

# Pine Tree Cottage PEA

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**Phase 1**  
**Preliminary Ecological Appraisal**  
**Pine Tree Cottage, Camp Road**



Document Reference: **Pine Tree\_PEA**

Written: February 2021

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NE class license: Bats: survey (level 2)

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## SUMMARY

### Purpose

The phase 1 preliminary ecological appraisal is undertaken in order to identify key ecological constraints to the proposed development; inform planning to allow significant ecological effects to be avoided or minimized; identify any further ecological surveys needed to inform an ecological impact assessment and to support the development of mitigation of compensation measures.

### Methodology

The survey was conducted by carrying out a systematic walkover of the site by Dr. Stefan Bodnar to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques and is a methodology recommended by the Institute of Environmental Assessment (1995) and guidance from CIEEM (2011, 2018).

### Key Issues & Conclusions

This Phase 1 Ecology Report confirms that the Construction Zone is of low to negligible ecological value' consisting primarily of a builders yard, though the immediate surrounding habitats are of high value (native deciduous and Ancient woodland). The features of highest ecological value within the development site are a number of the mature trees. These should be protected in accordance the BS5837 Trees and Development guidance. A tree protection area and root protection zone should be established to avoid damage during the construction phase around all retained trees and hedges.

- There are no Statutory or Non-Statutory Designated Nature Conservation Sites within or adjacent to the site or that will be affected by the development
- The Biological Data Search no protected species were recorded within the site, with the exception of badgers, in which case no sett was found on site or within 30m of the site edges. A pre-commencement check and appropriate precautionary measures are recommended.
- The on-site lighting should be carefully chosen to ensure it is low lux, cowled (directed downwards to prevent light splay), and used on timers or motion sensors to minimize the impact on local bat populations, which are likely to forage on the site itself and the adjacent woodland. Additional bat surveys are recommended
- There are no trees on-site with bat roost potential.
- The site has low suitability for protected species such as reptiles or Great Crested Newts, though reasonable avoidance measures are recommended for these groups
- The site development needs to demonstrate net gain by ecological enhancement measures both within site and in the immediate woodland surrounds. Net biodiversity gain as per NPPF (2019) should be demonstrated. Providing these measures are followed, the development provides for an opportunity to improve the ecological condition of the site and the surrounding woodland.
- The trees and scrub within the survey site are suitable for bird nesting. Site clearance should be undertaken outside of the bird breeding season (mid March to mid August) or undertaken under ecological supervision.

## 1. INTRODUCTION

### 1.1. Background

At the request of the client, Ian Felton a Phase 1 Preliminary Ecological Appraisal was carried out at an area of land at Pine Tree Cottage, Camp Hill , to evaluate the habitats, describe any further surveys required and indicate the level of required mitigation/ compensation/ enhancement in relation to two proposed dwellings on the site. The site has been subject to a previous ecological survey in July 2020 by Wharton Natural Infrastructure Consultants

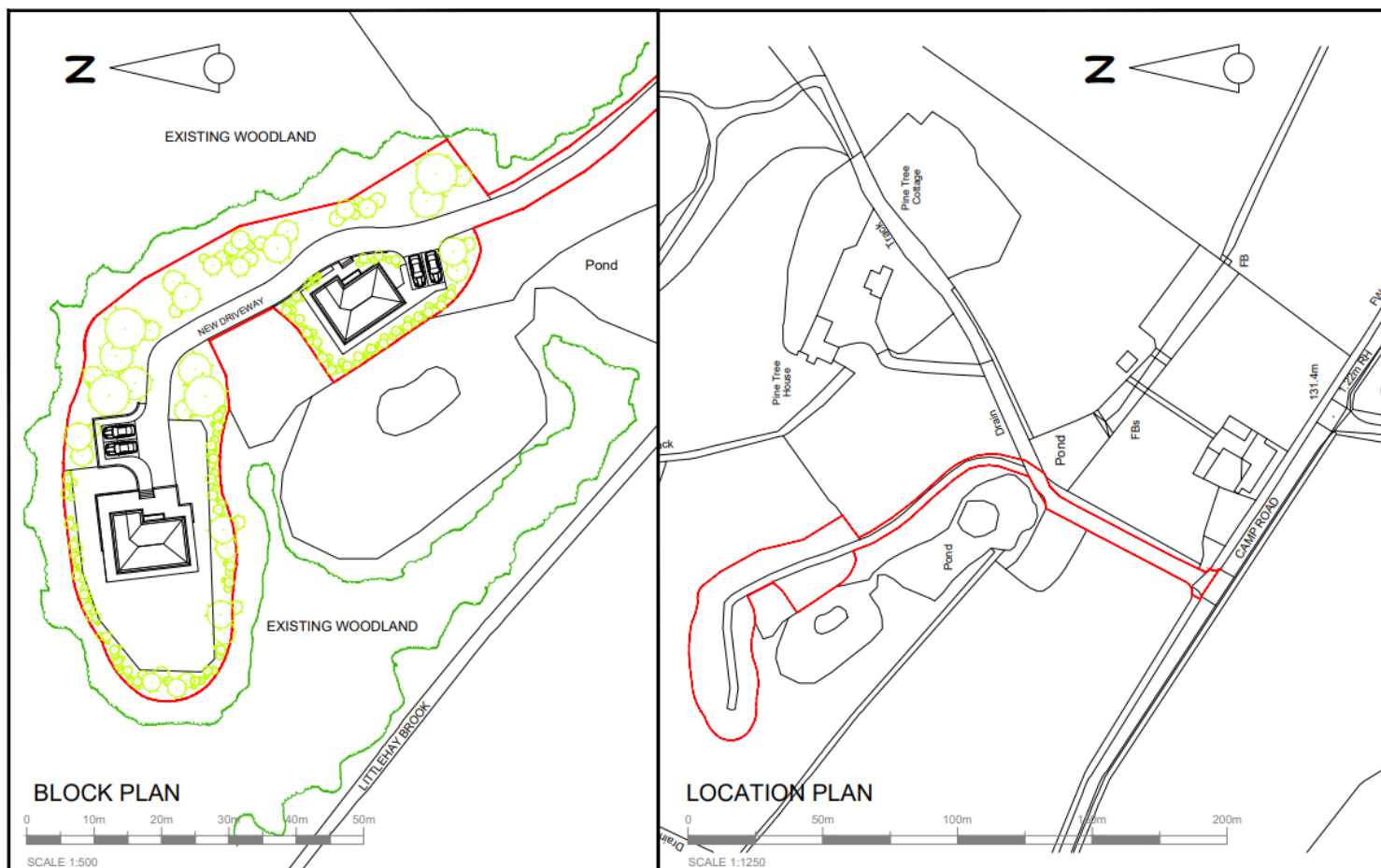
### 1.2. Site Location

The Site is located to the north of Camp Road in Weeford, c.4.2km north of Sutton Coldfield. A location plan of the Site has been provided below and the grid reference for the approximate centre of the Site is SK 12901 00884; the Site is c.4.5ha in size. The Site is currently used as a storage yard, and has a Lawful Development Certificate for this purpose. The Site is bordered on all sides except the southern boundary by ancient woodland. The existing access track (to be utilised as the access for the Proposed Development) enters the Site from the south of Camp Road before curving around a pond in a westerly direction and entering the Site at its eastern boundary.

Ecological connectivity to/from the Site is generally good to/from all cardinal points with connectivity from the north, east and west provided by the expanse of ancient woodland. Connectivity from/to the ancient woodland surrounding the Site is provided by interconnected hedgerows and pockets of woodland acting as ecological stepping-stones to the wider area. Despite the Site being present adjacent to ancient woodland, the Site itself does not contribute significantly to the function of the woodland as a wildlife corridor.



