The general topography, ground conditions and presence or absence of vegetation were recorded. A refugia search was conducted for amphibians and reptiles by looking under any logs, large stones and other debris.

EDNA sampling was conducted following the Natural England technical advice note WC1067, Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

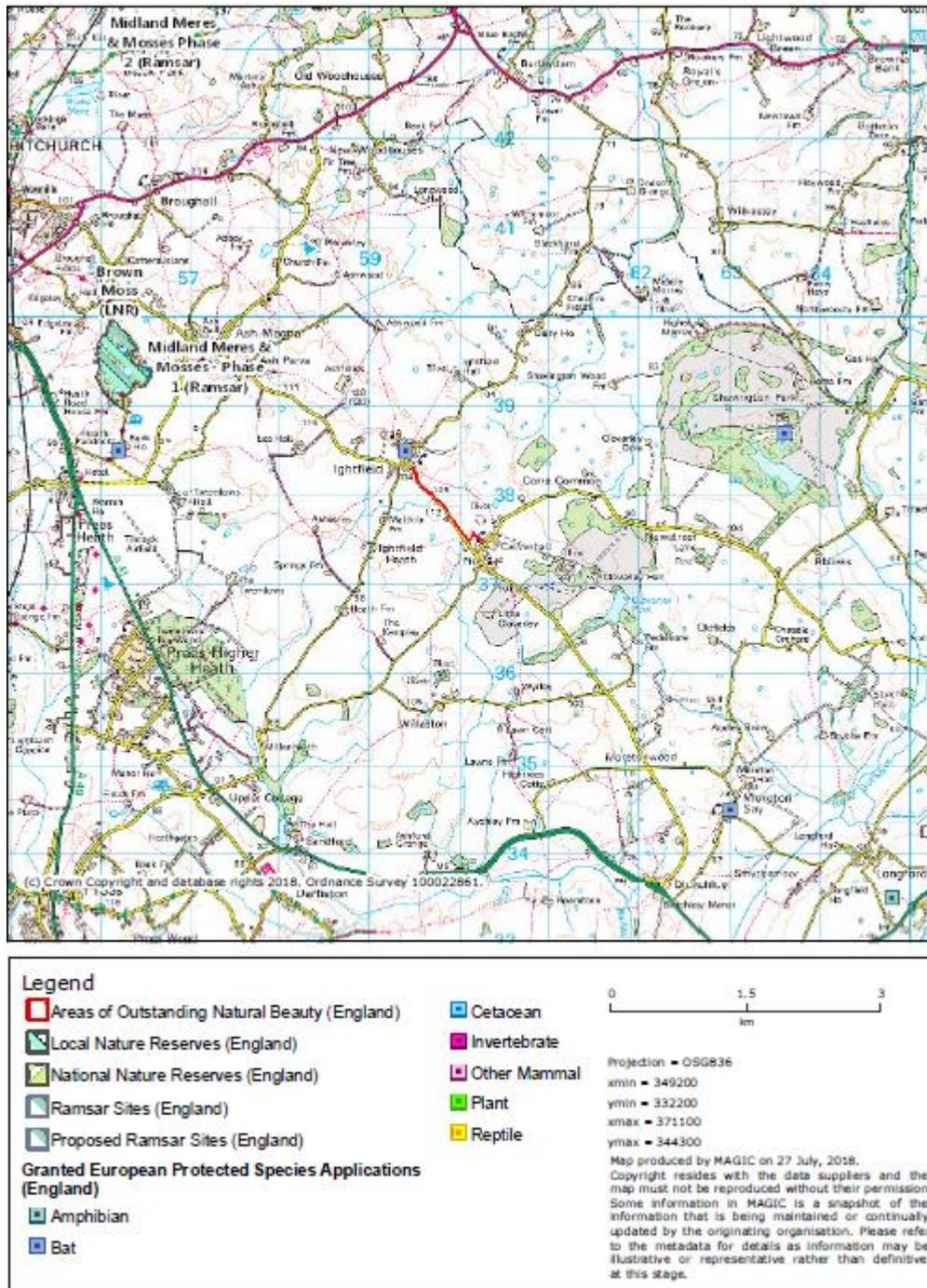
## **Hazel Dormice**

Surveying for hazel dormouse includes the following, as outlined in the Dormouse Conservation Handbook (Second Edition) by English Nature:

- 'Nut hunting' – looking for characteristic foraging marks on fallen nuts, particularly around hazel coppices
- Looking for nests in suitable vegetation
- Assessing the suitability of the habitat – Ideal habitat is: close canopied woodland, diverse with low lying shrub and some mature species

## C Desktop Study

### Designated Sites



**Figure C.1: An Environmental map for path taken from - Nature on the Map- Magic Maps. © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2018.**

The map from Natural England presented in Figure C.1 indicates that the site is not within 1km of a designated area.

Brown Moss is 3 km to the NW of the site. This is a RAMSAR and is known to support Great crested newts.

## Shropshire Environmental Network

The proposed development site is not situated within a core area detailed by the Shropshire Environmental Network.



**Figure C.2. A map from the Shropshire Environmental Network**

### Records

A desk search was conducted focussing on the area within 2km of the site. The following species have official records in that area:

#### Bat species:

Common pipistrelle (*Pipistrellus pipistrellus*)  
Soprano pipistrelle (*Pipistrellus pygmaeus*)  
Brown long-eared (*Plecotus auritus*)  
Whiskered (*Myotis mystacinus*)  
Noctule (*Nyctalus noctula*)

The nearest records are of brown long eared and common pipistrelle bats in Ightfield and Calverhall recorded by P Marshall.

#### Other mammals:

Polecat (*Mustela putorius*)  
Hare (*Lepus europaeus*)

#### Amphibians and Reptiles

Common toad (*Bufo bufo*)

Amphibians and Reptiles data was provided to the NBN Atlas by Reptiles and Amphibians Dataset.

### Granted European Protected Species Licences

European protected species licences granted within 2km include one in Ightfield for low numbers of common pipistrelle bats and brown long eared bats. This was by Greenscape Environmental.

**Table C.1: European Protected Species Licences granted within 2km**

<b>Licence number</b>	<b>Licensable action</b>	<b>Date of licence</b>	<b>Species covered</b>	<b>Distance from site</b>
<b>Bats</b>				
2014-4970- EPS-MIT	Destruction of a resting site	2015- 2020	C-PIP; BLE	~20m

European Protected Species Licence data gathered from Magic on the Map was provided by Natural England and Greenscape Environmental.

### D Site Plans



## E HSI Scores

**Table E.1: HSI score and justification for Pond 1**

<b>Pond 1 Grid reference:</b>		
<b>Geographic Location</b>	1	Zone A
<b>Pond Area</b>	0.5	The pond was approximately 235m <sup>2</sup>
<b>Permanence</b>	0.9	Never dries
<b>Water Quality</b>	1	Abundant and diverse invertebrate community
<b>Shade</b>	1	There was estimated to be 60% shading of the area within 1m of the perimeter
<b>Waterfowl</b>	0.67	Waterfowl present but little signs of impact
<b>Fish</b>	0.67	No records of fish stocking but they could be present
<b>Pond Count</b>	1	There were at least 13 ponds within a 1km radius.
<b>Terrestrial Habitat</b>	0.67	Habitat offers opportunities for foraging and shelter but is only 25-75% of available area within 250m
<b>Macrophytes</b>	0.7	A significant amount of reed mace
<b>HSI Score</b>	<b>0.79 - Good</b>	

## F Bibliography

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