



RSK

CARTER ECOLOGICAL

James Walker
Properties
Limited

Beech House

Extended
Phase 1
Habitat and
Initial Bat
Surveys Report

December
2010

Safeguarding
your business
environment

www.rsk.co.uk

General Notes

Project No: 852665


Title: Beech House Extended Phase 1 Habitat and Initial Bat Surveys Report

Contracting Authority: James Walker Properties Limited

Issue Date: December 2010

Issuing Office: Bristol

Authorised by:  **Project Manager** **Date:** 14.12.2010

Authorised by:  **Project QA Rep** **Date:** 14.12.2010

Sarah Harmer

This report has been prepared by RSK Carter Ecological Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

1 EXECUTIVE SUMMARY

1. This report presents the results of an Extended Phase 1 Habitat Survey and initial bat survey carried out on land at Beech House, Ducklington Lane, Witney, OX28 4JF (Ordnance Survey Grid Reference SP 350 090).
2. There are proposals to create 14 flats at the site with provision for parking and green space. Planning permission has been sought for this development and West Oxfordshire District Council requested an ecological assessment of the site.
3. Habitats recorded on the site include amenity grassland, scrub, trees and hedgerows. The mature trees on site have the greatest nature conservation value but these will be retained under the proposals. The other habitats and the plant species within them are widespread and common. Such habitats are easily re-creatable and are of negligible nature-conservation value from a botanical perspective.
4. The site support habitats suitable for foraging, commuting and roosting bats, Great Crested Newts, breeding birds and common reptiles.
5. Most of the hedgerows and lines of trees across the site suitable for commuting and foraging bats are likely to be retained as part of the development proposals. Lighting of the hedgerows and trees should be avoided where possible to retain these features as 'dark corridors'.
6. The dwelling house has a few potential bat-access points that were inspected via binoculars and no evidence of bats was recorded. Despite having gaps in the lining allowing access for bats, there was no evidence of bats in the loft void. It is therefore unlikely that bats are roosting here. However, as a precaution, the few tiles where gaps are present should only be removed carefully and by hand. In the unlikely event that bats or evidence of bats are found, works should stop and an appropriately qualified ecologist should be contacted.
7. Two potential bat roosting features were recorded in the trees on the site but no roosting bats are present.
8. Although the site contains suitable habitat for Great Crested Newts and there are suitable waterbodies within 500 m of the site, it is extremely unlikely that any newt habitat will be affected by the works. No further survey is therefore necessary.

9. The trees or scrub scheduled for removal should be removed only outside the bird nesting season of early March to late August, unless the area has been checked by an ecologist and the absence of nesting birds confirmed.

10. Only a small amount of potential reptile foraging habitat is likely to be lost during the development. As a result, reptiles can be encouraged to disperse naturally from this area during the works by habitat manipulation. Alternatively, as this area is not suitable for hibernation, works could be conducted in the winter months.

2 INTRODUCTION

2.1 General

This report presents the results of a Phase 1 Habitat Survey and initial bat survey carried out on land at Beech House, Ducklington Lane, Witney, OX28 4JF (centred on Ordnance Survey Grid Reference SP 350 090).

The surveys were carried out by RSK Carter Ecological Limited on behalf of James Walker Properties Limited. A site location plan and aerial photograph are provided as *Figures 1* and *2* respectively.

2.2 Ecological Context

The site itself comprises a dwelling house with gardens including amenity grassland, scrub, trees and hedgerows. The site is bordered to the west by Ducklington Lane with residential properties and associated gardens beyond. A footpath lies immediately outside the southern boundary of the site with a number of commercial and industrial units, residential properties and a sports field. A school sports field borders the site to the east and north beyond which are more residential properties.

There are two drains and a pond close to the site, to the north-east and are shown in *Figure 3*. The two drains are connected and are in close proximity to the pond. These waterbodies are connected to the site via one of the drains and its bankside habitat.

The site is located in the town of Witney, set in a largely mixed agricultural mosaic of fields and boundary hedgerows. The wider landscape also includes small areas of woodland and a large water body located approximately 500m south of the site.

2.3 Proposed Activities and Current Planning Status

The proposals include the creation of 14 flats with provision for parking and green space. Planning permission has been sought for this development and West Oxfordshire District Council requested an ecological assessment of the site.

2.4 Objectives of the Survey and Report

The aims of the surveys were to assess whether there are likely to be any ecological constraints on developing this site and identify where further surveys might be necessary to confirm the presence or likely absence of protected species. In particular, the aim of the initial bat survey was to identify if roosting bats are present on the site.

The report details the methodology and results, and includes recommendations for further work where required.

3 METHODS

3.1 General

Survey was undertaken by James Pattenden, an experienced Senior Ecologist at RSK Carter Ecological. James is a full member of the Institute of Ecology and Environmental Management and holder of several protected species survey licences in England and Wales including bats, Great Crested Newt, Barn Owls and Water Voles. The survey was undertaken on the 17th November 2010.

3.2 Phase 1 Habitat Survey

The botanical surveys in this report centre on the Phase 1 Habitat Survey approach (JNCC 2003). This involves the following elements.