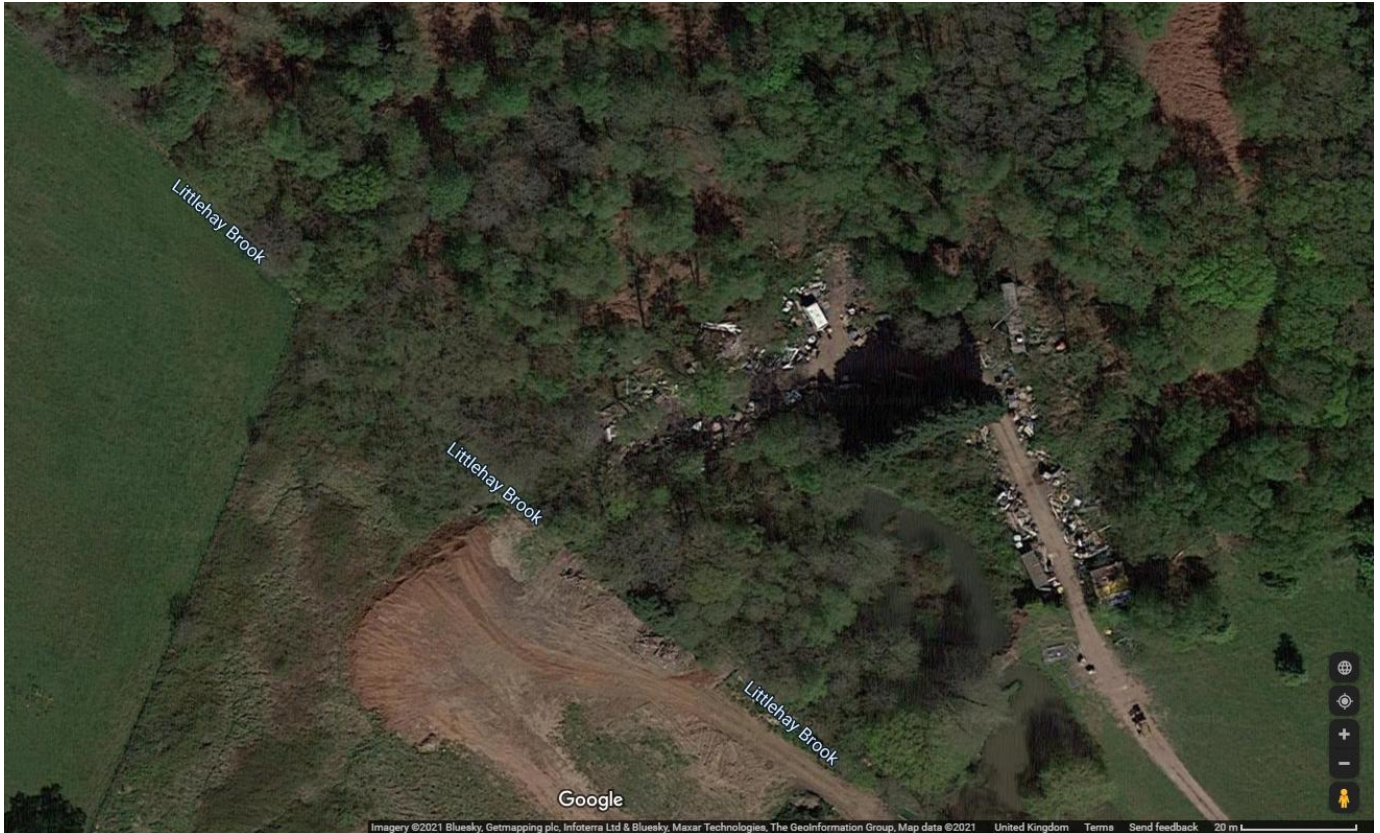
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<p><b>PROJECT</b>          Proposed erection of two houses at land at:  <b>PINE TREE COTTAGE</b>          Camp Road, Sutton Coldfield B75, 5QX</p>	<p><b>TITLE</b>          Location and Block Plans</p>	<p><b>REVISION</b>          REV-A: Block plan amended to match with existing topographical features of existing terrain 26-02-20</p>	<p><b>DESIGN AND DRAWING BY</b>          s tyob  <b>CHECKED BY</b>          NH  <b>DATE</b>          Nov 2019</p>	<p><b>SCALE@A3</b>          1:500 - 1:1250  <b>DRAWING NUMBER</b>          38/01-A</p>
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. The site location is described on the image below.



Map data 2021© Google

## 1.3. Site Description

The site comprises a builders yard, set within a native ancient woodland context. An access road is present at the western extent of the Site which extends north then west from Camp Road. The access road comprises part hardstanding and part bare earth. The bare earth extends into the Site and is likely a result of many years of material storage and compaction by plant machinery and other vehicles. Broadleaved semi-natural woodland surrounds the Site. The woodland comprises pedunculate oak (*Quercus robur*) and silver birch (*Betula pendula*) woodland with an understorey of bracken (*Pteridium aquilinum*), bramble (*Rubus fruticosus* agg.) elder (*Sambucus nigra*) and bluebell (*Hyacinthoides non-scripta*). The presence of two screening lines of Cypress trees further degrades the native woodland. Towards the pond and Littlehay Brook it comprises wet alder woodland. See aerial photograph for context below:

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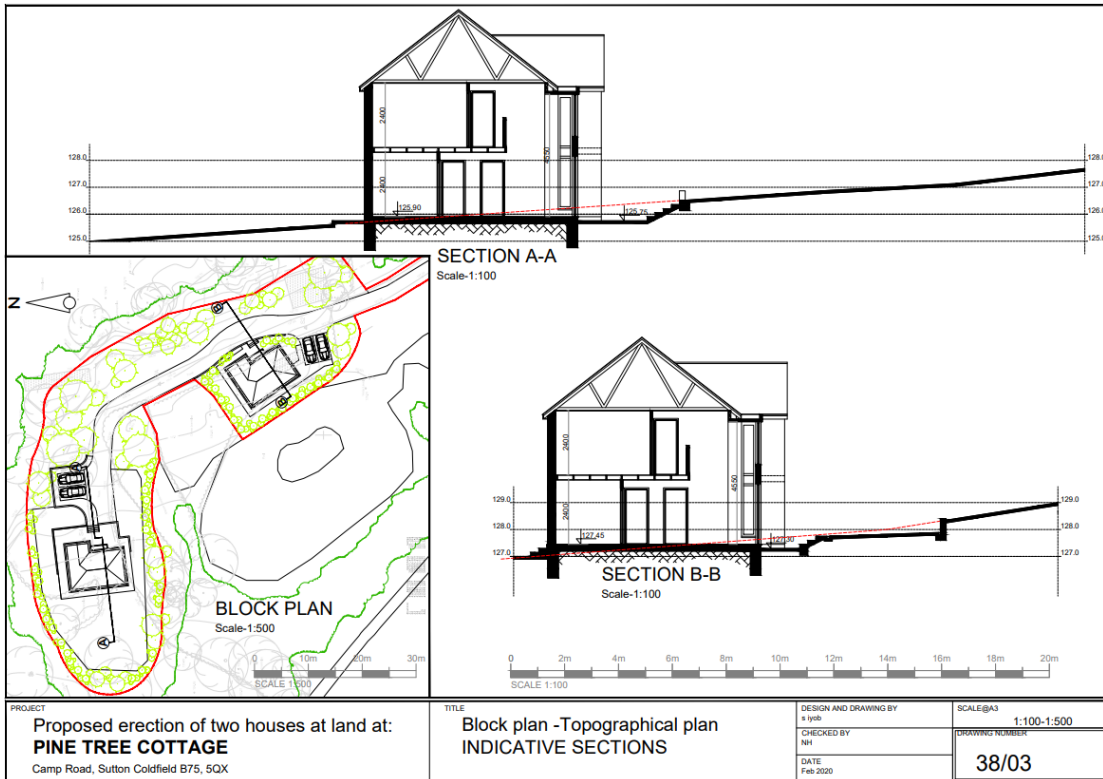
Map data 2021 © Google



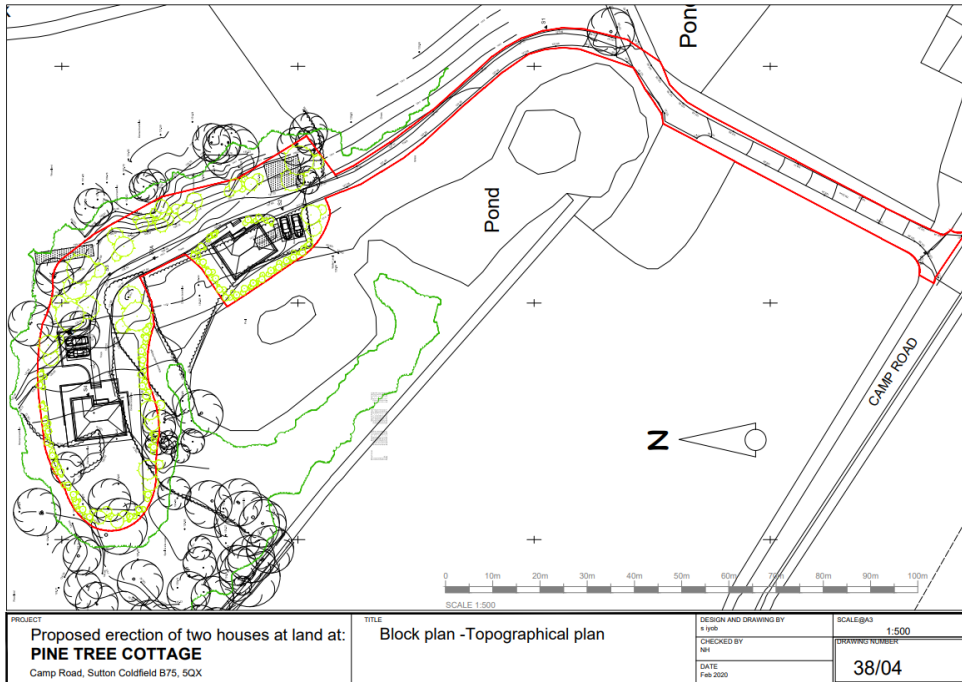
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## 1.4. Brief Description of Project

The area is subject to a planning application for 2 new build properties with retention, maintenance and re-surfacing of the access track. . See plans below and refer to planning application for full details.



