Date: November 2014

Contract Ref: 0491

PRELIMINARY ECOLOGICAL APPRAISAL

LAND AT CALLOW HILL BUSINESS PARK, LEDBURY, HEREFORDSHIRE

for

HIGHWAY CARE

Focus Ecology
Unit 17H
Shrub Hill Industrial Estate
Worcester
WR4 9EL
Email: quotes@focus-ecology.com
Tel. 01905 780084

CONTROL SHEET

Highway Care

Land at Callow Hill Business Park

Preliminary Ecological Appraisal

	Name	Position
Author	Fern Fellowes-Day	Director
Checked by	Cassie Needham	Ecologist

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1. SUMMARY OF RESULTS & RECOMMENDATIONS

1.1 Results

1. Focus Ecology was commissioned by E J Planning Ltd on behalf of Highway Care to undertake a Preliminary Ecological Appraisal on a parcel of land adjacent to Callow Hill Business Park near Ledbury in Herefordshire. The site is centred on Ordnance Survey grid reference SO 676 393.

2. The survey was undertaken on 29 October 2014 by an experienced and appropriately licensed ecological consultant. The site comprises a long, roughly rectangular section of an arable field and boundary features (mix of hedgerow, post and wire fencing, Lombardy poplars and bramble scrub).

3. No built structures are to be impacted upon by the development proposals. A small number of trees will be removed; however, the majority provide suitable roosting habitat for bats. A single, mature fruit tree (T1) located along the boundary hedgerow near the site entrance, may require removal as part of the new vehicle access point. This tree is classed as having Category 1 bat roosting potential (with reference to Hundt, 2012).

4. An offsite pond is located in the adjacent field, *c.* 90m to the north-east of the development footprint. Suitable habitat for amphibians such as great crested newts is limited to the boundary hedgerows and bramble scrub. The only loss of this habitat is a 25m section of hedgerow over 370m to the south-west of the pond. The arable field is not considered to be suitable terrestrial habitat for great crested newts.

1.2 Recommendations

The following recommendations are made to ensure compliance with wildlife legislation *e.g.* the Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981, the Protection of Badgers Act 1992 *etc.*, biodiversity legislation, *e.g.* the Natural Environment and Rural Communities Act 2006, government guidance *e.g.* the National Planning Policy Framework, and best practice *e.g.* PAS2010 and the UK Post-2010 Biodiversity Framework.

1. If Tree 1 (T1) is to be felled as part of the proposals, then further survey work will be required prior to works to the tree commencing to provide satisfactory evidence of the presence or absence of bats using the tree as a roost site. A minimum of two survey visits (one dusk and one dawn) are recommended in the optimal survey season (May – August) and should be completed by two appropriately experienced ecologists.

2. All retained trees and hedgerows should be afforded adequate protection in line with '*BS5837: 2012 Trees in relation to design, demolition and construction*'.

3. Logs and deadwood should be retained for use by saproxylic invertebrates and as habitat for reptiles and amphibians, but may be relocated by hand to more discrete locations as directed by the ecologist.

4. Where required to facilitate permitted development, removal of potential bird nesting habitat, such as trees and shrubs should be undertaken outside the bird nesting season (March – August inclusive) or otherwise under the direct supervision of a suitably qualified ecologist who will be able to identify any nesting birds and advise of appropriate safe working distances.

5. Strict control over the use of artificial night-lighting is recommended to prevent unnecessary illumination of wildlife habitats (*e.g.* hedgerows and tree-lines). Lighting should be low level (*e.g.* light bollards) and of the minimum wattage. Please refer to the following for guidance; Institute of Lighting Professionals (2011) and Bat Conservation Trust (2009).

6. Unnecessary soil disruption should be minimised and soil erosion measures should be implemented during any site excavation works to prevent unwanted run-off of sediment and nutrients into the boundary ditch. A detailed scheme is beyond the scope and expertise of this report. However, suggested suitable measures (see Environment Agency, 2009) may include:

- Temporary sediment trap(s) and/or cut-off trenches to collect any run-off during periods of heavy rainfall.
- Contour bunding around the edge of excavated/cultivated areas.

7. The following recommendations are made to provide biodiversity enhancements within the post-developed site and ensure compliance with local and national government policies on biodiversity and biodiversity legislation (*e.g.* The Natural Environment & Rural Communities Act, 2006; NPPF). Please refer to Annex 7.3 for a suggested planting list and Annex 7.4 for illustrations of the recommended features.

   - New hedgerow planting should comprise at least five native species (preferably seven). To provide maximum benefit to local fauna, the hedgerow should be allowed to develop to a height of at least 2m.

   - New tree planting at the northern end of the site should comprise a mix of native species, of local provenance.

   - Four traditional bird boxes (such as the 1B Schwegler Nest Box, 2H Schwegler Robin Box and 3S Schwegler Starling Nest Box) should be installed at the site to provide new nesting opportunities for birds.

   - Two sparrow terraces (such as the 1SP Schwegler Sparrow Terrace) should be included within the development scheme either on new or existing buildings. Boxes should be installed at the eaves height and not directly over windows and doors.

   - Two tree-mounted bat boxes (Schwegler 2F-DFP bat box) should be installed within the land ownership of the client. Boxes should be installed at least 4m above ground level.

2. INTRODUCTION

2.1 Scheme Background

Focus Ecology was commissioned by E J Planning Ltd on behalf of Highway Care to undertake a Preliminary Ecological Appraisal of a roughly rectangular parcel land adjacent to Callow Hill Business Park, located near Ledbury in Herefordshire. Highway Care propose to submit a future planning application to develop the parcel of land to extend the existing business, providing additional storage and vehicle access for lorries and other machinery.

This Preliminary Ecological Appraisal has been commissioned to provide supporting information on the possible presence of habitats and species of conservation significance, including legally protected species, and direct appropriate further works such as additional surveys, mitigation, compensation and licensing, if required.

2.2 Survey Objectives & Limitations

The objectives of the survey were:

1. to carry out a Preliminary Ecological Appraisal of the site to identify any habitats, species or features of nature conservation significance;
2. to undertake a "third-party data" search to acquire details of any protected species records held by third parties and information on nature conservation designations relevant to the site, to collate and comment upon the responses;
3. to provide a concise written report of the results, making any appropriate recommendations to ensure compliance with wildlife law and recognised best practice.

All surveys were carried out by a suitably experienced ecologist from Focus Ecology Ltd. The month of survey (October) is outside the optimal survey period for many habitats and species in England. Many fauna species become less active and their field signs less visible in the winter months. Similarly some plant species may also become less visible in the winter as a consequence of their annual growth pattern or natural process of die-back to roots, corms, bulbs and tubers. However, a basic site appraisal such as this can be completed by an experienced ecologist at any time of

year subject to suitable weather conditions. No significant survey limitations were encountered.

3. METHODS

3.1 Third-party Data Search

A desk study was conducted in November 2014, to collect any existing data records for within the site boundary and a 2 km area around the site. The following third party consultees were contacted: Herefordshire Biological Records Centre, the government's multi-agency website 'magic' was also consulted (www.magic.gov.uk).

3.2 Preliminary Ecological Appraisal

An experienced Focus Ecology ecological consultant undertook a field survey on 29 October 2014 in accordance with the guidelines presented in the Handbook for Phase 1 Habitat Survey (JNCC, 2003) and Guidelines for Preliminary Ecological Appraisal (CIEEM, 2013). The extent of each habitat type was mapped and details of relative plant species abundance within homogenous areas were recorded. Species abundance was measured on the DAFOR scale (Dominant, Abundant, Frequent, Occasional and Rare), with the addition of the term 'Local' to describe variation on a small scale.

Higher plant nomenclature follows Stace (3rd Edition), 2010 with common (English) names being used for ease of reading and accessibility. Bryophyte nomenclature follows Atherton *et al.* (Eds), 2010, with English names being used in line with this publication. Scientific names are used for fungal identification, with authorities referenced in the text, for reasons of clarity.

The survey method was extended to include a search for fauna species of nature conservation importance, including those that are afforded legal protection or are otherwise notable.

Target Note descriptions were recorded for features of nature conservation importance, these may include areas of species-rich vegetation and field signs of protected and/or notable species.