- Habitat mapping using a set of standard colour codes to indicate habitat types on a Phase 1 Habitat Map.
- Description of features of ecological or nature conservation interest in notes relating to numbered locations on the Phase 1 Habitat Map, called target notes.

Basic Phase 1 Habitat Survey methods are described in detail in Joint Nature Conservation Committee (2003). Limits to the achievable reliability of the method are discussed in Cherrill & McClean (1999). No attempt was made to create lengthy species lists for habitats that can be adequately described by reference to the characteristic or dominant plant species.

Although the survey was conducted in November, which is outside the optimal time for a Phase 1 Habitat Survey, it was possible to adequately classify and assess the nature conservation value of the habitats involved. However, particular groups of species may have been under-recorded or missed, including early-flowering woodland herbs and spring ephemerals. However, given the habitats encountered on the site, any species of note were unlikely to be missed. An extensive species list was not collected but characteristic species were recorded and are included in the description of habitats.

Plant nomenclature in this report follows Stace (2010). Plant names in text are given with scientific names first, followed by the English name in brackets. In some cases, plants are identified down to genus level only.

3.3 *Initial Habitat Assessment for Protected Species*

3.3.1 *General*

The Extended Phase 1 Habitat Survey includes an animal walk-over survey that was undertaken at the same time. Recognisable areas (habitat, land parcels or locations) that are suitable for protected species were identified. Obvious signs and incidental sightings of protected species were noted where present, although animal walk-over surveys do not usually confirm species presence or absence. Details of initial survey methodology for each species are given below.

Taking into consideration the geographical region and habitat types present, protected species that could be encountered are:

- *Meles meles* (Badger);
- bats;
- *Triturus cristatus* (Great Crested Newt);
- nesting birds;
- common reptiles; and

3.3.2 *Badger*

An initial survey identifies areas that might be used by Badgers for foraging and sett building. Incidental foraging signs, paths, latrines and setts would have been recorded had they been encountered.

3.3.3 *Bats*

The survey for bats was carried out in accordance with *Bat Surveys: Good Practice Guidelines* (Bat Conservation Trust 2007).

Foraging and Commuting Habitat

Habitats were assessed for their suitability for bat foraging and commuting. Although foraging requirements differ between species, good bat foraging habitat generally includes sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland. For commuting, well-connected hedgerows, woodland edge, watercourses and other linear features are generally considered to be of high value.

Roosting Bats in Buildings

The dwelling house was assessed for its suitability to support roosting bats followed by a detailed inspection for evidence of roosting bats. The survey was carried out using binoculars; a 500,000 candle power torch; an endoscope; and ladders.

The building was described and assessed for bat suitability according to the following general criteria:

- surrounding habitat;
- protection from the elements;
- construction detail;
- potential roosting locations; and
- potential bat-access points.

Descriptions of the building were made on survey sheets designed specifically for this purpose and digital photographs were taken as a record. Particular attention was given to the factors listed above in order to categorise the building in the standard RSK Carter Ecological Limited scheme as follows:

Category 3 - Buildings with numerous or extensive locations that are suitable for roosting. Generally they have sheltered roosting places, with a stable temperature regime, low light levels and suitable bat-access points. They could be suitable for maternity roosts or hibernation sites.

Category 2 - Buildings with few or individual, small-sized areas that are suitable for roosting. They could be used by small numbers of bats for roosting, and may be suitable for a maternity roost or a hibernation roost.

Category 1 - Buildings that have limited (*i.e.* few, small or suboptimal) potential roosting locations are subject to wide temperature regimes, higher light levels and/or restricted bat-access points. They might be used as occasional, transient or night roosts, by small numbers or individual bats, but are unsuitable for larger colonies.

Category 0 - Buildings with no bat roosting potential that are unsuitable for roosting bats.

Visual, systematic examinations were made for bats and evidence of bats, both internally and externally, of the following:

- wall and door surfaces;
- window and door frames;
- wall bases;
- wall ledges and wall tops;
- cracks, crevices and sheltered voids;
- the floors and any stored items; and
- external features such as barge boards and lead flashing.

Evidence of roosting bats can include droppings; urine stains; staining from fur-oils; scratch marks; wear marks; feeding remains; dead bats; odour; squeaking and chattering; and in some cases the absence of cobwebs.

The surveys was carried out in accordance with Bat Surveys: Good Practice Guidelines (Bat Conservation Trust 2007).

Tree Roosting Bats

Trees were identified if they had potential to house roosting bats.

The trees were inspected from ground-level; consideration was given to the age and condition of the tree, and features that roosting bats may use would have been identified (*e.g.* woodpecker holes, rot cavities, splits, cracks, flaking bark and thick-stemmed or matted climbing plants).

Features that might be used by roosting bats were described and categorised according to the in-house RSK Carter Ecological Limited scheme as follows.