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## 1.5. Purpose of the Preliminary Ecological Appraisal

The phase 1 preliminary ecological appraisal report identifies key ecological constraints to the proposed development; informs planning to allow significant ecological effects to be avoided or minimized; identifies any further ecological surveys needed to inform an ecological impact assessment and supports the development of mitigation of compensation measures.

It is composed of two parts. A site visit, during which a preliminary ecological appraisal of the site is carried out to identify the major habitat types, plant, bird, reptile, mammal and other species using the site. Also a desk study, which gathers ecological data on the site and its surrounding area, to identify protected species and statutory protected sites in the vicinity of the proposed development site, in order to produce recommendations on the key ecological constraints to the proposed development.

## 2. METHODOLOGY

### 2.1 Desk Study Methodology

Information was gathered from a number of web-based data sources, published ecological reports and where appropriate, the authors own records. The ecological data search covers the following areas:

- Species of particular note
- Local Nature Reserves
- Protected species (badger, grass snake, great crested newts, otter, water vole and bats)

### 2.2. Survey Methodology

The survey was conducted by carrying out a systematic walkover of the site by Dr. Stefan Bodnar to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques and is a methodology recommended by the Institute of Environmental Assessment (1995) and guidance from CIEEM (2013, 2018).

During the survey, emphasis was placed on searching for evidence of and potential of habitats and features supporting protected or notable species, especially those listed under the Conservation of Habitats and Species Regulations 2017, the Wildlife & Countryside Act 1981 (as amended), the List of Species & Habitats of Principle Importance for Conservation of Biological Diversity in Wales (Wales Biodiversity Partnership, 2017) and in local Biodiversity Action Plans.

The range of methods used were as follows:

#### **Bats**

The trees within the site were appraised for their potential suitability to support breeding, resting and hibernating bats in accordance with survey methods documented in the Bat Surveys: Good Practice Guidelines (Bat Conservation Trust 2016). Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc.

A visual inspection of the trees from ground level with the aid of binoculars was undertaken to search for evidence of actual bats as well as signs of bats (droppings, feeding remains, urine staining, scratch



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marks, noise and the remains of dead bats etc.). In addition, the trees were assessed for the presence of features likely to be attractive to roosting bats, such as cavities or rot holes in the trunk or branches, splits in the timber, delaminating bark, deep bark crevices, dead branches and dense ivy cover etc.

In accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2016) trees were assigned to the following categories:

Suitability	Description of Roosting Habitats
Confirmed Presence	Presence of roosting bats within the structure/tree confirmed by the survey
High	A structure/tree with one or more potential roost Sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A structure/tree with one or more potential roost Sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
Low	A structure/tree with one or more potential roost Sites that could be used by individual bats opportunistically. However, these potential roost Sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by a larger number of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible	Structures/trees that appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids, small crevices etc. and/or absence of suitable access points such as lifted tiles, gaps in soffits, cracked limbs etc.

The site was also assessed for potential bat foraging areas and commuting routes.

Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc. The site was also assessed for actual and potential bat foraging areas and commuting routes.

## Reptiles

The site was assessed for its suitability to support reptiles based upon the abundance of suitable habitats such as structurally diverse habitats, hedgerows, scrub, rough grassland, wood piles, rubble, banks and compost heaps etc. The site was assessed with respect to its potential for use for hibernation and spring/summer use based on guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003) and the Reptile Management Handbook

(Edgar, Foster & Baker 2011).

## **Badgers**

The whole site was searched systematically, with particular attention being paid to features likely to support badger setts (e.g. earth embankments, wooded copses etc.). The location of all badger signs such as runs, dung pits, prints, hair, foraging snuffle holes found during the survey were mapped and all setts characterised as either main, annex, subsidiary or outliers in accordance with guidance given in *Surveying Badgers* (Harris, Cresswell & Jefferies, 1988).

## **Birds**

All birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble beds, ruderal vegetation and rough grassland etc). The sites was also assessed for its actual and potential suitability to support Schedule 1 and Biodiversity Action Plan priority (now S41 NERC listed) species.

## **Other Species**

The site was also assessed for its actual and potential suitability to support other protected or notable fauna in accordance with the Guidelines for Preliminary Ecological Appraisal (Chartered Institute of Ecology and Environmental Management, 2013, 2018).

### **2.3. Site Location and Access**

Pine Tree Cottage, camp Hill Road, Sutton Coldfield , all areas were available for access.

### **2.4. Date and Time of Survey**

The site assessment was conducted on 19<sup>th</sup> January 2021

### **2.5. Weather Conditions**

The weather conditions during the survey were cool and clear.

### **2.6. Survey Constraints**

The survey can be considered to provide a reasonable, though not exhaustive plant list. This survey noted the habitat types on the site, and the dominant vegetation at the time of the survey, which is

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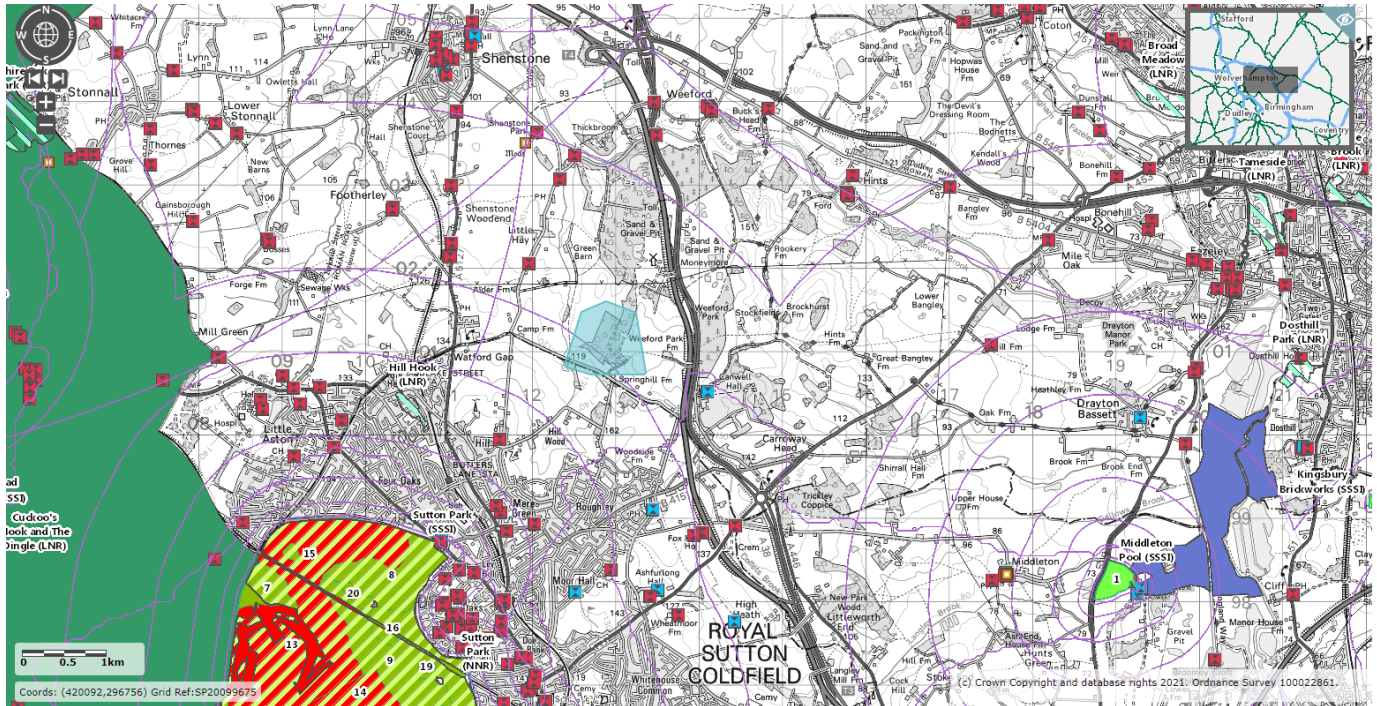
likely to be constant and a fair reflection of the habitat quality present.