For the purposes of this Preliminary Ecological Appraisal it is not considered practical to consider the impacts on all the species and habitats that might be

affected. For this reason the assessment focuses on 'ecological receptors'. These are those species, habitats or areas that are of significance in terms of their conservation value, importance for biodiversity or legal protection that they constitute a material consideration in the assessment of ecological impacts of a scheme. The identification of 'ecological receptors' has been derived from a variety of sources including:

- Legal instruments. 'International legislation' (*e.g.* EC Habitats Directive, EC Birds Directive); National legislation (*e.g.* S.41 list of 'species of principal importance for the purpose of conserving biodiversity in England' under the Natural Environment and Rural Communities Act 2006; The Conservation of Species and Habitats Regulations, 2010; The Wildlife and Countryside Act 1981; The Protection of Badgers Act 1992; The Hedgerow Regulations 1997).
- The Post-2010 Biodiversity Framework (replaces the UK Biodiversity Action Plan (UKBAP) and County (local) BAPs).
- The Red and Amber lists of 'Birds of Conservation Concern' (see Eaton *et alii*, 2009).
- UK Red Data Book and Nationally/Regionally/locally notable species.
- Other reasons including identified high-value unimproved or semi-natural habitats such as ancient woodlands, floristically diverse grasslands, veteran trees, wet grasslands *etc.*

The geographical scale of significance for any given receptor has been determined following the guidelines of CIEEM (2006) as follows:

- International;
- UK;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan);
- District (or Unitary Authority, City, or Borough);
- local or Parish; and
- within zone of influence only (*e.g.* site or surrounding area influenced by site processes, which could include disseminated impacts via air or water).

The ecological value of individual ecological receptors has been derived from the category system of Byron (2000) as presented in Table 1, below.

Table 1: Evaluation of Ecological Receptors (Byron 2000).

Category	Value	Relevant sites/Species
A	**International**	All internationally important sites. *E.g* those sites included in *Natura 2000* (SPAs, SACs), protected under the RAMSAR convention. European Protected Species and their habitats.
B	**National**	National Nature Reserves, SSSIs *etc.* Red Data Book Species and species listed under Schedules 1,5 and 8 of the Wildlife and Countryside Act 1981 (as amended).
C	**Regional**	Local Nature Reserves, County Wildlife Sites (or equivalent), BAP Priority Species and Habitats, Nationally Scarce (notable) species.
D	**Local**	Sites with some inherent biodiversity
E	**Sub-local**	Sites with little or no biodiversity or conservation value.

Daytime Bat Assessment:

A ground-based tree assessment was undertaken of mature and semi-mature trees within the site boundary by an experienced and appropriately licensed ecologist. Survey methods followed the guidelines and techniques recommended in Mitchell-Jones, (2004), Hundt, (2012) and Cowan, (2003). Binoculars were used as required to obtain better views of potential roost features in trees, with ladders used to provide access to potential roost features within 5m of ground level. Features that can provide roosting sites for bats in trees include:

- woodpecker holes;
- cracks, splits and fissures in trunk and limbs;
- rot holes;
- trunk cavities;
- loose bark;
- dense ivy growth;

Taking into account the presence of such features, as well as their height, aspect, isolation, potential impact of wind, rain and artificial lighting, trees were then assessed as having either 'high', 'medium' or 'low' potential to support roosting bats, and categorised using the BCT Good Practice Guidelines 2012 (shown below).

Table 2: Categorisation of trees[1]

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

[1] Taken and adapted from: *Bat Surveys: Good Practice Guidelines, 2nd Edition*. Bat Conservation Trust, London, UK.

4. RESULTS

4.1 Third-party Data Search

The information presented in Table 3 (see below) is based on existing records held for an area within a 2km radius of Ordnance Survey grid reference SO 676 393. Please see Annex 7.2, below, for full details of consultees' responses.

Table 3: A summary of third-party data obtained for the site at Callow Hill Business Park, near Ledbury.

Source	Information Provided	Focus Ecology Comment
Herefordshire Biological Records Centre	**Statutory Sites:** No statutorily designated sites are located within the search area.	-
	Non-statutory Sites: Three Species Wildlife Sites (SWS) are located within the search area. These are: • SO63/19 Roadside verge near The Trumpet SWS • SO63/23 Ast Wood SWS • SO63/24 Woodlands on Wall Hills SWS The closest site (SO63/24) is over 500m to the south-east of the development site.	Whilst no formal impact assessment has been conducted, it is not considered that the proposal at this site will have any negative impact upon the nature conservation value of the designated areas, provided that standard environmental construction procedures and good practice are followed.
	Bats: Over twenty records of bat have been identified by the records search. Species include common pipistrelle, soprano pipistrelle, brown long-eared bat (and long-eared species), noctule, lesser horseshoe and unidentified bat species. None of the records are from the survey area. However, the closest record is for a brown long-eared roost (individual bat) in 2005. The	The majority of trees within the survey offer no suitable roosting habitat for bats. A single mature pear (T1) is considered suitable for supporting a small bat roost. The site and wider landscape are likely to be used by a range of bat species for foraging and commuting.

	record is approximately 200-300m to the west of the site.	
	Badgers: Six records of badger have been returned. None are from within the survey area.	[redacted]
	Dormice: Four records of hazel dormice have been returned. All the records are from the same site, which is over 800m to the south of Callow Hill Business Park.	The mature hedgerow on site is broadly suitable for hazel dormice. However, it lacks connectivity with other areas of suitable habitat in the wider landscape.
	Riparian Mammals: No records of water vole or otter have been returned.	No suitable habitat is present on site.
	Amphibians: Two records of great crested newt have been returned. Both are from the same site which is *c.*1700m to the north of Callow Hill Business Park. Other common amphibian records have been returned including smooth newt, common frog and toad.	The majority of the survey area (arable field) is unsuitable for amphibians. The suitable habitat bramble scrub, drainage ditch and hedgerow bases will be retained on site.
	Reptiles: No records of reptiles have been returned within the search area.	The majority of the site is unsuitable for common reptiles.
	Birds: A large number of bird records have been returned. A small number of barn owl records, within 500m from the site have been returned. Other bird records include yellowhammer, nuthatch, house martin, greater spotted woodpecker, lesser spotted woodpecker, great tit, robin, marsh tit and coal tit.	The survey area offers no suitable nesting opportunities for barn owls and the arable field is unlikely to be used by barn owls for hunting. The boundary hedgerows, trees and bramble scrub would be used by common wild birds for nesting and foraging.
www.magic.gov.uk	No statutory sites are located within	-

	the search area.	

4.2 Preliminary Ecological Appraisal

4.2.1 Summary Site Description

The survey area comprises a roughly rectangular parcel of a larger arable field located to the east of the existing Callow Hill Business Park. The Hereford Road (A438) runs along the southern boundary of the site. An existing vehicle road, providing access to both Callow Hill Business Park and Priory Queenswood School (a specialist residential school), abuts the survey area along the southern part of the western boundary. A railway line is located *c.* 70m to the north of the northern survey boundary. The wider landscape is relatively rural, with large arable fields being a dominant feature.

4.2.2 Arable

The majority of the survey area is arable. The crop is in seedling stage, with bare earth being the dominant feature.

4.2.3 Trees

A number of mature trees are present along the site boundaries. A large, mature pear tree (T1) is located within the hedgerow that lines the existing access road. Close to the existing Callow Hill Business Park, a number of mature Lombardy poplar trees (G1 and G2) are positioned along the boundary post and wire fence. Other trees on site include semi-mature hazel, field maple and pedunculate oak trees. A number of mature balsam poplar trees (T2 and T3) are growing on the edge of the site boundary to the north of the existing reception/office building at the business park.

4.2.4 Hedgerows & Other Boundary Features

Table 4: Summary of hedgerows and boundary features at Callow Hill Business Park near Ledbury.

Boundary	Description
Boundary1 (B1)	Southern section of the western survey boundary is marked by a tall (4-5m) hedgerow supported by a post and wire fence. Hawthorn is the dominant species with elder, blackthorn, holly, hazel, field maple, sycamore and a *Prunus* sp., all

	recorded. Bramble, common nettle, ivy and white bryony were also noted.
Boundary 2 (B2)	Central section of western boundary, adjacent to the existing business park. The boundary is marked by a post and wire fence, with a drainage ditch (dry in this part of the site) present midway along and continuing north. Mature lombardy poplar trees are growing along the fence, with occasional bramble scrub patches.
Boundary 3 (B3)	Northern section of the western boundary. A post and wire fence marks the survey boundary, with a drainage ditch running along the eastern side of the fence. Dense bramble scrub runs alongside and over the drainage ditch, with occasional clumps of willow

The northern and eastern site boundaries are both open.