Category 3 - Features that appear to be suitable for large maternity colonies along with roosts of lower conservation status. Any features that appear to be physically large enough to support high numbers of bats (*i.e.* 20+ individuals); provide internal darkness; provide shelter from the wind and rain; are higher than 2 m above ground level; have an entrance point free from clutter and are possibly, though not exclusively, heated by the sun. Examples of this type of feature are those well known to support maternity colonies such as woodpecker holes (*e.g.* for *Nyctalus noctula*, Noctule), extensive horizontal or vertical splits, and large plates of flaking bark (*e.g.* for *Barbastellus barbastella*, Barbastelle), hollow limbs, hollow branches, hollow trunks and other extensive rot holes (*e.g.* for *Myotis bechsteinii*, Bechstein's Bat). The species named are tree specialists in the UK but these types of features could be used by many of our species for breeding.

Category 2 - Features that appear to be suitable for small maternity colonies along with roosts of lower conservation status. Any features that appear to be physically large enough to support smaller numbers of bats (*i.e.* 5-20 individuals); provide internal darkness; provide shelter from the wind and rain; are higher than 2 m above ground level; have an entrance point free from clutter and are possibly, though not exclusively, heated by the sun. Examples of this type of feature could include less extensive versions of the features listed above, cavities between overlapping branches, cavities behind callusing and lifted thick stemmed or mat ivy.

Category 1 - Features that appear to be unsuitable for maternity colonies, but that could be used for mating, occasional roosting, night roosting or hibernation. Any features that are only physically large enough to support individual bats or low numbers of bats (<5 individuals) OR are too low to the ground (<2 m) to provide protection for a maternity colony. Examples include any small features and all

features below 2 m including hollow trunks with a low entrance, flaking bark, root balls etc.

3.3.4 *Great Crested Newt*

The suitability of aquatic and terrestrial habitat on the site and in the immediate vicinity (up to 500 m from the site, a distance that this species can travel between ponds and terrestrial habitat) was considered, along with the habitat-connectivity between suitable habitat areas. A search of freely available material was carried out to search for ponds within a 500 m radius of the site on aerial photographs and Ordnance Survey maps in order that the legal implications relating to the presence of Great Crested Newts in terrestrial habitat on site could be assessed.

3.3.5 *Nesting Birds*

Habitat that might be used by nesting birds, such as buildings, trees and scrub was identified.

3.3.6 *Common Reptiles*

The site was assessed for reptiles, with particular attention paid to those features that provide suitable basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, piles of rubble or vegetation) and opportunities for foraging (rough grassland and scrub).

The site was assessed for its suitability for each of the four common reptile species. The specific habitat requirements differ between species. *Zootoca vivipara* (Common Lizard) uses a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland. *Anguis fragilis* (Slow-worm) uses similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land. *Natrix natrix* (Grass Snake) has broadly similar requirements to Common Lizards with a greater reliance on ponds and wetlands, where they prey on Common Frogs. *Vipera berus* (Adder) uses a range of fairly open habitats with some cover, but is most often found in dry heath (Beebee & Griffiths 2000).

4 RESULTS

4.1 Phase 1 Habitat Survey

4.1.1 General

A Phase 1 Habitat Map is provided as *Figure 3, Section 6*, which shows the location of *Botanical Target Notes* referred to in the text below.

The site comprises the following habitat types:

- amenity grassland;
- scrub; and
- trees and hedgerows.

4.1.2 Amenity Grassland

The majority of the site comprises amenity grassland that was formally the garden lawn (*Target Note 1*). It is dominated by *Festuca rubra* (Red Fescue) with *Dactylis glomerata* (Cock's-foot), *Lolium perenne* (Perennial Rye-grass) and *Poa annua* (Annual Meadow-grass) also present. Various broad-leaved species were identified within the sward becoming increasing common towards the north of the site. Species include *Achillea millefolium* (Yarrow), *Geranium robertianum* (Herb Robert), *Ranunculus repens* (Creeping Buttercup), *Taraxacum* agg. (Dandelion), *Trifolium repens* (White Clover) and *Urtica dioica* (Common Nettle). The occasional *Buddleja davidii* (Butterfly-bush) and *Rosa* sp. (Rose species) were also observed as shrubs amongst the amenity grassland.

4.1.3 Scrub

Small patches of scrub were recorded at *Target Notes 2, 3 and 5*. The scrub at *Target Notes 2 and 3* form the eastern boundary of the site and is dominated by dense *Rubus fruticosus* agg. (Bramble). Other species recorded include contains *Alliaria petiolata* (Garlic Mustard), *Buddleja davidii* (Butterfly-bush), *Epilobium* sp (Willowherb), *Hedera helix* (Ivy), *Iris pseudacorus* (Stinking Iris) *Lamium purpureum* (Red Dead-nettle), *Sambucus nigra* (Elder) and *Urtica dioica* (Common Nettle) along with immature and mature *Corylus avellana* (Hazel) and *Fraxinus excelsior* (Ash). The area at *Target Note 2* is dominated by *Hedera helix* (Ivy) due to being shaded by a large mature *Fagus sylvatica* (Copper Beech).

The scrub patch that lies in the field in the northern section of the site (*Target Note 5*) consists of dead brash that has been piled up and has become overgrown with vegetation. The area is dominated by *Galium aparine* (Cleavers) with other species including *Rubus fruticosus* agg. (Bramble) and *Urtica dioica* (Common Nettle).