## 3. RESULTS

### 3.1. Desk Study Results

#### 3.1a Statutory Nature Conservation Sites

The map below shows all Statutory Nature Conservation Sites (this includes Sites of Special Scientific Interest, Local Nature Reserves, Special Areas of Concern) within 5 km of the proposed development. A Natural England 'Magic' data search (shown below) reveals that the closest statutory protected site is Hill Hook LNR which is within 2.2km west of the site. The site lies within a Nitrate Sensitive Zone, and the SSSI Impact Zone of Sutton Park SSSI and NNR.



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#### Non-Statutory Wildlife sites

One non-statutory wildlife site is present c.950m north of the Site. This is Manley Wood which Manley Wood “comprises semi-natural broad-leaved woodland with areas of wet woodland and a field layer that is characteristic of acidic woodland communities.” (SER, 2020).

There is ecological connectivity to Manley Wood through the woodland immediately adjacent to the Site, however impacts leading to significant effects to Manley Wood are highly unlikely to occur due

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to the significant distance between the Site and Manley Wood, as well as the small- scale nature of the Proposed Development.

### 3.1b. Protected Species Records

In relation to bat species the following were recorded from a variety of online web based resources, (and in places, the authors own records), presented here with the approximate distances of the nearest record. In addition, a number of Ecological survey reports within the area have been interrogated for protected species records. All records are post-2010 unless otherwise stated.

Species (Latin Name)	Common Name	Approximate distance of nearest record from the survey site (km)
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE
<i>Plecotus auritus</i>	Brown long-eared bat	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE
<i>Myotis daubentonii</i>	Daubentons bat	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE
<i>Nyctalus noctula</i>	Noctule	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE
<i>Myotis nattereri</i>	Natterer's bat	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	Roots, within 3 km, record within 1 km Weeford Park Farm, 700m NE

In relation to other protected species, the following were recorded within 5 km and are presented here with the approximate distances of the nearest record.

### Other Notable Species

Species (Latin Name)	Common Name	Approximate distance of nearest record from the survey site (km)
<i>Meles meles</i>	Badger	Within 2 km
<i>Erinaceus europaeus</i>	Hedgehog	Within 1 km, 500m distance
<i>Anguis fragilis</i>	Slow-worm	Within 5 km, not within 1 km
<i>Zootoca vivipara</i>	Common Lizard	Within 5 km , not within 1 km
<i>Natrix natrix</i>	Grass Snake	Within 2 km
<i>Triturus cristatus</i>	Great Crested Newt	4 km SE
<i>Lissotriton vulgaris</i>	Smooth newt	Within 1 km
<i>Tyto alba</i>	Barn owl	Within 5 km



<i>Rana temporaria</i>	Common frog	Within 1 km
<i>Cuculus canorus</i>	Cuckoo	Within 1 km
<i>Poecile montana</i>	Willow tit	Within 1km
<i>Motacilla cinerea</i>	Grey wagtail	Within 1 km
<i>Arvicola terrestris</i>	Water vole	Within 1 km (500m E)
<i>Lutra lutra</i>	Otter	Not within 1 km

The blue squares on the map below show the location of all European Protected Species licenses in the vicinity of the site, pink dots represent positive Great Crested Newt locations.



### 3.1c Interpretation of Biological Data from Desk Study

The data search reveals that six bat species recorded recently within a 1 km radius of the survey site, which is to be expected due to its deciduous woodland context and Great Crested Newts are found within 4 km of the site. Badger and Hedgehog are recorded within 2km and 1km and it is possible that hedgehogs use the site. There are no Statutory Protected sites on or adjacent to the site.

## 3.2 Survey Results

### 3.2.1 Habitat Types Present & Baseline Ecological Conditions

#### **Bare Earth and Hardstanding**

The bare earth and hardstanding are not ecologically important. The bare earth may have historically supported ancient woodland (according to the Natural England official ancient woodland register (Natural England, 2020)), however due to years of disturbance and compaction this habitat is no longer present within these areas. Soil testing has not been undertaken, however it is possible that soil contamination and degradation of mycorrhizal networks has occurred due to the type of materials stored historically.

#### **Broadleaved Semi Natural Woodland**

Broadleaved semi-natural woodland surrounds the Site to varying extents at all four cardinal points. The woodland comprises pedunculate oak (*Quercus robur*) and silver birch (*Betula pendula*) woodland with an understorey of bracken (*Pteridium aquilinum*), bramble (*Rubus fruticosus* agg.) elder (*Sambucus nigra*) and bluebell (*Hyacinthoides non-scripta*). Part of the woodland is ancient woodland, and the boundary of this has been detailed below:

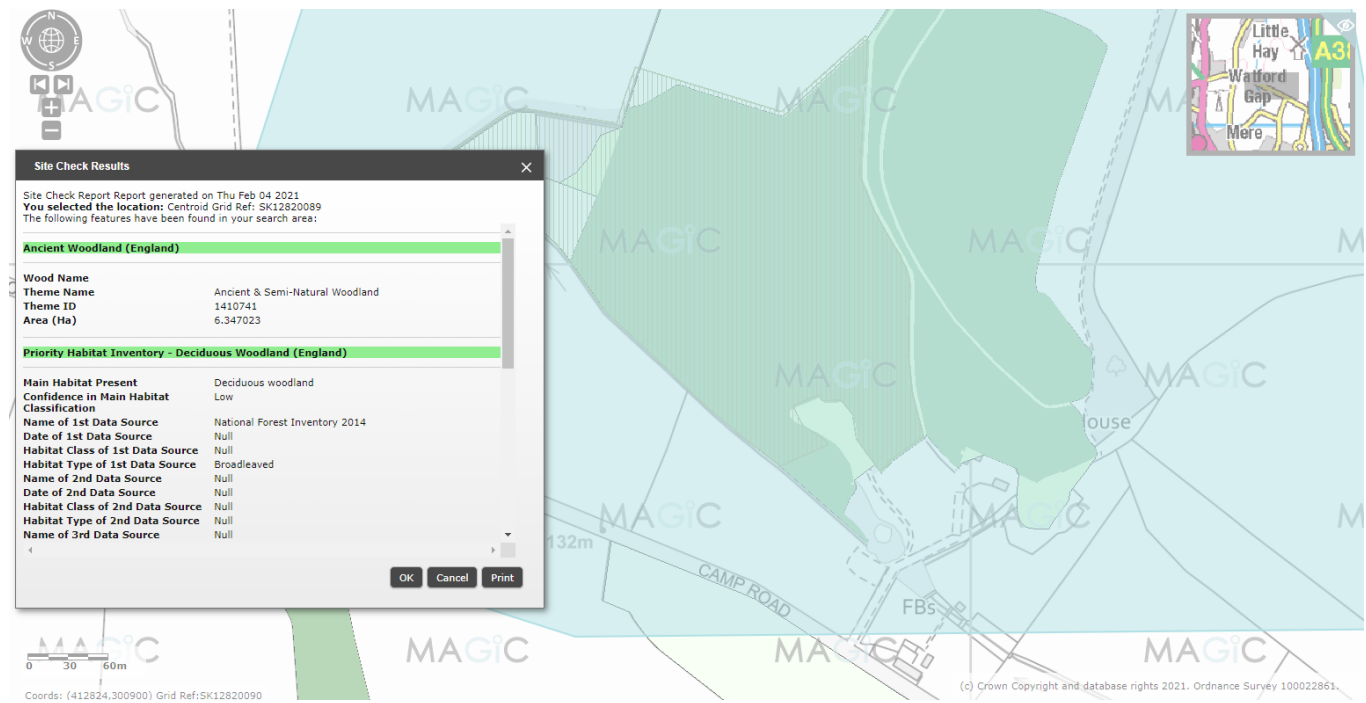
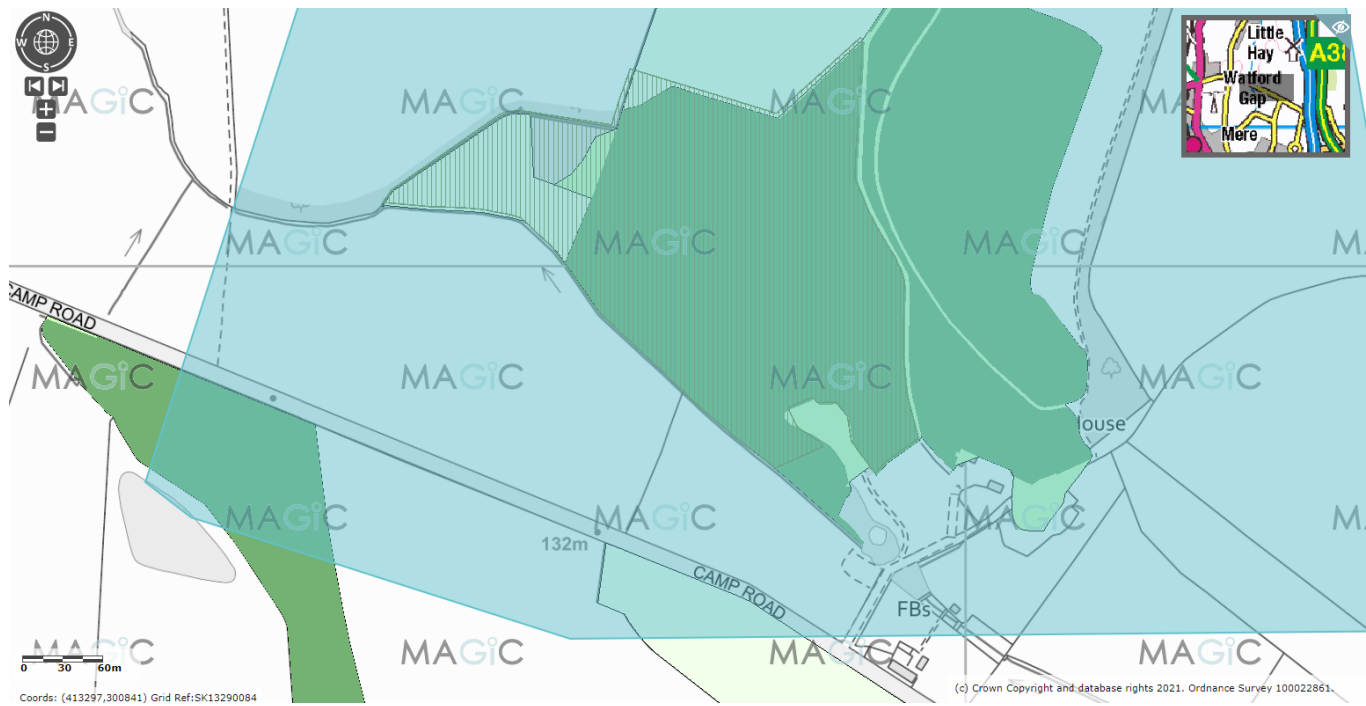