Boundary 1 could be defined as a '*species rich*' hedgerow as it contains at least five woody native or archaeophyte species within a 30m section. However, it is unlikely to be classified as '*important*' under the Hedgerow Regulations (1997) as although it contains over seven species these are not present in a single 30m section.

4.2.5 Standing / Flowing Water

A drainage ditch is located along the western survey boundary, starting approximately midway along. The ditch appears to be fed from a pipe to the north of the existing office/reception building (close to T2 and T3). Some shallow puddles of water were noted in the drainage ditch on the day of survey. However, the water had no flow. No aquatic or marginal vegetation was noted along the earth banks.

4.2.6 Bats

Table 5: Summary of the preliminary bat roosting assessment at Callow Hill Business Park, near Ledbury.

Area/Feature	***Observations***
Built Structures	
General	No built structures are to be impacted upon by the proposed development.
Trees	
Tree 1 (T1)	Pear tree. Mature tree growing along hedgerow which lines existing vehicle access road. The trunk of the tree is obscured by dense ivy growth. The tree is considered to be Category 1 with reference to Hundt 2012.
Tree 2 (T2)	Balsam poplar. Mature specimen on edge of survey boundary. Tree has good structure with no obvious damage or defects. Classified as Category 2 with

Area/Feature	Observations
	reference to Hundt 2012.
Tree 3 (T3)	Balsam poplar. Mature specimen growing adjacent to Tree 2 (T2) outside of survey boundary. Tree has good structure with no obvious damage or defects. Classified as Category 2 with reference to Hundt 2012.
Group 1 (G1)	Group of five mature Lombardy poplar trees. Growing along boundary post and wire fence. None has any suitable features for roosting bats and are classed as Category 3 with reference to Hundt 2012.
Group 2 (G2)	Group of six mature Lombardy poplar trees. Growing along boundary post and wire fence. None has any suitable features for roosting bats and are classed as Category 3 with reference to Hundt 2012.
Foraging Habitat / Wider Landscape	
General	The open, arable field is unlikely to provide an important foraging resource for bats due to the low level vegetation and very open nature of the field. The tall dense hedgerow that borders the existing access road is likely to be utilised by a range of bat species.

4.2.7 Badgers

No evidence of this mammal was observed during the survey. [redacted]

4.2.8 Other Mammals

A grey squirrel was noted on site during the survey.

Dormice are present in Herefordshire and the hedgerow along the southern part of the western boundary provides broadly suitable habitat for this species. However, the hedgerow lacks connectivity with other areas of suitable habitat such as broadleaf woodland.

The hedgerow bases provide suitable habitat for a range of small mammals that are typical of rural landscapes such as this. Foxes are likely to utilise the site and wider landscape.

4.2.9 Birds

A variety of common bird species were recorded at the site during this ecological appraisal. Table 6 provides a list of birds heard and/or seen on site and the relevant

conservation status. However, the species recorded should only be taken as a 'snapshot' of avian activity rather than an exhaustive account of those species likely to use the site over the course of a full season.

Table 6: Bird species recorded at Callow Hill Business Park, near Ledbury on 29 October 2014.

English name	Scientific name	Conservation status
Woodpigeon	*Columba palumbus*	Green
Blackbird	*Turdus merula*	Green
Song thrush	*Turdus philomelos*	Red

No Schedule 1 birds were recorded during the survey.

The song thrush is currently a Red List bird of conservation concern owing to a significant decline in population of over 50% since recording began in 1969 (Eaton *et alii*. 2009). None of the other species has any notable conservation significance (*e.g.* JNCC Birds of Conservation Concern Amber or Red List, UKBAP Priority Species, NERC Act 2006 S.41 species of principal importance for the purpose of conserving biodiversity).

4.2.10 Reptiles

The vast majority of the survey area (arable crop) is unsuitable for common reptiles. The hedgerow bases and bramble scrub on site provide broadly suitable habitat, but is unlikely to support a population of reptiles in isolation.

4.2.11 Amphibians

The vast majority of the site (arable crop) is unsuitable as terrestrial habitat for amphibian species. The hedgerow bases, bramble scrub and drainage ditch do provide broadly suitable habitat, however.

Two ponds are shown on the Ordnance Survey map to be in proximity to the site. One is to the north of the existing business park and one is to the south of the neighbouring school (Priory Queenswood School). The northern pond is located approximately 90m to the west of the survey site and the other pond *c.*80m, also to

the west. These ponds are both outside the ownership boundary of the client and were not visible from the survey area.

4.2.12 Invertebrates

A full assessment of the invertebrate assemblage at the site is beyond the scope of this survey. However, no triggers were identified indicating that the site supports an interesting or notable assemblage of invertebrates, based on English Nature, 2005.

4.2.13 Invasive & Non-native Species

No notifiable invasive plant species (*e.g.* Japanese knotweed) listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (as amended) were recorded.

4.2.14 Photographs

Plate 1: Showing the arable crop that covers the majority of the survey area.

Plate 2: Tree 1 (T1) located along the southern, western boundary hedgerow.

Plate 3: Typical example of the Lombard poplar trees growing along the boundary fence near to the existing business park

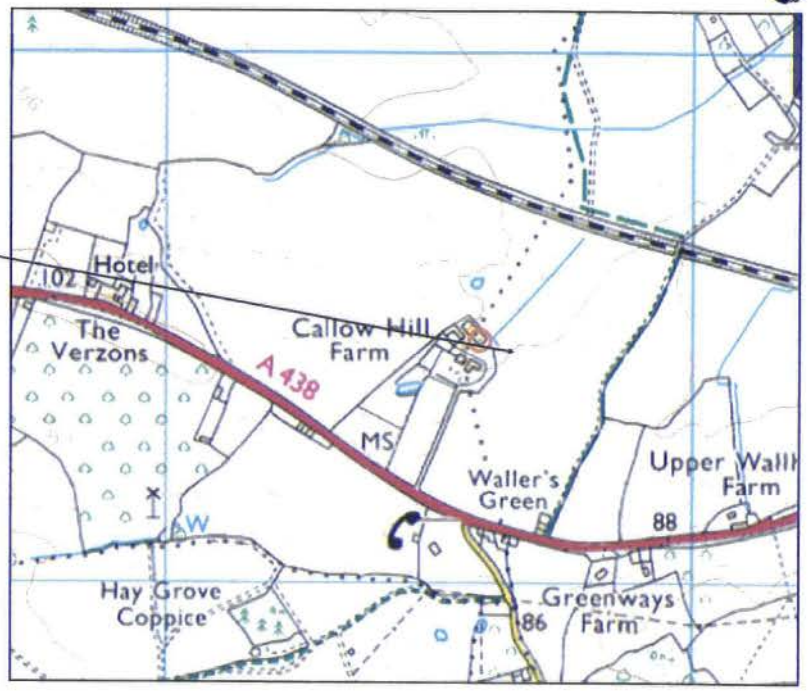
Plate 4: The southern section of the western boundary hedgerow. Photograph looking north.

Plate 5: The southern section of the western hedgerow boundary. View along existing access road. Photograph looking north.

Plate 6: Showing the line of bramble scrub growing over and long the drainage ditch, marking the northern section of the western survey boundary.

Plate 7: Showing the existing access point into the arable field off Hereford Road (A438). Photograph looking south.