4.1.4 *Trees and Hedgerows*

Most of the hedgerows on site are former amenity hedgerows that have become overgrown since the dwelling house has become unoccupied (less than 3 years). As a result, they are mostly dominated by *Ligustrum ovalifolium* (Garden Privet) but also contain other species, including *Clematis vitalba* (Traveller's-joy) *Crataegus mongyna* (Hawthorn), *Prunus spinosa* (Blackthorn), *Rosa sp.* (Rose species), *Rubus fruticosus* agg. (Bramble) and *Sambucus nigra* (Elder).

There are several mature trees on site, some of which are large and are subject to Tree Protection Orders (TPO). The species include: mature *Fagus sylvatica* (Copper Beech), *Fraxinus excelsior* (Ash) and *Tillia sp.* (Lime) along the north-eastern boundary; a large mature *Betula pendula* (Silver Birch) and two *Juglans regia* (Walnut) trees in the south of the site; and a tree line on the north-western boundary of the site including mostly semi-mature *Fraxinus excelsior* (Ash) trees.

4.2 *Initial Habitat Assessment for Protected Species*

4.2.1 *Badger*

The site is suitable for foraging Badgers but no evidence of Badger was found anywhere on the site. A hollow tree trunk in the scrub area on the north-eastern boundary (*Target Note 3*) showed signs of use by a large mammal but considering the location, this is much more likely to be used by fox.

4.2.2 *Commuting and Foraging Bats*

The trees and scrub on site provide some commuting and foraging opportunities for bats.

4.2.3 *Roosting Bats*

Assessment of Current Bat Roost Potential - Building

The dwelling is brick built with concrete rendering. It has painted wooden soffits and the windows and doors are boarded up. There is a lean-to with a sloped and concrete tiled roof on the southern gable wall. The main pitched roof contains two brick chimneys with lead flashing and concrete tiles. There are a small number of raised tiles under the lead flashing around the central chimney where bats could gain access. Otherwise, the roof tiles are in good condition and the roof appears well sealed. There is a substantial amount of *Hedera helix* (Ivy) growing on the southern side of the building but it does not provide sufficient shelter for roosting bats. The loft space is of a wooden construction and lined throughout with modern roofing felt. Bat roosting opportunities are provided in the open space of the loft void, as does the space

between roof tiles and lining. However, given the low number of access-points on the roof, this building has been allocated a *Category 1* bat roosting potential.

No evidence of bats was found during the initial bat survey of the building.

Assessment of Current Bat Roost Potential – Trees

Two trees were identified with bat roosting potential; a mature *Fraxinus excelsior* (Ash) at *Target Note 4* and a large mature *Juglans regia* (Walnut) tree in the south-western area of the site (*Target Note 6*).

The mature *Fraxinus excelsior* (Ash) is covered in *Hedera helix* (Ivy) with a small hole on the elbow of a branch approximately 3 m from ground-level and 1 m from the trunk on the south-western aspect. The hole is large enough to support individual or small numbers of bats (*Category 1*) although the feature was thoroughly inspected and no evidence was observed.

The mature *Juglans regia* (Walnut) tree with a hole in a large branch approximately 6 m from ground-level and 2 m from the main trunk on the north-western aspect. This feature is suitable for large numbers of bats, possibly a maternity colony and as such, has been given a *Category 1* bat roosting potential. However, the hole is currently occupied by squirrels.

No evidence of bats was found during the ground level tree survey.

4.2.4

Great Crested Newt

There are no waterbodies on the site but there are three waterbodies within close proximity to the site, referred to as the *Land Drain*, *Emma's Dyke* and *Pond*. These are described in more detail below and are shown on *Figure 2*.

Land Drain

This is located adjacent to the footpath to the south east of the site and was mostly dry at the time of survey. The drain is approximately 1 m in width and is approximately 100 m in length. The eastern end of the drain appears to have recently been cleared of vegetation but there is good terrestrial newts habitat on the southern bank. The eastern end of the drain has a water depth of approximately 5 cm. This drain may contain more water at other times of the year.

Emma's Dyke

Emma's Dyke is approximately 100m east of the site. The dyke is approximately 1.5 m width and less than 10 cm in depth. It is relatively clear of vegetation and has areas of varying speeds of water flow, some of which appear to be very slow or static. The

dyke may therefore be suitable for Great Crested Newts in the areas of slower flowing water.

Pond

A pond is located approximately 150 m to the east of the site. The area of water remaining in the pond at the time of survey was approximately 4 m × 2 m and 5 cm in depth but this is likely to vary during the year. The pond has a dense covering of *Typha latifolia* (Reedmace) and contains *Lemna* sp. (Duckweed). The marginal habitat is shaded by semi-mature and immature *Salix* sp. (Willow) trees with other species present including *Epilobium hirsutum* (Great Willowherb) and *Juncus inflexus* (Hard Rush). If the pond supports water throughout the breeding season, it would be suitable as Great Crested Newt breeding habitat.

The scrub areas and bases of the boundary hedgerows on the site provide suitable commuting and foraging habitat for Great Crested Newts. These areas are also suitable for hibernation although they are not ideal. The hedgerows dominated by *Ligustrum ovalifolium* (Garden Privet) (*Target Notes 9 and 12*) have little cover on the understory and are only sub-optimal for newts.