It must be noted that sections of this woodland have been cleared and compacted by storage of materials and vehicular movements for over twenty years. These areas now comprise bare earth with few colonising plants such as docks (*Rumex* sp.) and common nettle (*Urtica dioica*), and the soils beneath the compacted areas are highly unlikely to be conducive to supporting habitat typical of ancient woodland and its associated mycorrhizal networks. It must however be noted that historic degradation for a prolonged period (at least 20 years as evidence by aerial imagery (Google Earth Pro, 2020)) has damaged any areas of this habitat that were historically present at the Site beyond a state which it would be able to be replaced within a reasonable timeframe.

### **Priority Habitat Inventory Map showing the extent of Ancient and Semi-Natural woodland.**

**Note that the builder's yard is excluded from the area and that the woodland to the south comprising the wet alder woodland is categorized as native deciduous but not ancient semi-natural.**





## Scrub

Scrub habitat is present at the southeast and southwest extents of the Site. Willow (*Salix caprea*) carr is present at the southwest extent of the Site adjacent to a pond, this habitat also supports colonising species such as bramble

and Buddleja (*Buddleja davidii*), a non native invasive weed species.

A small area of bramble scrub is present at the southeast extent of the Site. This habitat also supports some colonising silver birch and goat willow, but is heavily dominated by bramble.

The willow carr scrub at the Site is not considered to be ecologically important due to its rapid colonisation time and limited botanical diversity, as well as the presence of Buddleja which is likely to become rapidly invasive if not appropriately managed.

## **Tree lines and Native wet woodland**

In the wider context there are two lines of Leyland cypress *Cupressus leylandii*, which are of no benefit to the ancient woodland context. In addition, there is an area of alder woodland adjacent to these plantations which is of considerable wildlife value.

## 3.2.2 Protected and Notable Species on Site

### **Bats:**

There are 18 species of bat found in the UK, 17 of which are known to breed in the UK. All are small, nocturnal, flying, insectivorous mammals that are under considerable conservation threat and many having undergone severe population declines over the last century. Some species, such as pipistrelle bats (*Pipistrellus* sp) still remain relatively common and widespread in the UK, while others, such as greater horseshoe bats (*Rhinolophus ferrumequinum*), have an extremely restricted distribution. All species of bats and their roosting sites are afforded full protection under both UK and European legislation and are designated as 'European protected species'.

### ***Bat Assessment of On-Site Trees***

All trees on site are either young or early mature and have not formed suitable features for bat roosts to develop. All on site trees are categorized as negligible in respect of bat roost potential.

### **Foraging and commuting**

The Site supports suitable foraging and commuting habitat for bats via the woodland at and immediately adjacent to the Site.

The Proposed Development has the potential to increase light spill on to commuting and foraging habitat, which may result in an adverse effect to bat species utilising the adjacent woodland. The potential level of importance of this effect is dependent both on the level of light spill (light spill on to suitable habitat should be no more than 1lux) as well as its duration and the level of use of those areas by foraging and commuting bats.

It is recommended, as an avoidance measure, that lighting impacts to the adjacent woodlands must be avoided to preclude a reduction in the suitability/use of these areas by foraging and commuting bats. Lighting at the Site must be designed in accordance with current guidance (ILP, 2018) and liaison between the ecologist and lighting engineer at an early stage to avoid potential impacts must be undertaken.



Further surveys/assessment for bats are required to inform an impact assessment should lighting impacts to the adjacent woodlands be unavoidable. Due to the small scale of the Site it is considered more appropriate in this instance to undertake static monitoring of bats utilising the woodlands with a static detector. Due to the woodland becoming dark rapidly after dusk, and observations of commuting bats being difficult due to the woodland backdrop, it is unlikely that activity surveys within the woodland by an ecologist would yield observations that could not be gleaned from the use of passive monitoring.

## **Badgers**

Badgers (*Meles meles*) are protected in England and Wales under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas. Badgers remain comparatively widespread and common throughout the UK.

The site represents suitable foraging habitat for badger, there are signs of badger on site including trackways and latrine sites, and within 30m of the site boundaries. There are no setts on site or within 30m. however. A range of precautionary measures are required in respect of construction works.

## **Other mammals**

The presence of other specially protected mammals, such as otter, pine martin, water shrew, dormouse or water vole, was assessed as extremely unlikely due to the lack of suitable habitat on the site for these species combined with their known species distributions. Although water vole are recorded within 1 km, the site itself is unsuitable and the nearby brook is heavily wooded on both sides and is considered unsuitable.

## Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions) to intentionally kill, injure or take any wild bird, or to damage, take or destroy the nest of any wild bird whilst that nest is being built or in use, or to take or destroy its eggs. Furthermore, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. In respect of these species, it is unlawful to intentionally or recklessly disturb such a bird whilst it is nest-building or is in, on or near a nest containing eggs or young; or to disturb their dependent young. Following recent revisions, fifty-nine species are listed on the UKBAP.

A number of significant species of birds are recorded within 1km of the site. The following species were recorded on-site during the visit:

<b>Bird Species:</b>	<b>Latin name:</b>
Blackbird	<i>Turdus merula</i>
Woodcock (adjacent to site)	<i>Scolopax rusticola</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>
Carrion crow	<i>Corvus corone</i>
Moorhen	<i>Gallinula chloropus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Great tit	<i>Parus major</i>

The birds listed above were actually recorded on the site itself, except where noted. The trees and scrub embankment could also provide suitable for nesting habitat for a number of other common bird species. Therefore these features should be protected and enhanced where possible. It is recommended that any site clearance involving woody vegetation is undertaken outside of the bird breeding season (mid March to mid August). If site clearance is undertaken during these months, a suitably qualified and experienced ecologist should be employed to ascertain the presence of any breeding birds within the site.