4.2.15 Location Plan



NORTH

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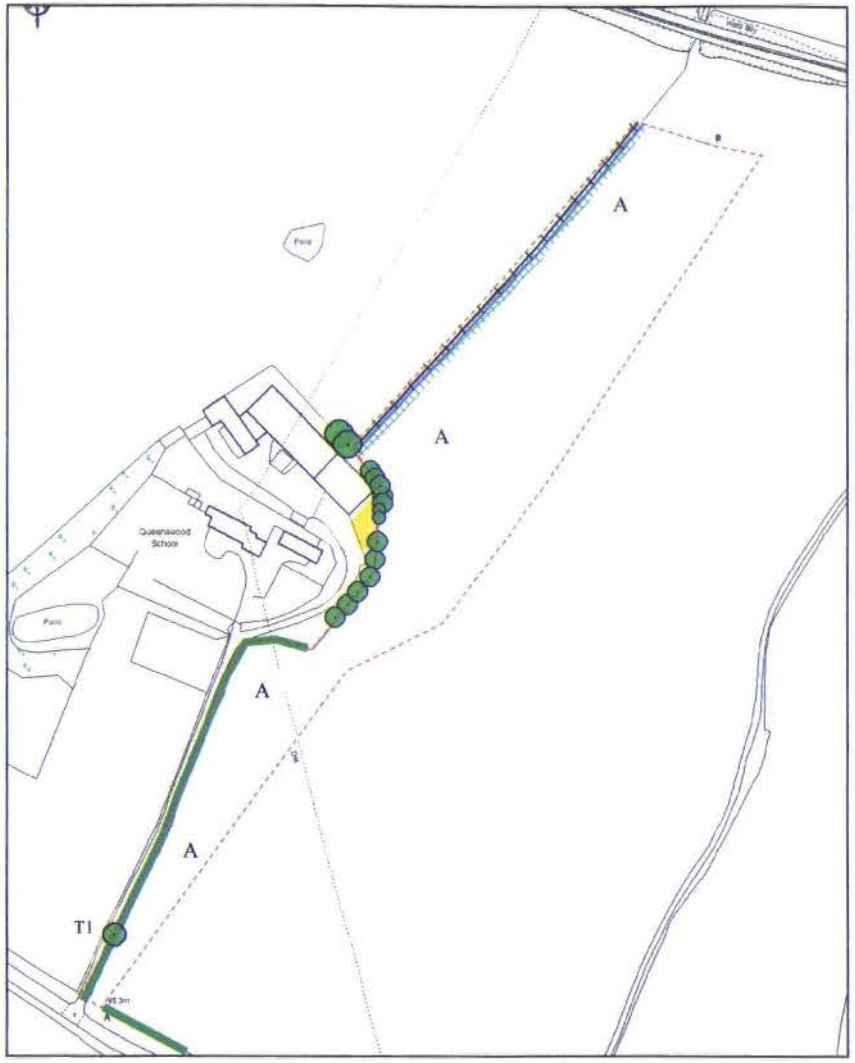
Please note: this plan is intended only to indicate the approximate location of features and should therefore, not be treated as an accurate scale plan.

Client: Highway Care
Site: Land at Callow Hill Business Park, Ledbruy
Title: Location Plan
Contract: 0491
Date: November 2014

4.2.16 Phase 1 Habitat Survey Plan



KEY:

- Amenity grass J1.2
- A — Arable J1.1
- Scrub (dense) A2.1
- Hedgerow (J2.1)
- Fence J2.4
- Tree A3.1
- Drainage Ditch G2
- Survey area

NORTH

Please note: this plan is intended only to indicate the approximate location of features and should therefore, not be treated as an accurate scale plan.

Client: Highway Care
Site: Land at Callow End Business Park, Ledbury
Title: Phase 1 Habitat Survey Plan
Contract: 0491
Date: October 2014

5. DISCUSSION & IMPACT ASSESSMENT

The client is currently seeking to make a future planning permission to extend the existing business onto a parcel of adjacent arable land. Based on plans (provided by Dennis Wheelwright), the proposals will involve the loss of approximately 2.8ha of arable crop, a length of *c.*25m of hedgerow (the southernmost section of the western boundary hedgerow) and a number of mature and semi-mature trees (including the eleven Lombardy poplars). The drainage ditch and associated bramble scrub located to the north of the site will remain unaffected by the proposals, as will the mature balsam poplar trees (T2 and T3). It is unclear at this stage if T1 will be retained or lost.

In addition to the new business facilities (stone surfaced storage area, turning area, vehicle maintenance building, car parking and access road) the development will include the provision of a new native, species-rich hedgerow (*c.*480m) along the eastern site boundary, and a native woodland coppice (525m^2 / 0.0525ha) at the northern end of the site. The creation of these new habitats directly meets the requirements of a number of planning policies within the Herefordshire Unitary Development Plan, such as NC6: Biodiversity Action Plan Priority Habitats and Species (hedgerows are a Herefordshire Biodiversity Action Plan habitat) and NC8: Habitat Creation, Restoration and Enhancement.

There are no buildings within the survey area. The eleven Lombardy poplar trees proposed for removal are considered unsuitable for roosting bats (Category 3, with reference to Hundt, 2012). A single tree on site has been identified as providing potential roosting habitat for bats. Tree 1 (T1) is located along the western boundary hedgerow, approximately 20-30m from the existing site entrance. A section of *c.*25m of this hedgerow will be lost to provide a new expanded vehicle access point, it is not clear whether this tree will be lost or not. Should the tree require felling, then further specialist survey work would be necessary in advance of any work to the tree to confirm presence/absence of roosting bats. The new hedgerow and woodland coppice planting will provide enhanced foraging provisions for bats at the site, post-construction, and more than compensate for the anticipated losses.

Two offsite ponds are located on adjacent land, approximately 80m and 90m to the west of the survey area. These ponds are both outside the land ownership of Highway Care and they were not visible from the survey area. Therefore, it is possible that either or both ponds support a population of great crested newts (no records of great crested newts were returned for these ponds in the third-party data search). However, suitable habitat for amphibians such as great crested newts within the survey area is limited to the boundary hedgerow and bramble scrub. The only loss of this habitat is a *c.*25m section of hedgerow over, 150m and 370m to the south-east of the ponds, respectively. The arable field is not considered to be suitable terrestrial habitat for great crested newts. Therefore, impact on this protected amphibian (if present locally) is considered highly unlikely.

A small number of common species of bird were recorded during the survey, some of which would be expected to nest within the hedgerows and trees in the appropriate season. Care will be required to ensure compliance with the Wildlife and Countryside Act 1981 (as amended) if any vegetation clearance is to proceed during the bird nesting season (March – August inclusive). The proposed new hedgerow and woodland coppice planting will provide mitigation and compensation for loss of bird nesting habitat and enhanced opportunities for a range of wild birds. In addition, the incorporation of new nesting opportunities into the development scheme has been recommended.

As the National Planning and Policy Framework requires planning authorities to minimise ecological impacts and provide net gains for biodiversity, recommendations have been made for mitigation, compensation and enhancement measures.

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7. ANNEXES

7.1 Legislation & Best Practice

7.1.1 The Conservation of Habitats and Species Regulations 2010 (as amended)

http://www.legislation.gov.uk/uksi/2010/490/contents/made

The purpose of these regulations, referred hereafter as "the Habitats Regulations", is to update and consolidate the Conservation (Natural Habitats & c.) Regulations 1994. The Habitats Regulations are made under Section 2(2) of the European Communities Act 1972 and represent the primary method by which Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive") is transposed for England and Wales and their territorial seas. The Habitats Directive, in conjunction with the Birds Directive (Council Directive 2009/147/EEC) forms the basis for implementation of Europe's nature conservation policy through both habitat and species level protection. The Habitats Directive requires the designation of strictly protected European sites known as Special Areas of Conservation (SACs). Together with the Special Protection Areas (SPAs) established by the Birds Directive, these collectively form the Natura 2000 Network of protected sites. The Habitats Directive also requires the strict protection of animals and plants of Community Interest listed under Annex IV. Habitat types requiring strict protection as SACs are listed under Annex I. The conservation of animals and plants listed under Annex II require the designation of SACs.

The Habitats Regulations require that public bodies must exercise their nature conservation responsibilities to ensure compliance with the Habitats Directive. These regulations also require the conservation of natural habitats and habitats of species through the selection, designation and notification of marine and terrestrial 'European Sites' to be afforded protection under the Habitats Directive. The habitats and species of European Importance are listed under Annexes I and II of the Habitats Directive. The regulations also contain provision for the appropriate management of these European Sites including the control of damaging operations, special nature conservation orders and restoration orders, for example. The Habitats Regulations afford strict protection to European Protected Species of animals under Schedule II and plants under Schedule 5. Offences (subject to certain exceptions) include the deliberate capture, killing, disturbance or trade in these animals. Similarly plants listed under Schedule 5 are protected (subject to exceptions) from picking, collection, cutting, destruction or trade.