4.2.5 *Breeding Birds*

The building, scrub and trees all provide nesting opportunities for birds.

4.2.6 *Common Reptiles*

The scrub areas and hedgerow bases across the site provide suitable foraging and hibernation habitat for common reptiles.

5 ***EVALUATION AND CONCLUSIONS***

5.1 ***Habitats***

The mature trees on site provide the greatest nature conservation value of the site. Although some of the trees are listed as having TPOs, all mature trees on the site should be retained under the proposals if possible. The scrub area on the north-eastern boundary of the site has some nature conservation value, but this is only within the context of the site.

The hedgerows are generally ornamental and have little nature conservation value, although the tree line at *Target Note 11* is of more value. Again, however, this is only within the context of the site. The tree line does not contain any large mature trees and is only of relative value on the site.

The other habitats and the plant species recorded are widespread and common. Such habitats are easily re-creatable and are of negligible nature-conservation value from a botanical perspective.

5.2 ***Protected Vertebrates***

5.2.1 ***Commuting and Foraging Bats***

The boundary hedgerows and tree lines across the site are likely to be used by bats for both commuting to the wider landscape to the south of the town and as a foraging area. Any proposed landscaping should therefore include native species of local provenance to compensate for the loss in foraging habitat.

Bats use linear features such as hedgerows and tree lines for foraging and commuting and they can be important in connecting areas of habitat. The hedgerows and tree lines around the boundary of the site (*Target Notes 3, 7, 8, 10 and 11*) should ideally be retained and kept as a 'dark corridor' for foraging and commuting bats. In order to achieve this 'dark corridor' the proposed lighting should be carefully considered, as external lighting can have a negative impact on roosting and foraging bats.

In order to reduce lighting impacts on bats, low pressure sodium lamps could be used and brightness reduced to as low as legally possible. The use of motion sensors could retain habitats as dark corridors for as much of the time as possible. The use of bollards would minimise the height of the lighting columns and reduce light spill into foraging and commuting habitat. Light spill can be further reduced through the use of hoods, cowls, louvers and shields to direct light as required and minimise light pollution into bat habitat (Bat Conservation Trust, no date).

5.2.2 *Roosting Bats*

Two potential bat roosting features were recorded on the trees on the site but no evidence of roosting bats was recorded. The dwelling house on the site was suitable for roosting bats, although this potential was limited to *Category 1*. The few potential access points that were present were inspected via binoculars and no evidence of bats was recorded. Despite having gaps in the lining allowing access for bats, there was no evidence of bats in the loft void. It is therefore unlikely that bats are roosting in the dwelling house. However, as a precaution, the few tiles where gaps are present should only be removed carefully and by hand. In the unlikely event that bats or evidence of bats are found, works should stop and an appropriately qualified ecologist should be contacted.

5.2.3 *Great Crested Newt*

There is suitable terrestrial habitat on the boundaries of the site for this species and there are waterbodies within 500 m of the site that have the potential to support Great Crested Newts. However, a search of the National Biodiversity Network returned no records of Great Crested Newts in the same 10 km grid square as the site.

The proposals include the creation of an access road in the south-western boundary which is suitable as newt foraging and commuting habitat. However, the waterbodies are located to the north-east of the site and are surrounded by suitable habitat. The south-western boundary does not connect to any suitable habitat and it also sits alongside Duckling ton Lane, a relatively busy road in Witney that would act as a barrier to commuting newts. It is therefore extremely unlikely that newts would be using this hedgerow, even if they are present. As a result, it is considered unnecessary to complete any further surveys in regard to Great Crested Newts.

The other boundary vegetation is likely to be retained under the proposals and as such, any other potential newt habitat on the site is unlikely to be affected.

5.2.4 *Breeding Birds*

Removal of vegetation that might be used by nesting birds should only be carried out outside the nesting season. If this is not possible, then the vegetation should be checked for nests immediately prior to removal. If nests are found, they must be retained until the young have fledged. If these simple measures are implemented, then there will be no impacts on nesting birds.

5.2.5 *Common Reptiles*

Suitable reptile habitat was identified on the boundaries of the site. The area of the proposed access road should be cleared by hand prior to the soil being stripped. This will encourage any reptiles to disperse naturally out of the works area. Alternatively,

as this area is not considered suitable for hibernation, works could be carried out in the winter months (November to February) without the need for habitat manipulation prior to works.

The other boundary vegetation is likely to be retained under the proposals and as such, any other potential reptile habitat on the site is unlikely to be affected.

6 ***FIGURES***

- Figure 1:* Site location plan
- Figure 2:* Aerial photograph showing site boundary and nearby water bodies
- Figure 3:* Extended Phase 1 Habitat Survey map showing all *Target Notes*
-
- Plate 1:* On site building
- Plate 2:* South west corner of site
- Plate 3:* View of on site building and west of site
- Plate 4:* South east corner of site
- Plate 5:* Scrub on eastern site boundary
- Plate 6:* Scrub area in northern section of site

7 **REFERENCES & BIBLIOGRAPHY**

7.1 **Printed Reference Material**

Bat Conservation Trust (2007) *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

Beebee, T.J.C. & Griffith, R.A. (2000). *Amphibians and reptiles*. HarperCollins, London.