## Great Crested Newt

The Great Crested Newt (*Triturus cristatus*) is one of the two rarest amphibian species in Britain. It is primarily a

terrestrial animal, spending much of its life on land, but returning to the water to breed. Great Crested Newts will often return to breed in the same waterbody where they were spawned. In addition, they are highly opportunistic and will also colonise suitable new waterbodies rapidly. Great Crested Newt is a 'European protected species' afforded full protection under both UK and European legislation. This protection extends to the habitats which support it. The habitats within 500m of a breeding pond are generally considered to be protected by the legislation. The great crested newt is a priority species and subject to its own Biodiversity Action Plan.

There are no ponds on the site, the one adjacent has large numbers of fish present and waterfowl (ducks and Canada geese), making it of low suitability, the terrestrial habitat is of moderate suitability for Great Crested Newt. There are no records of Great Crested Newt within 1km from the site. The presence of Great Crested Newts is considered unlikely, therefore no further surveys are recommended, however, it is recommended that all site works are carried out with a series of precautions designed to reduce harm to amphibians. These are described fully in section 4.3b Precautionary Measures During Development.

## **Reptiles**

There are four widespread species of British reptile comprising grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These animals are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected.

The terrestrial habitat is of moderate suitability for reptiles and there are no records of reptiles within 1 km of the site. The presence of reptiles is assessed as unlikely, and the level of risk does not justify further survey in respect of these species. Therefore, no further surveys are recommended, instead a precautionary approach should be adopted and reptiles, particularly slow worm, should be assumed to be present on site and the works are carried out using a series of precautions designed to avoid harm to this species. These are described fully in section 4.3b Precautionary Measures During Development.

## 4.0 Discussion: policy context

**It is important that this proposed development should demonstrate no net loss of biodiversity from the site.** This is a duty placed on Local Authorities in the Natural Environment and Rural Communities Act 2006, Section 40. There are requirements noted for this under The National Planning Policy Framework (2019) which refers to compensation/ mitigation. It is confirmed that the enhancement, mitigation and compensation within this section will comply with all the relevant UK and EU legislation relating to protection and enhancement of ecology.

National Planning Policy Framework section 170 states that planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressure.

Section 174 of the NPPF states that in order to protect biodiversity, plans should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Section 175 of the NPPF states:

*“if significant harm to biodiversity 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”.*

*“Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.”*

**Core Policy 13 of the Lichfield District Council Local Plan Strategy 2008 – 2029 (Lichfield District Council, 2015) has also been reviewed and an excerpt is provided below:**

## Core Policy 13: Our Natural Resources

The District Council will seek to deliver an enhanced relationship between the countryside and settlements by creating linkages and corridors that provide for the integration of people, fauna and flora in both rural and urban locations, especially where there are opportunities to reduce health inequalities. The role of the Green Belt will be important in meeting these needs/enhancing this relationship.

Biodiversity will be made more accessible to all by creating new and managing existing rural and urban spaces to promote well being where there will be no adverse impacts upon nature conservation.

The District Council will support the safeguarding of our ecological networks, including the restoration and creation of new habitats, veteran trees, tree and woodland planting and local nature reserves including through the opportunities provided within the Cannock Chase Area of Outstanding Natural Beauty, the National Forest, the Forest of Mercia, the Central Rivers Initiative, the River Tame Management Strategy, the project associated with the restoration of the Lichfield Canal and the nationally important lowland heathland linking the Cannock Chase SAC and Sutton Park.

All designated sites and non-designated priority habitats, together with historic landscapes and townscapes, will be protected from damage as a result of development or poor management, and enhanced where appropriate. Opportunities for the interpretation of natural resources will also be supported and encouraged.

The District Council will seek opportunities for the creation of habitats that allow for the mitigation of the effects of climate change on species, including the enhancement of opportunities for species to migrate. Where possible, links between habitats will be re-created and further habitat losses will be prevented in line with the Staffordshire Biodiversity Action Plan and National Forest Biodiversity Action Plan. The District Council will seek to deliver overall net gain for biodiversity within Lichfield District.

Natural resources, including our nationally important lowland heathland will be managed in a sustainable way to ensure protection and longevity. The District Council will seek to protect minerals resources by preventing sterilisation. The District Council will also contribute to the management and protection of Cannock Chase Special Area of Conservation and Cannock Chase Area of Outstanding Natural Beauty.

In circumstances where the effects upon biodiversity are not within a development site and there is potential to mitigate for the impacts arising from the development off-site, a financial contribution to deliver mitigation may be appropriate. This is particularly relevant to consideration of impacts upon the River Mease SAC and Cannock Chase SAC. An SPD on Biodiversity and Development will be prepared.

## 4.1 Ecological Constraints and Recommendations

The value of the majority of the site, in terms of ecological value to wildlife, is low to negligible, however the surrounding woodland, both the semi-natural Ancient woodland and the native wet alder woodland are of high value ecologically. The woodland is a habitat of UK importance and target habitat within the national and county wide UK Post-2010 Biodiversity Framework and designated as woodland on the UK's Priority Habitat Inventory

- Current use of the site, as a builders yard is not beneficial to the woodland context. The planted lines of Leyland cypress and the non-native buddleija scrub on site and surrounding it are both detrimental to the native woodland surrounds. Both of these should be removed and replanted with species appropriate to the existing woodland
- The Site is located immediately adjacent to ancient woodland, part of which has been significantly degraded over time by site activities such as material storage and traffic movements. The current plans show that the built structures extend slightly into the area designated as Semi-Natural Ancient woodland, these should be altered to exclude the footprint from this area.
- As much of the site falls into the buffer area around the ancient woodland, for the development of the area to be within policy context, the proposal should demonstrate substantial betterment of the area and its immediate woodland surrounds. This would be achieved through appropriate protection of the adjacent woodland, with measures identified in the pre-development tree report coupled with an Ecological Enhancement Strategy/Habitat Management Plan in addition to a Construction Environment Management plan, which will be required.
- The Local Planning Authority (LPA) may seek to achieve biodiversity net gain at the Site, and the relevant percentage of net gain, if sought by the LPA, should be determined through liaison with the LPA.

## 4.2 Additional Ecological Surveys Recommended

### Bat activity

Further surveys/assessment for bats are required to inform an impact assessment should lighting impacts to the adjacent woodlands be unavoidable. Due to the small scale of the Site it is considered more appropriate in this instance to undertake static monitoring of bats utilising the woodlands with a static detector. Due to the woodland becoming dark rapidly after dusk, and observations of commuting bats being difficult due to the woodland backdrop, it is unlikely that activity surveys within the woodland by an ecologist would yield observations that could not be gleaned from the use of passive monitoring.

### Badgers

Due to the badger activity on and around the site, a pre-check survey for badgers is recommended prior to commencement of any on site works.



## Ecological enhancement and CEMP

Additional Ecological Enhancement plans, with Construction Environmental management plans are recommended.

## Minimising Ecological Impact

**This section states how the negative impacts of development can be addressed:**

### *4.2a Protecting the Ecological Value of the Site.*

**The key measure is to protect the Semi-Natural Woodland and the native wet alder woodland buffering the site. Removal of the buddlejia scrub and Leyland cypress plantings will be beneficial in addition.**

### Within site measures

The woodland adjacent to the site is classified as W16 “Lowland oak-birch woodland with bilberry”, therefore it is recommended that in part, through the creation of woodland gardens, within the curtilage of the site area, a rich diversity of flowering native woodland plant species is restored to the site itself. Species recommended include native heathers, ferns, foxgloves, wood sage, bilberry, common cow-wheat and mosses. Additional small trees species, such as Holly, rowan and elder are appropriate as understory shrub species. Native bluebells, daffodils and other bulbs such as crocus and *Chionodoxa forbesii*, *Galanthus elwesii* (Greater Snowdrop), Cyclamen, Anemone, Narcissus and *Eranthis hyemalis* (Winter Aconites), will all provide colour and nectar for insects and naturalise well under a partial woodland canopy.