7.1.2 The Wildlife and Countryside Act 1981 (as amended)

While the Habitats Regulations provide the basis for nature conservation policy in Europe, the Wildlife and Countryside Act 1981 (as amended) (WCA) is still a major mechanism for the legislative protection of wildlife and countryside/national parks in the UK. The WCA, and its various amendments, draw on from pre-existing legislation and support the Habitats Regulations in implementing the Bern Convention (1979) and Directive 2009/147/EC on the conservation of wild birds. Schedules within the WCA provide a list of protected species and habitats, in addition to prohibited actions. Further details are provided below for specific species relevant to the report. The

WCA also contains measures for controlling invasive non-native species and amendments to a number of laws, including in relation to public rights of way.

7.1.3 The Countryside and Rights of Way (CROW) Act 2000

The CROW Act amends existing WCA legislation in accordance with the 1992 Convention on Biological Diversity (Rio Earth Summit). The Act applies to England and Wales only and encompasses public access, rights of way, nature conservation and Areas of Outstanding Natural Beauty (AONBs). Schedule 9 of the Act provides increased powers for the protection and management of SSSIs while Schedule 12 strengthens the legal protection for protected species via arrestable offences and heavier penalties.

7.1.4 The Natural Environment and Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities Act imposes a *Biodiversity Duty* (S.40) on all public bodies to conserve biodiversity at both species and habitat levels (S40). *"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."*

S.41 of the Act requires the publication of a list of *"living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity."* The list generated under S.41 of the Act contains a number of types of habitats and species of animal and plant that have the potential to be affected by development projects of a range of sizes and impacts.

S.47 of the Act establishes special protection for the nest sites of certain birds that are known to re-use their nests and creates an additional Schedule containing these birds, namely golden eagle, white-tailed eagle and osprey. It is an offence to take, damage or destroy the nest of these three birds at any time.

The Act also establishes Natural England as the independent body "to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development". 943 species and 56 habitats of principal importance are included on the S41 list as guidance for public bodies on decisions that affect biodiversity.

7.1.5 The Hedgerow Regulations 1997

On 01 June 1997, the Hedgerow Regulations came into force under section 97 of the Environment Act 1995 to address the dramatic decline in UK hedgerows. The regulations protect important hedgerows by limiting removal through a system of notification via local planning authorities.

The regulations are aimed at countryside hedgerows in England and Wales "on or adjoining, common land, village greens, Site of Special Scientific Interest (which include National Nature Reserves, Special Protection Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive), Local Nature Reserves, or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys" (Section 3.6).

Written permission is required from the local planning authority before the removal of any hedgerow over 20 metres and more than 30 years old. Hedgerows less than 20 metres long may also be considered if they form part of a continuous network of hedges. Garden hedges, however, are not protected. Once the LPA has received a written request they will issue either a Hedgerow Retention or Hedgerow Removal Notice within 42 days depending on whether they define the hedgerow as *important* or note. This is determined by the following;

- "They have been in existence 30 years or more; and"
- "They satisfy at least one of the criteria set out in Part II of Schedule 1 of the Regulations."
-

Exemptions to the Regulations fall into three categories:

- "small scale works;"
- "works approved under other procedures which ensure careful assessment and consideration of the impact on the local environment; and"
- "works authorised under other legislation which justify the removal of a hedgerow without first establishing its importance."

It is an offence to remove a hedgerow subject to a retention notice, or to remove a hedgerow protected under the Hedgerow Regulations without first obtaining the required removal notice.

7.1.6 The UK Post-2010 Biodiversity Framework

As of 17 July 2012, the UK Post-2012 Biodiversity Framework replaced the UK level Biodiversity Action Plan to deliver the outcomes of the Government's Biodiversity 2020 Strategy. This was in response to the 2011 EU Biodiversity Strategy (EUBS) and the 2010 United Nations Convention on Biological Diversity (CBD) whereby five "*'Aichi' strategic goals and supporting targets*" have been internationally agreed.

The UK Framework is a collaborative effort between Defra and JNCC on behalf of the Four Countries' Biodiversity Group to achieve the '*Aichi*' strategic goals through focused supporting targets and follows on from policies contained within the Natural Environment White Paper (2011).

7.1.7 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published on 27 March 2012 and acts as guidance for planning authorities (LPAs) in England to form Local Plan policies in favour of sustainable development as part of the government's reforms to increase the accessibility of the

planning system and promote long term sustainable growth. Along with the Circular 06/205, the NPPF consolidates the Planning Policy Statements and Guidance Notes, many of which are now obsolete, including *Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9)*.

The framework states that "*planning policies and decisions should be based on up-to-date information about the natural environment and other characteristics of the area*" (Environment, Paragraph 165). Chapter 11 of the framework advises on:

"conserving and enhancing the natural environment" wherein Paragraph 118 states that "*when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:*"

"*if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequately mitigated , or, as a last resort, compensated for, then planning permission should be refused;*"

"*proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest feature is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;*"

"*development proposals where the primary objective is to conserve or enhance biodiversity should be permitted*"

"*opportunities to incorporate biodiversity in and around developments should be encouraged;*"

"*planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;*"

"*the following wildlife sites should be given the same protection as European sites:*

- *potential Special Protection Areas and possible Special Areas of Conservation;*
- *listed or proposed Ramsar sites; and*
- *sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*"

7.1.8 Circular 06/205: Biodiversity and Geological Conservation

The Circular 06/205 complements the NPPF by advising on how the law relates to planning and nature conservation in England, with particular reference to designated sites and protected species; "*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision*" (Paragraph 99). However, "*developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.*"

Part IV also reminds LPAs and developers that licences and mitigation measures may be required in addition to planning permissions if protected species are to be affected by the development. "*The breach of protected species legislation can often give rise to a criminal offence*" (Paragraph 101).

7.1.9 Publically Available Specification (PAS) 2010 Guidance for Planning Authorities

The PAS 2010:2006 entitled 'Planning to halt the loss of biodiversity' was prepared by the British Standards Institution in 2006 to provide "*recommendations for the integration of biodiversity conservation into land use and spatial planning in the UK*" under the NERC Act. The document asserts that public bodies should aim to "*gather baseline data on important biodiversity resources, and to identify their current condition, any potential threats and trends, current and future local issues facing biodiversity, and to establish potential areas for biodiversity enhancement within the plan area*" for development proposals.

Section 5 states specifically that "*ecological surveys and assessments, especially for protected species, should be carried out prior to submission of the application. Absence of survey information may lead to delay in registration or determination of the application. Surveys should be undertaken by competent persons with suitable qualifications, membership of a relevant institute or a proven past record in ecological survey work. All surveys should be conducted at the appropriate time of year for the feature or species concerned.*" The document also states that licences must be acquired by developers where protected species are at risk otherwise it is likely to constitute a criminal offence.

7.1.10 Bats

All British bats are "European Protected Species" (EPS) and listed on Annex II and Annex IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2010. The following actions affecting bats are prohibited under the legislation:

- deliberate capture, injury or killing;
- deliberate disturbance likely to significantly affect population survival, breeding, rearing young, local distribution or abundance;
- damage or destruction of a breeding site or resting place;

- possessing, controlling, transporting, selling or exchanging, or offering for sale or exchange, any bat or any part of a bat or anything derived from one.

Bats are also afforded protection from 'reckless disturbance' by the Wildlife and Countryside Act 1981 (as amended).

7.1.11 Badgers

Badgers and their setts are protected by the Protection of Badgers Act 1992 (as amended). This makes it an offence to wilfully kill, injure or take a badger or interfere with a badger sett through damaging the sett, destroying the sett, obstructing access to a sett, causing a dog to enter the sett or disturbing a badger occupying a sett.

7.1.12 Birds

All wild birds in the UK are afforded protection under the Wildlife and Countryside Act 1981 (as amended). This protection includes killing, injuring or taking wild birds as well as taking, damaging or destroying bird nests in use or being built, and taking or destroying eggs. A small number of derogated bird species, principally members of the genus *Corvus* (crows), *Larus* (gulls) and *Columba* (pigeons), may be killed by authorised persons under a 'general licence'. Birds listed under Schedule 1 of the Act are afforded additional protection from disturbance during nesting and offences relating to these birds are subject to special penalties.