Biodiversity Action Plan Steering Group (1994). *Biodiversity; A UK Action Plan*. HMSO, London

Biodiversity Reporting and Information Group (2007). *Report on the Species and Habitat Review: Report to the UK Biodiversity Partnership*. JNCC.

Cherrill, A. & McClean, C. (1999). Between-observer variation in the application of a standard method of habitat mapping by environmental consultants in the UK. *Journal of Applied Ecology*, **36**, 989-1000.

Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit* (revised reprint). Joint Nature Conservation Committee, Peterborough.

Stace, C.A. (2010). *New Flora of the British Isles*, 3rd edition. Cambridge University Press, Cambridge.

UK Biodiversity Steering Group (1998a). *UK Biodiversity Group Tranche 2 Action Plans: Volume I – Vertebrates and Vascular Plants*. English Nature.

UK Biodiversity Steering Group (1998b). *UK Biodiversity Group Tranche 2 Action Plans: Volume II – Terrestrial and Freshwater Habitats*. English Nature.

UK Biodiversity Steering Group (1998c). *UK Biodiversity Group Tranche 2 Action Plans: Volume III – Plants and Fungi*. English Nature.

UK Biodiversity Steering Group (1998d). *UK Biodiversity Group Tranche 2 Action Plans: Vol IV - Invertebrates*. English Nature.

UK Biodiversity Steering Group (1998e). *UK Biodiversity Group Tranche 2 Action Plans: Volume V – Maritime Species and Habitats*. English Nature.

UK Biodiversity Steering Group (1998f). *UK Biodiversity Group Tranche 2 Action Plans: Volume VI – Terrestrial and Freshwater Species and Habitats*. English Nature.

7.2 Web-based Resources

National Biodiversity Network <http://www.searchnbn.net/>

TARGET NOTES

Target Note 1. Amenity grassland that was formally the garden lawn. It is dominated by *Festuca rubra* (Red Fescue) with *Dactylis glomerata* (Cock's-foot), *Lolium perenne* (Perennial Rye-grass) and *Poa annua* (Annual Meadow-grass) also present. Various broad-leaved species were identified within the sward becoming increasing common towards the north of the site. Species include *Achillea millefolium* (Yarrow), *Geranium robertianum* (Herb Robert), *Ranunculus repens* (Creeping Buttercup), *Taraxacum* agg. (Dandelion), *Trifolium repens* (White Clover) and *Urtica dioica* (Common Nettle). The occasional *Buddleja davidii* (Butterfly-bush) and *Rosa* sp. (Rose species) were also observed as shrubs amongst the amenity grassland.

Target Note 2. Area on the boundary shaded by a large mature *Fagus sylvatica* (Copper Beech). The ground is therefore largely dominated by *Hedera helix* (Ivy) with some *Fraxinus excelsior* (Ash) and *Sambucus nigra* (Elder)saplings.

Target Note 3. Dry ditch on the boundary of the site, now covered in dead wood and dense scrub offering good nesting potential for common bird species. The vegetation is dominated by *Rubus fruticosus* agg. (Bramble) together with *Alliaria petiolata* (Garlic Mustard), *Buddleja davidii* (Butterfly-bush), *Epilobium* sp (Willowherb), *Hedera helix* (Ivy), *Iris pseudacorus* (Stinking Iris) *Lamium purpureum* (Red Dead-nettle), *Sambucus nigra* (Elder) and *Urtica dioica* (Common Nettle) along with immature and mature *Corylus avellana* (Hazel) and *Fraxinus excelsior* (Ash).

Target Note 4. Mature *Fraxinus excelsior* (Ash) covered in *Hedera helix* (Ivy) with a small hole on the elbow of a branch approximately 3 m from ground-level and 1 m from the trunk on the south-western aspect. The hole is large enough to support individual or small numbers of bats (*Category 1*) although no evidence was observed.

Target Note 5. A scrub patch formed by a pile of dead brash that has become overgrown with vegetation. The area is dominated by *Galium aparine* (Cleavers) with other species including *Rubus fruticosus* agg. (Bramble) and *Urtica dioica* (Common Nettle).

Target Note 6. Mature *Juglans regia* (Walnut) tree with a hole in a large branch approximately 6 m from ground-level and 2 m from the main trunk on the north-western aspect. This feature is suitable for large numbers of bats, possibly a maternity colony, but is currently occupied by squirrels.

Target Note 7. Overgrown *Ligustrum ovalifolium* (Garden Privet) boundary hedge now covered in *Rubus fruticosus* agg. (Bramble) and *Clematis vitalba* (Traveller's-joy).

Target Note 8. Ligustrum ovalifolium (Garden Privet) hedge with *Rosa sp.* (Rose species), *Sambucus nigra* (Elder) and *Taxus baccata* (Yew).

Target Note 9. Ligustrum ovalifolium (Garden Privet) hedge.