*Crocus tommasiannus* - flower February/March; recommended varieties: ‘Whitewell Purple’, ‘Ruby Giant’, ‘Barr’s Purple’; height 10cm (4”); naturalises well; good for early insects, Cyclamen coum - comes in shades of pink from pale pink to dark magenta; flowers December/April; height 10cm (4”); naturalises well forming a carpet of flowers, *Cyclamen hederifolium* - comes in white and shades of pink; flowers autumn to spring; height 10cm (4”); naturalises well forming a carpet, *Cyclamen purpurascens* - colours vary from pale to dark pink; flowers June/September; height 10cm (4”), *Eranthis hyemalis* (Winter Aconite) - small yellow flowers in late winter/early spring; when planting dry tubers don’t expect them all to survive, there is a better survival rate when planting growing plants ‘in the green’; height 10cm (4”); naturalise well once established, *Erythronium* (Dog’s Tooth Violet) - comes in yellow, pink or white; flowers March/April; height 12 – 30cm (5 – 12”); naturalises well, *Fritillaria meleagris alba* - white; flowers April/May; height 20cm (8”); naturalises well; provided they don’t dry out in summer.

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Any trees unavoidably lost to accommodate the development should be replaced with appropriate compensation planting at a minimum of 1:1 ratio, preferably 1:2 in anticipation of the high failure rate of young trees. Ensure landscape planting uses species which are beneficial to wildlife and appropriate for the native woodland context

The Proposed Development has the potential to increase light spill on to commuting and foraging habitat, which may result in an adverse effect to bat species utilising the adjacent woodland. The potential level of importance of this effect is dependent both on the level of light spill (light spill on to suitable habitat should be no more than 1lux) as well as its duration and the level of use of those areas by foraging and commuting bats.

It is recommended, as an avoidance measure, that lighting impacts to the adjacent woodlands must be avoided to preclude a reduction in the suitability/use of these areas by foraging and commuting bats. Lighting at the Site must be designed in accordance with current guidance (ILP, 2018) and liaison between the ecologist and lighting engineer at an early stage to avoid potential impacts must be undertaken.

The on-site lighting should be carefully chosen to ensure it is low lux, cowled (directed downwards to prevent light splay), and used on timers or motion sensors to minimize the impact on local bat populations, which may use the adjacent stream corridor for foraging. It is therefore important that this remains dark and lightspill from this development is prevented.

At least one nest box suitable for common species is recommended for each new building. Schwegler 1B nest boxes with 32mm entrance holes are recommended. These should be erected in accordance with the manufacturers recommendations. Generally, this will entail mounting the box between 3 – 4 m above the ground, with a north / northwest aspect. Care should be made to make the nest box inaccessible to predators, and generally, nest boxes should not be sited too close to each other.

It is also suggested that at least two bat boxes be attached to each new building. Details can be found in appendix 5.

## **Woodland adjacent to the site**

The trees on the boundaries should be protected and enhanced, they are suitable for breeding birds and potentially will have a number of nests during the breeding season. Additional planting of trees is recommended for this site and should be detailed in the ecological enhancement strategy/habitat management plan.

### **4.3 Precautionary Measures during Development**

#### **Birds**

Any trees and woody vegetation on site are suitable for breeding birds and potentially will have a number of nests during the breeding season. It is recommended that all clearance should take place outside of the bird breeding season. Bird breeding season is between mid March and mid July, although certain species can breed outside these months and if breeding birds are found then work should cease and the advice of an ecologist sought. If clearance is undertaken within the bird breeding season then all site features should preferably be checked immediately prior to clearance by a suitably qualified ecologist.

#### **Great Crested Newts and Reptiles**

The following precautions shall be employed in respect of great crested newts, other amphibians and reptiles:

1. If great crested newts are discovered at any time during processes involved with the development, work should cease immediately and the advice of a licensed ecologist sought.
2. All site staff involved with site clearance and construction works are to be made aware of the potential for encountering great crested newts through a tool kit talk and the appropriate measures to be taken if great crested newts are encountered.
3. Keep duration of groundworks as short as possible.
4. Undertake during the day works that might only affect newts above ground.
5. Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.
6. Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.

Including where possible:

7. Undertaking ground-works along field boundaries when reptiles are active (March to October).
8. Ensuring storage of piles of materials and excavated earth on the site should be kept to a minimum.

9. Storing piles of materials and excavated earth away from the field boundaries to deter reptiles from using them for temporary cover.

### **Badgers**

Any temporary exposed open pipe system should be capped to prevent badgers gaining access. In particular, open pipe work greater than 200mm outside diameter being blanked (capped) off at the end of each working day.

Any ground-works that are to be left open overnight will be provided with a means of escape should a badger enter or creation of sloping escape ramps for badgers (and other mammals potentially using the site), which may be achieved by edge profiling of trenches/ excavations or by using planks placed into them at the end of each working day. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water. The storage of topsoil or other 'soft' building materials on site will be given careful consideration. Badgers will readily adopt such mounds as setts; so as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections, with consideration given to temporarily fencing any such mounds to exclude badgers.

### **4.4 Opportunities for Biodiversity Gain**

Following the built development there will be opportunities for enhancement of the site's ecological value by on site landscaping measures designed to encourage wildlife into the site, including native planting, bird and bat boxes on built structures. Species should be selected, that are both native and wildlife friendly, focusing on measures to encourage birds and foraging bats, wherever possible. This will be specified in an ecological enhancement scheme.

The opportunities for enhancement lie in the following main areas:

1. Retention and enhancement of existing trees of high value. To include supplementary planting with native species, creation of new internal boundary hedge features.
2. Introduction of bat and bird friendly native planting schemes, hibernacula, and wildflower hedgerow edge mix seeding.
3. Bird and bat boxes incorporated within or on the new buildings or other built fabric, in particular should be included.

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4. Selection of wildlife-friendly shrub/planting species as part of the terrestrial landscaping scheme within the development. The specification should include elements of landscaping details selected from a palette of species beneficial to wildlife.
5. Planting of native deciduous specimen tree species.
6. Planting with native nectar rich and berry bearing tree, shrub and plant species.
7. Use of FSC certified timber within the development.
8. No use of any peat based products within the landscaping of the site.
9. Hedgehog gaps at ground level within fencing to allow for hedgehog movement in and out of the site and between new development plots.

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## 5.0 Conclusion

This Phase 1 Ecology Report confirms that the Construction Zone is of low to negligible ecological value' consisting primarily of a builders yard, though the immediate surrounding habitats are of high value (native deciduous and Ancient woodland). The features of highest ecological value within the development site are the trees. These should be protected in accordance the BS5837 Trees and Development guidance. A tree protection area and root protection zone should be established to avoid damage during the construction phase around all retained trees and hedges.

- There are no Statutory or Non-Statutory Designated Nature Conservation Sites within or adjacent to the site or that will be affected by the development
- The Biological Data Search no protected species were recorded within the site, with the exception of badgers, in which case no sett was found on site or within 30m of the site edges. A pre-commencement check and appropriate precautionary measures are recommended.
- The on-site lighting should be carefully chosen to ensure it is low lux, cowled (directed downwards to prevent light splay), and used on timers or motion sensors to minimize the impact on local bat populations, which are likely to forage on the site itself and the adjacent woodland. Additional bat surveys are recommended
- There are no trees on-site with bat roost potential.
- The site has low suitability for protected species such as reptiles or Great Crested Newts, though reasonable avoidance measures are recommended for these groups
- **The site development needs to demonstrate net gain by ecological enhancement measures both within site and in the immediate woodland surrounds. Net biodiversity gain as per NPPF (2019) should be demonstrated. Providing these measures are followed, the development provides for an opportunity to improve the ecological condition of the site and the surrounding woodland.**
- The trees and scrub within the survey site are suitable for bird nesting. Site clearance should be undertaken outside of the bird breeding season (mid March to mid August) or undertaken under ecological supervision.

Date	Prepared by	Checked and Verified by
4 <sup>th</sup> February 2021	Dr Louise Sutherland MIALE Ecologist	Dr Stefan Bodnar MCIEEM Principal Ecologist



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## Appendix 1a Satellite Images



Map data 2021 © Google.