7.1.13 Great Crested Newts

The great crested newt (*Triturus cristatus)* (Laurenti, 1758), is a "European Protected Species" (EPS) and listed on Annex II and Annex IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2010. Thus making it illegal to:

- deliberately capture, injure or kill;
- deliberately disturb with the significant likelihood to affect population survival, breeding, local distribution or abundance;
- deliberately take or destroy eggs;
- Damage or destroy a breeding site or resting place;
- Possess, control, transport, sell or exchange, or offer for sale or exchange, any great crested newt or any part of a great crested newt or anything derived from one.

The above applies to all life stages.

Great crested newts are also afforded protection under the Wildlife and Countryside Act 1981 (as amended). This makes intentional or reckless damage of, disturbance to, or obstruction of access to, their places of shelter specifically prohibited. This applies to both aquatic and terrestrial habitat.

7.1.14 Reptiles

All common reptile species (grass snake, adder, common lizard and slow-worm) native to Britain are protected by Schedule 5 the Wildlife & Countryside Act,1981 (as amended). It is illegal to:

- deliberately kill, injure a reptile or
- sale, barter, exchange, transport for sale and advertising to sell or to buy a reptile.
- In Northern Ireland they are fully protected against killing, injuring, capturing, disturbance, possession or trade.

In addition sand lizard and smooth snake are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which makes it illegal to carry out the following activities:

- Deliberately or recklessly disturb, capture or kill these animals,
- Deliberately or recklessly take or destroy eggs of these animals;
- Damage or destroy a breeding site or resting place of such a wild animal;
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from such a wild animal.

7.2 Third-party Data

Due to file size only a selection of the third-party data is provided. Please contact Focus Ecology for further information.

HEREFORDSHIRE BIOLOGICAL RECORDS CENTRE

A Partnership Project

A Partnership Project
Biodiversity information for Herefordshire

PO Box 230, Hereford, HR1 2ZB.
Telephone: (01432) 261538, Email enquiries: hbrc@herefordshire.gov.uk

Emma Seaton
Focus Ecology
Unit 7H
Shrub Hill Industrial Estate
Shrub Hill Road
Worcester
WR$9EL

13th November 2014

Our reference: 2268

Dear Emma

CALLOW HILL – SO676393

SPECIES RECORDS

Further to your request, I have conducted a search of the database for the area you identified. These records are attached along with a map indicating their distribution.

Grid references containing a combination of letters and numbers, for example 'SO54E' are formulated according to the **DINTY** system. Such records are often from botanical recording, whereby a 10km square is divided into twenty-five equal 2km x 2km squares, each alpha-coded, thus:

E	**J**	**P**	**U**	**Z**
D	**I**	**N**	**T**	**Y**
C	**H**	**M**	**S**	**X**
B	**G**	**L**	**R**	**W**
A	**F**	**K**	**Q**	**V**

Therefore the correct full grid references for SO54E are as follows: SO5048, SO5049, SO5148 and SO5149 i.e. four 1km squares.

Records of badger setts have been revealed within your search area(s). These records (and additional advice and guidance) can be provided by Herefordshire Badger Group. Please contact them for further information: Colin Gray, Tel. 01989 567995, e-mail colingy@hotmail.com

Please keep location details of any bat, badger or newt records confidential.

DESIGNATED SITES

In addition, I have produced a map indicating designated sites and have provided register details for the relevant sites:

SO63/19 Roadside verge near The Trumpet SWS
The register states: "A roadside verge with a rich flora including oxeye daisy, orchids and common Knapweed."
Date 1990

SO63/23 Ast Wood SWS
The register states: "An ancient woodland, mostly oak standards with Hazel and birch coppice, but with a very small area of conifer. Wild service-tree is also present. The ground flora includes yellow archangel, herb-Paris and bluebell."
Date 1990

SO63/24 Woodlands on Wall Hills SWS
The register states: "An area of ancient woodland, with areas of conifer. Oak and ash are dominant and there are some fine old yew trees. The ground flora includes bluebell, spurge-laurel and abundant stinking iris."
Date 1990

Please get in touch if you have any queries. I can confirm that the charge for the retrieval and analysis of your requests is £100 exclusive of VAT. You will receive an invoice from Herefordshire Council shortly: the Council handle all financial accounting on behalf of HBRC.

I hope that this information proves to be useful. I look forward to receiving new findings and biological records which any survey you undertake yields: this will help us to improve the information available for natural heritage conservation, research, advice, education and public information.

Yours sincerely,

Sam Sayce
Ecologist (HBRC)
Encs.

Terms and Conditions for the supply of data

1. Copyright of all records remains with the recorder, and of the collated data with Herefordshire Biological Records Centre.

2. No copies of data are to be made for use by third parties, without written permission from Herefordshire Biological Records Centre.

3. Permission must be obtained in writing from Herefordshire Biological Records Centre if the data supplied is to be used for any other purpose than that described on the Data Request Form.

4. Data are provided subject to ongoing approval for use from individual recorders, local recording groups or national recording schemes. Should such providers of data withdraw permissions for use of these data, the requestor may be obliged to remove relevant data from records.

5. The data must not be entered onto a computerised database or GIS without permission from Herefordshire Biological Records Centre.

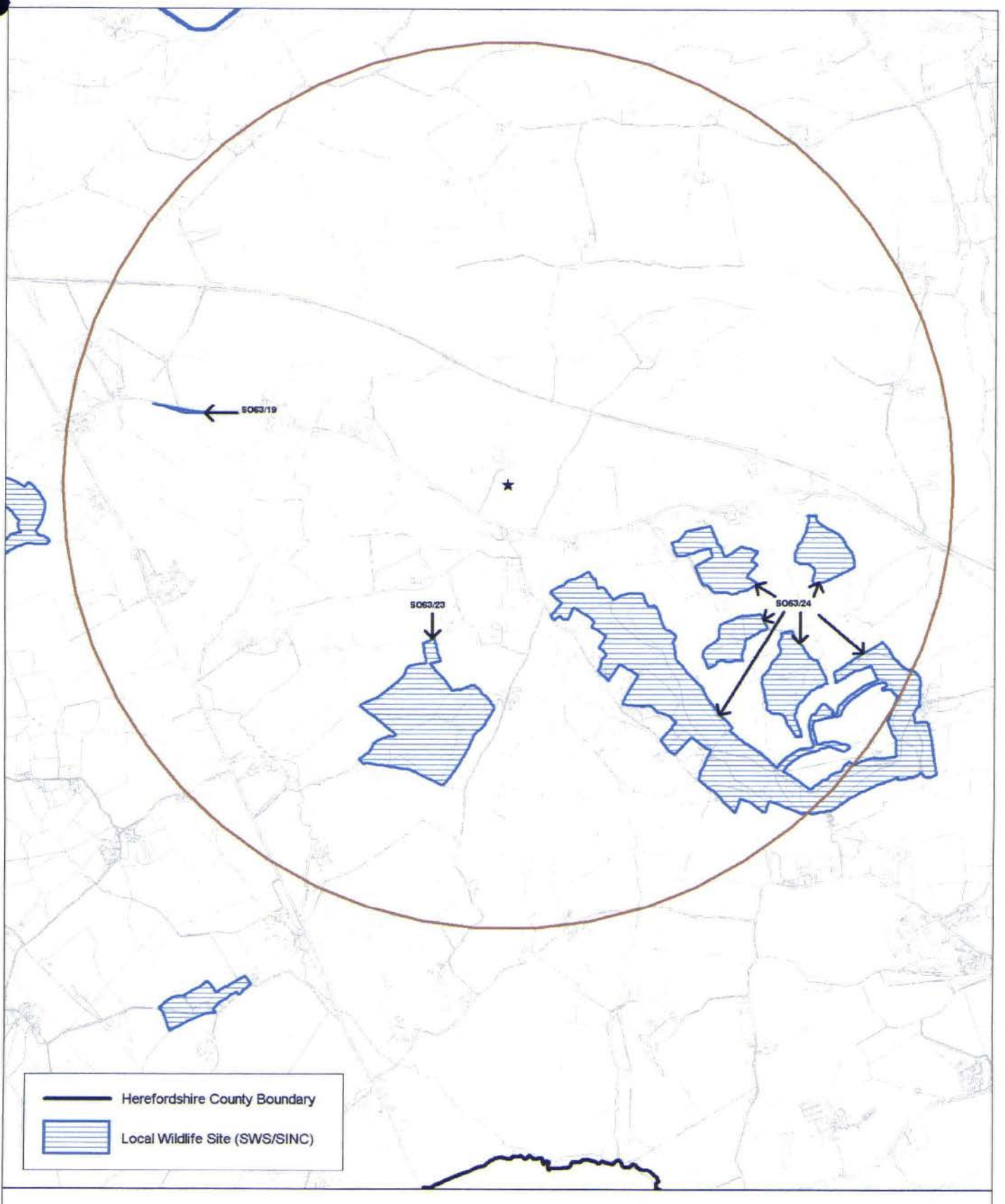
6. Herefordshire Biological Records Centre shall be acknowledged in any report relating to data supplied, and we would appreciate any details of biological records resulting from any survey undertaken.