Target Note 10. Hedgerow dominated by both *Ligustrum ovalifolium* (Garden Privet) and *Crataegus monogyna* (Hawthorn) with *Sambucus nigra* (Elder) and a semi-mature *Betula pendula* (Silver Birch).

Target Note 11. Tree line adjacent to the road dominated by *Fraxinus excelsior* (Ash) and *Acer campestre* (Field Maple). The understorey is heavily shaded and is dominated by *Hedera helix* (Ivy) but also includes *Galium aparine* (Cleavers) and *Clematis vitalba* (Traveller's-joy).

Target Note 12. Ligustrum ovalifolium (Garden Privet) hedge.

9 APPENDIX 1 – RELEVANT LEGAL BACKGROUND

9.1 Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981 (as amended)*, extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take;
- possess or control;
- intentionally or recklessly damage, destroy or obstruct access to a breeding site or resting place; and
- intentionally or recklessly disturb whilst the animal occupies a breeding site or resting place.

Bats are also EPS listed on *The Conservation of Habitats and Species Regulations 2010*. This legislation makes it an offence to:

- deliberately capture, injure or kill;
- deliberately disturb, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destroy a breeding site or resting place; and
- possess, control, transport, sell, exchange, or offer for sale or exchange.

All breeding sites and resting places receive legal protection even if the animals are not present at the time.

9.2 Great Crested Newt

The Great Crested Newt is listed on *Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)* and is therefore protected under *Section 9. The Countryside and Rights of Way Act 2000* recently strengthened this protection. The Great Crested Newt is listed on *Annexes II and IV of The EC Habitats Directive (Council Directive 92/43/EEC)*, which is implemented in the UK by *The Habitats Regulations 1994 (The Conservation (Natural Habitats, &c.) Regulations 1994)*. The law applies to eggs, tadpoles and juveniles as well as to the adults.

It is illegal to:

- intentionally or deliberately capture or kill, or intentionally injure Great Crested Newts;
- deliberately disturb Great Crested Newts or intentionally or recklessly disturb them in a place used for shelter or protection;

- damage or destroy a breeding site or resting place;
- intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection;
- possess a Great Crested Newt, or any part of it, unless acquired lawfully; and
- sell, barter, exchange or transport or offer for sale Great Crested Newts or any part of them.

Works affecting Great Crested Newts in England can only be legally carried out under licence from Natural England. Great Crested Newts are known to travel up to 500 m from breeding ponds. This means that suitable terrestrial habitat within 500 m of a breeding pond is protected. Licences can be obtained for works that might affect Great Crested Newts or their habitat, and relevant mitigation measures must be implemented.

9.3 Breeding Birds

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CROW Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CROW Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

9.4 Common Reptiles

Common Lizard, Slow-worm, Grass Snake and Adder are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CROW Act.

Under the above legislation it is an offence to:

- intentionally kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

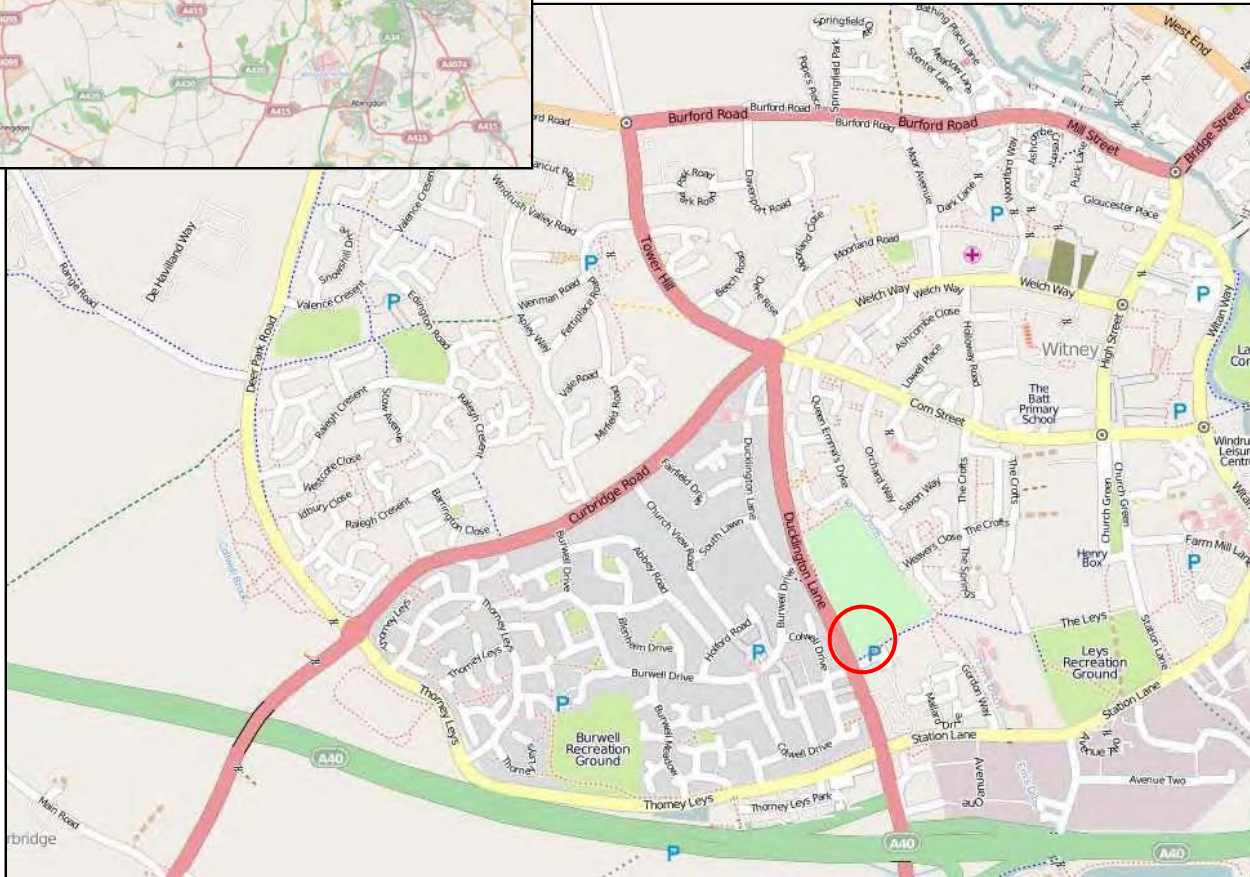
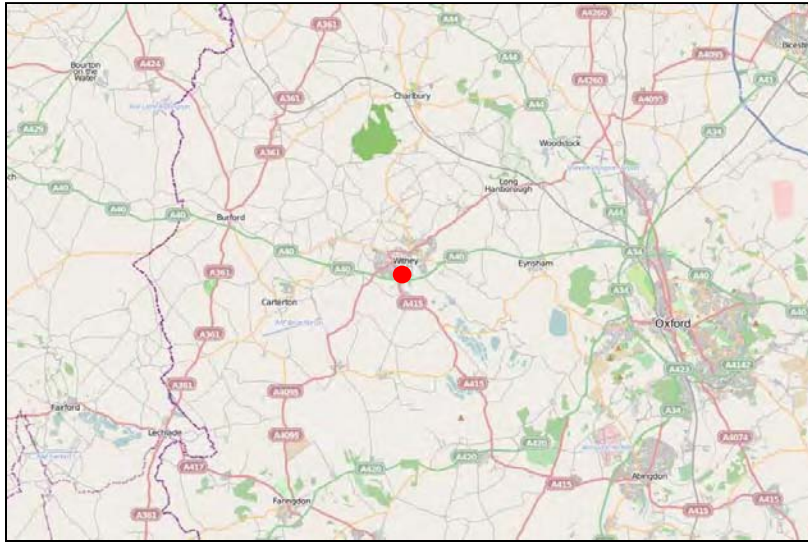


Figure 1

Project Title:
Beech House Phase 1

Figure Title:
Site Location Plan

Contract Number: 852665

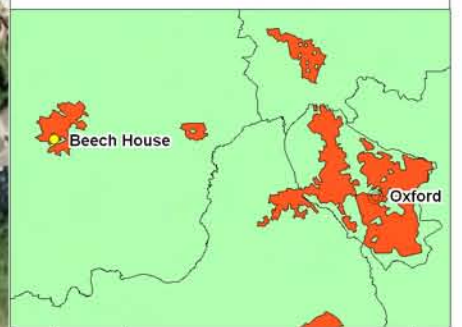
Key:

 Site location





- Site boundary
- Water body



Rev	Date	Description	Drm	Chk	App
00	26.11.10	Phase 1	OM	RG	JP



Beech House Phase 1

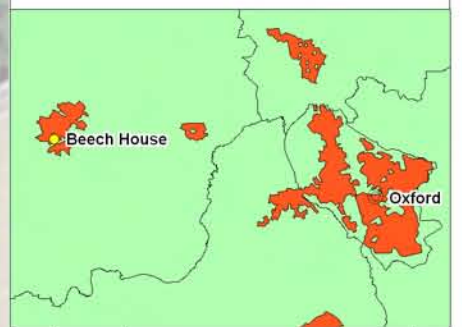


Figure 2
Aerial photograph Showing Site Boundary and Nearby Water Bodies

SCALE: 1:1,500 @ A3



- Site boundary
- Continuous scrub
- x Scattered scrub
- Scattered tree
- A Amenity grassland
- Hedge
- x Ornamental planting
- Building
- Bare ground
- Botanical target note



Rev	Date	Description	Drm	Chk	App
00	26.11.10	Phase 1	OM	RG	JP



Beech House Phase 1



Figure 3
 Extended Phase 1 Habitat Survey Map showing all Target Notes
 SCALE: 1:500 @ A3



Plates 1 - 3

Project Title:
Beech House Phase 1

Contract Number: 852665

Plate 1. On site building

Plate 2. South west corner
of site

Plate 3. View of on site
building and west
of site





Plates 4 - 6

Project Title:
Beech House Phase 1

Contract Number: 852665

Plate 4. South east corner
of site

Plate 5. Scrub on eastern
site boundary

Plate 6. Scrub area in
northern section of
site