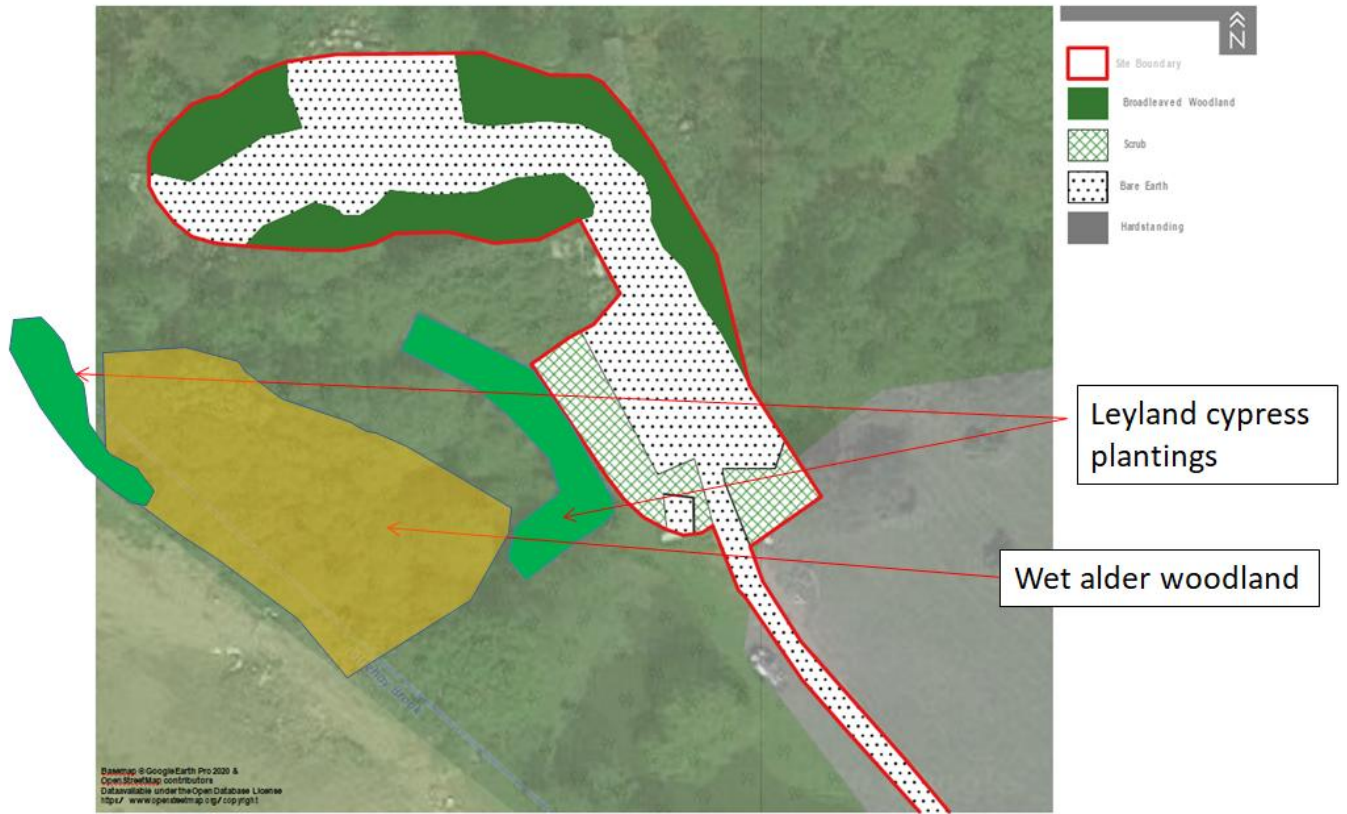


Map data 2021 © Google.



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## Appendix 1d Phase 1 Habitat Map (base from Wharton report and amended)



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## Appendix 2 Photographs





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Adjacent wet woodland with non-native plantings





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Adjacent pond





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Adjacent woodland with badger tracks and latrine





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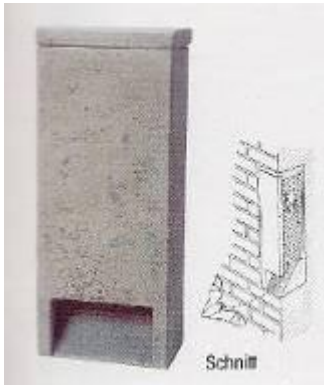






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## Appendix 3: Bat Boxes and Bat Brick Specifications to Provide Bat Habitat on Buildings



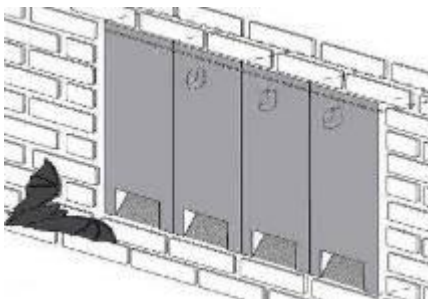
Schwegler 1FR can be installed within brick masonry just leaving the entrance and can be rendered over.



Ibstock Enclosed Bat Box B is designed specifically for the pipistrelle bat.



Schwegler WI integral Summer & Winter Bat Box.



Schwegler 2FR Bat Tube is the same design as the 1FR but with holes in the sides. Multiple tubes to be placed next to each other to form a much larger roost.



Schwegler 27 wall can be installed within brick masonry. It can be rendered over.



Schwegler 1FQ wall-mounted bat box.



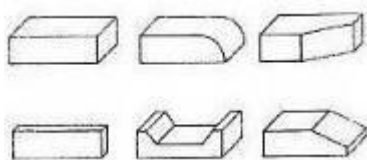
Schwegler 1FE Bat Access Panel can be surface-mounted or integrated. The open back enables bats access through exterior walls.



Ibstock Bat Box with Engraved Motif C is designed specifically for the pipistrelle bat and is available in all brick colours.



Ibstock Free Access Bat Box allows bats to access the cavity wall of the building.



Modified bricks for creating bat access points. A standard brick is shown top left. Purpose made bat bricks can also be used.



Norfolk Bat Brick allows bats to access the cavity wall of the building. The slits are the perfect size for Natterer's bat, Daubenton's bat, Brandt's bat and Brown long-eared.



Marshall's Bat Access Brick (Also available in stone) allows bats access into the cavity wall of the building.



## APPENDIX 4: Insect Box Specifications

A variety of insect boxes is recommended to encourage a diversity of insect species and encourage bats.

### Wooden Insect House

A general insect habitat for beneficial insects in summer and, later in the year, overwintering ladybirds and lacewings. Locate in a sheltered place near nectar or pollen plants or by a pond. Durable and strong construction in acacia, oak or larch with no maintenance necessary.

Dimensions: 22 × 13.5 × 13.5cm.



### Woodcrete Insect House

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps.

Dimensions: 14 × 8 × 26cm; Weight: 3.65kg



### Insect House with Inspection Tubes

This nesting and hibernation box for insects has a woodcrete exterior with a wooden front panel which can be removed for observation. Through the transparent tubes you can see the usually hidden lifecycle of many solitary types of bees and hymenoptera including egg-laying, development of larvae and sealing of brood chambers. Typical inhabitants are wild bees and thread-waisted wasps. All the species attracted to this box are harmless non-aggressive pollinating insects.

Dimensions: 33 × 21 × 51 cm; Weight: 7.1kg.



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## Appendix 5. Bird Box Specifications

Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.

### *Schwegler No 11 House Martin Nest (Code: 002097D)*



It is increasingly difficult for swallows and house martins to find suitable nest-building material. The mud they do find, if any, is often poor quality. In addition, the walls of buildings are nowadays often very smooth. As a result, nests tend to fall down, sometimes with the nestlings inside. In many places, the vibration caused by heavy vehicles shakes the nests loose. This nest has been developed to enable House Martins to breed successfully on external facades without overhanging eaves and has proved highly successful.

### *Schwegler No 16 Swift Box (Code: 002087D)*

The design of this box mimics bell tower louvres. It has a removable panel for easy inspection of the nest chamber.

panel



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## *2H Robin Box (Code: 002015D)*



This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts. Best sited on the walls of buildings with the entrance on one side.

## *Sparrow Terrace*



House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof. Made from long-lasting, breathable woodcrete. No maintenance required. Designed for fixing to walls (not suitable for fences or sheds due to the weight of the box). Available in choice of stone colour (pictured) or brown.

## *Schwegler 1B Bird Box*

The most popular box for garden birds, the 1B appeals to a wide range species, and is the official nest box of National Nest Box Week. The can be nailed to the trunk of a tree, or hung from a branch. Woodcrete, high x 16cm diameter. Available in choice of four colours - brown, red or white. Available with 32mm entrance hole (standard) or with hole



of  
box  
23cm  
green,  
26mm



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### *Schwegler Built-in Multi-System Main Cavity Bird Box (Code: 002101D)*



The multi-system has exchangeable front panels for kestrels, jackdaws or swifts. The system can be installed in all types of buildings, whether constructed of concrete, brick or timber. To meet the needs of various species of bird, different types of front panel are available for use with the main cavity. The main cavity is supplied without a front panel which should be ordered separately. **Positioning:** At heights of 5m or more on a sheltered external wall. **Suitable for:** Dependant on the type of front panel chosen. **Material:** Woodcrete **Height:**415mm **Width:** 445mm **Depth:**415mm **Weight:**2.8Kg