7. Permission to use data expires 12 months after its supply. Applications to extend beyond this period should be made before the expiry date.

8. Data are as held by Herefordshire Biological Records Centre. Past records of presence of a species or habitat do not guarantee continued occurrence. Absence of records does not imply absence of a species, merely that no records are held.

9. Data are provided *without prejudice* and according to our Charging Policy, which is available on request. Commercial users are always subject to our Charging policy. Further to your request we will provide you with a quotation for processing of information and/or biological records; if this quotation is acceptable we will require approval in writing via letter or fax in order to proceed. Voluntary recording societies and local naturalists are generally exempted from this Policy.

Present Charge Rates are based on £100 per hour, exclusive of VAT.



Map showing designated sites within 2km of
SO676393 - Callow Hill Business Park

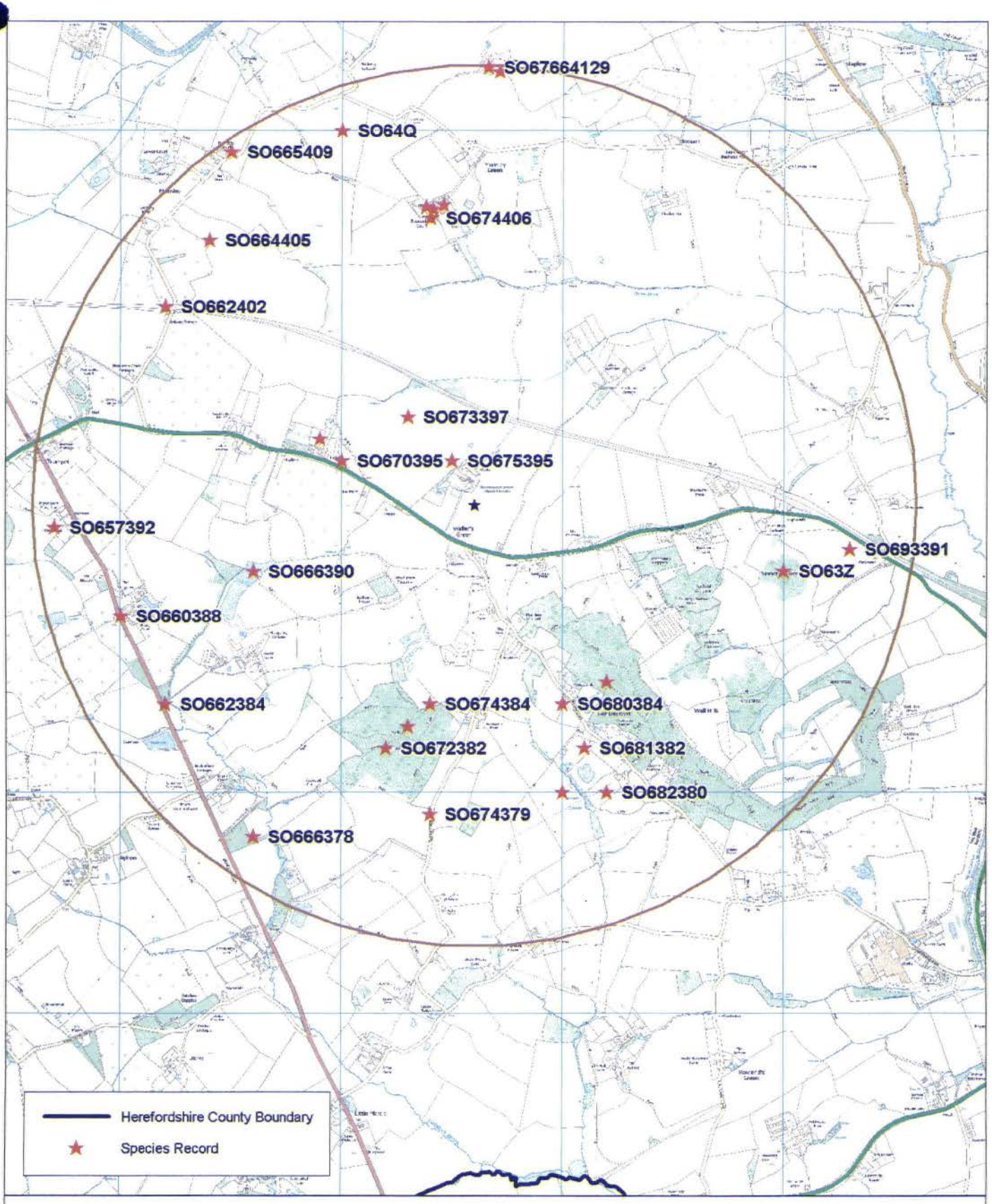
NORTH

SCALE 1:22,500

Herefordshire Biological Records Centre

P.O. Box 230
Hereford
HR1 2ZB.

Telephone: (01432) 261538
Fax: (01432) 261802
Email: hbrc@herefordshire.gov.uk



Map showing distribution of records for legally protected species within 2km of SO676393 - Callow Hill Business Park

NORTH

SCALE 1:22,500

Herefordshire Biological Records Centre

P.O. Box 230
Hereford
HR1 2ZB.

Telephone: (01432) 261538
Fax: (01432) 261802
Email: hbrc@herefordshire.gov.uk

7.3 Recommended Planting List

Amenity Planting for Wildlife:

Opportunities will be sought for maximising the wildlife value of amenity/landscape planting within the development scheme. This can be achieved through the use of scented flowers and species with acknowledged value for wildlife. A list of species for consideration within amenity planting is provided in Table 7, below.

Table 7: List of plant species with a known benefit to wildlife that should be used in any landscaping at the site.

Scientific Name	**Common Name**
Trees & Shrubs	
Acer campestre	field maple
Alnus glutinosa	alder
Betula pendula	*silver birch*
Betula pubescens	downy birch
Buddleia davidii	butterfly-bush
Calluna vulgaris	heather
Corylus avellana	hazel
Crataegus monogyna	hawthorn
Cydonia oblonga	quince
Cytisus scoparius	broom
Erica cinerea	bell heather
Euonymus europaeaus	spindle
Fagus sylvatica	beech
Frangula alnus	alder buckthorn
Ilex aquitolium	holly
Juniperus sp.	junipers
Laburnum anagyroides	laburnum
Leycesteria sp.	flowering-nutmeg
Ligustrum vulgare	wild privet
Malus sp.	apple tree varieties
Malus sylvstris	crab apple
Philadelphus sp.	mock-oranges
Prunus avium	wild cherry
Prunus cerasifera	cherry-plum
Prunus cerasus	dwarf cherry
Prunus domestica	wild plum
Prunus padus	bird cherry
Prunus spinosa	blackthorn
Pyracantha sp.	firethorns
Pyrus communis	cultivated pear
Pyrus pyraster	wild pear
Rhamnus cathartica	buckthorn
Rosa arvensis	field rose
Rosa sp.	roses
Rubes uva-crispa	gooseberry
Rubus ideaus	raspberry

Salix aurita	eared willow
Salix caprea	goat willow
Salix cinerea	grey willow
Salix pentandra	bay willow
Salix purpurea	purple willow
Salix viminalis	osier
Sambucus nigra	elder
Solanum dulcamara	bittersweet
Sorbus aucuparia	dogwood
Syringa vulgaris	lilac
Ulex europaeus	gorse
Ulex gallii	western gorse
Ulmus procera	English elm
Vaccinium myrtillus	bilberry
Vaccinium vitis-idaea	cowberry
Climbers	
Clematis sp.	clematis'
Hedera helix	common ivy
Jasminum sp.	jasmines
Lonicera sp.	honeysuckles
Rosa sp.	climbing roses
Vascular Plants	
Achillea millefolium	yarrow
Aconitum napellus	monkshood
Allium schoenoprasum	chives
Antirrhinum majus	snapdragon
Borago officinalis	borage
Calluna vulgaris	heather
Campanula rotundifolia	harebell
Centaurea cyanus	cornflower
Centaurea montana	perennial cornflower
Crocus tommasinianus	early crocus
Crocus vernus	spring crocus
Digitalis purpurea	foxglove
Echium vulgare	viper's-bugloss
Fragaria vesca	wild strawberry
Galium verum	lady's bedstraw
Geranium sp.	cranesbills
Hesperis matronalis	dame's-violet
Hypericum sp.	St. John's worts
Kniphofia sp.	red-hot pokers
Lamiastrum galeobdolon	yellow archangel
Leucanthemum vulgare	oxeye daisy
Linaria purpurea	purple toadflax
Linaria vulgaria	common toadflax
Lotus corniculatus	bird's-foot trefoil
Lysimachia vulgaris	yellow loosestrife
Malva moschata	musk-mallow
Malva sp.	mallows
Matricaria recutita	scented mayweed

Matthiola bicornis	night scented stock
Melilotus officinalis	ribbed melilot
Mentha sp.	mints
Myosotis discolor	changing forget-me-not
Nigella damascena	love-in-a-mist
Oenothera biennis	common evening-primrose
Ononis repens	common restharrow
Origanum vulgare	marjoram
Papaver dubium	long-headed poppy
Papaver rhoeas	common poppy
Primula veris	cowslip
Primula vulgaris	primrose
Reseda lutea	wild mignonette
Salvia officinalis	sage
Saponaria officinalis	soapwort
Silene dioica	red campion
Silene latifolia	white campion
Silene noctiflora	night flowering catchfly
Silene nutans	Nottingham catchfly
Silene vulgaris	bladder campion
Symphytum tuberosum	tuberous comfrey
Tanacetum vulgare	tansy
Verbascum thapsus	great mullein
Viola arvensis	field pansy
Viola odorata	sweet violet
Viola riviniana	common dog violet
Viola tricolor	wild pansy
Marginal & Aquatic Species	
Acorus calamus	Sweet flag
Caltha palustris	Marsh marigold
Eleocharis palustris	Common spike-rush
Lythrum salicaria	Purple loosestrife
Mentha aquatica	Water mint
Myosotis scorpioides	Water forget-me-not.
Ranunculus flammula	Lesser spearwort
Sparganium erectum	Branched bur-reed
Stachys palustris	Marsh woundwort

7.3.1 New Hedgerow Planting

A species-rich hedgerow is defined as one that supports at least five native, woody species (Defra, 2007). Therefore, all new hedgerow planting at Callow Hill Business Park should include at least five species, preferably seven. Table 8, below provides a list of appropriate, native species to be used.

Table 8: Hedgerow/tree species to be used in any new hedgerow planting at Callow Hill Business Park, Ledbury.

English Name	**Scientific Name**
Acer campestre	field maple
*Corylus avellana**	hazel
*Crataegus monogyna**	hawthorn
Euonymus europaeaus	spindle
Ilex aquitolium	holly
Ligustrum vulgare	wild privet
Malus sylvestris	crab apple
Prunus domestica	wild plum
*Prunus spinosa**	blackthorn
Sambucus nigra	elder
Sorbus aucuparia	dogwood
Ulmus procera	English elm

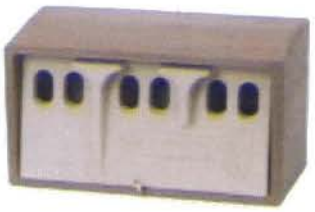
***NOTE:** 60% of the new hedgerow species mix should comprise one or more of the following three species; hawthorn, blackthorn or hazel.

7.3.2 Hedgerow Planting Details

Recommendations follow Natural England, 2008).

- Where at all feasible, all new hedgerow planting will take place over the winter period (October – March).
- Hedgerows will follow a double staggered planting schedule, with approximately 400mm between each row and 4 – 6 plants per metre.
- Where possible, whips of between 450-600mm will be used (any specimens to be grown as trees will be 1m-1.5m tall).
- Newly planted hedgerows will be protected from animal damage by the use of rabbit-proof fencing, netting or individual tree guards.
- The newly planted hedgerow between the play ground and playing field should be protected from damage by school children by the installation of a temporary / permanent fence.
- Specimens that fail in the first three years will be replaced to prevent gaps forming.
- Weed Control: Weeds will be controlled to prevent competition with the hedgerow plants. Weed control will be undertaken via mulch (applied immediately after planting) or cutting/pulling. The use of herbicides is not recommended.

7.4 Examples of Recommended Mitigation Features



Schwegler 1SP sparrow terrace

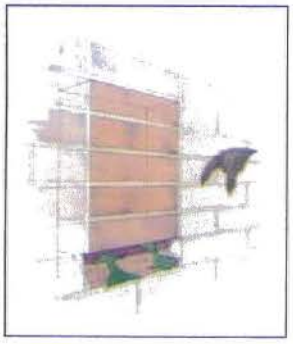
Schwegler 1B nest box.

2H Schwegler Robin Box

3S Schwegler Starling Nest Box

1FR Schwegler Bat Tube

1WI Schwegler Summer & Winter Bat Box



Habibat Bat Box

Schwegler 2F-DFP bat boxes

Schwegler 2F Bat Box

Schwegler 2FE Wall-mounted Bat Shelter

8. QUALIFICATIONS & EXPERIENCE

Focus Ecology was formed in 2010 and has the expertise to provide sure-fire ecological solutions to a wide range of projects. The company ethos forges the highest standards of professional scientific practice with a 'best value' approach for our clients. Our core area of expertise is in the production of specialist ecological reports and advice to support planning applications. However, our flexible approach, range of skills and broad project experience allows us to adapt to your individual requirements. The joint founders of the company, Fern Fellowes-Day and Graham Davison are both Masters-qualified Ecologists. We have a wide range of practical experience from major infrastructure contracts to smaller projects for private individuals across the UK.

Graham Davison - BSc (Hons) MSc MCIEEM MSB.

Graham is an ecologist with over twelve years of experience in the field of applied ecology. He holds a BSc (Hons) degree in Zoology and an MSc with distinction in Law and Environmental Science. His ecological experience includes surveys to identify nationally and locally important sites for wildlife, ecological services to local planning authorities and provision of ecological reports to accompany major infrastructure projects, housing schemes, industrial developments and mineral extraction. Graham is a competent botanical surveyor and has considerable expertise in protected species surveys, holding protected species licenses for bats, great crested newts, white-clawed crayfish, and barn owls as well as competency in the survey of badgers, reptiles, otter, water vole, breeding and over-wintering birds. Graham is skilled in the production of reports and Nature Conservation Management Plans providing advice to ensure legal compliance and consistency with recognised best practice.

Fern Fellowes-Day BSc (Hons) MSc MCIEEM MSB

Fern has over ten years of professional experience in the ecological consultancy field. Prior to founding Focus Ecology Ltd with joint Director Graham Davison, she worked in a senior position at a leading, independent ecological consultancy managing numerous contracts countrywide. She holds BSc (Hons) in Zoology from the University of Wales, Aberystwyth and MSc in Habitat Creation and Management from Staffordshire University. Fern is a skilled botanical surveyor, specialising in Baseline, Biodiversity and Phase 1 Habitat Surveys. She is proficient with the BREEAM and Code for Sustainable Homes schemes and meets the strict criteria for a '*suitably qualified ecologist*'. Fern's particular expertise is with protected species surveys, she has extensive knowledge in dealing with the badgers, with practical experience in artificial sett design and creation and has held numerous Natural England licences to close or disturb badger setts. In addition Fern holds survey licences (Natural England and Countryside Council for Wales) for great crested newts, bats and white-clawed crayfish. Fern has held Natural England Mitigation (development) licences for great crested newts and white-clawed crayfish Conservation licence. She is particularly experienced in dealing with newt issues affecting the quarrying, mineral extraction and landfill industry. Fern is also a competent surveyor of reptiles, water vole and otters.