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Preliminary Ecological Appraisal

September 2023

26a Wilbraham Road

Fallowfield

Manchester

M14 6JU

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This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development.

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Executive Summary

As part of a proposed planning application concerning a development at 26a Wilbraham Road in Fallowfield, Manchester, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in September 2023.

The PEA was commissioned by Tang & Associates Ltd; proposals include the demolition of the existing building onsite followed by the erection of a block of 30 apartments with associated landscaping.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following key recommendations.

Vegetation:

A large number of mature tree specimens are present within the tree line along the south of the site.

It is acknowledged that the vast majority of the trees are to be retained, notably including the large, mature horse-chestnuts and sycamores; however, if this stance changes in the future then it is considered that replanting should occur at a 2:1 ratio for trees lost, with native species prioritised over ornamental introduced species.

Two invasive non-native species (INNS) listed under Schedule 9 (WCA) were recorded within the site in the form of Himalayan cotoneaster and rhododendron.

Whilst it is not illegal to host any species designated as such within a site, it is an offence, under current legislature, to knowingly permit the spread of INNS beyond the confines of your site, either via allowing it to grow unchecked or through the irresponsible removal and dumping of waste.

Breeding birds:

In relation to more common birds, the range of vegetation types across the site offers a variety of bird species a plethora of potential nesting sites, particularly within the tree lines, hedgerows and scattered trees during the breeding bird season of March – August.

Given that all birds are protected when at the nest, it is recommended that any vegetation clearance works on site are carried out outside of the breeding bird season (March – August inclusive). For works undertaken within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. See Section 8.0 for further information.

Other terrestrial mammals:

Hedgehog could potentially be impacted by the proposed development. Therefore, a programme of Reasonable Avoidance Measures (RAMs) should be undertaken and carried out at the site during development, particularly where excavations / trenches will be made.

See Section 8.0 for details on the RAMs required.

Biodiversity enhancement:

As a means of improving biodiversity value / enhancing the site any new landscaping should aim to incorporate majority use of native species as opposed to non-native exotic species which offer significantly fewer benefits to our native fauna. Suitable species for native landscaping have been provided in **Appendix III**.

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1.0 Introduction & Scope

- 1.1 As part of a proposed planning application concerning a development at 26a Wilbraham Road in Fallowfield, Manchester, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in September 2023.
- 1.2 The PEA was commissioned by Tang & Associates Ltd; proposals include the demolition of the existing building onsite followed by the erection of a block of 30 apartments with associated landscaping. See **Figure 1.1** for a proposed site plan.

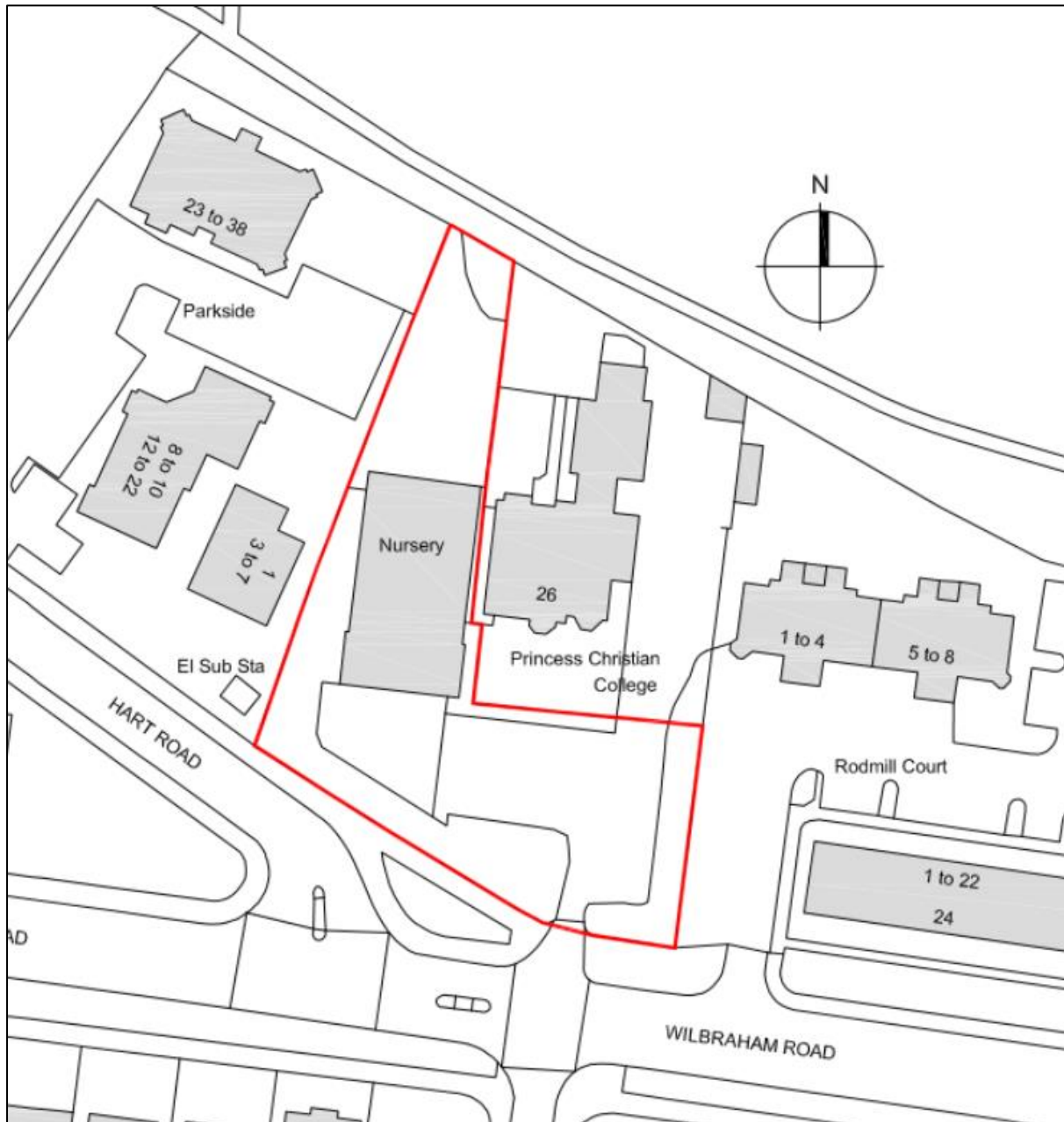


Figure 1.1 – Existing site location plan with red line boundary (©Tang & Associates Ltd)

- 1.3 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected / priority habitats or species are, or may be, present, and where these species have the potential to be impacted by the proposals for which the applicant seeks consent.

- 1.4 The PEA was carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal, 2nd Edition' (CIEEM, 2017) and all associated 'CIEEM Competencies for Species Survey (CSS)', whilst this report has been presented in accordance with the British Standard 42020:2013 Biodiversity – Code of Practice for Planning and Development.

Aims & Objectives

- 1.5 The appraisal aims to ascertain the baseline nature of the site and, where possible, obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals. The survey, therefore, includes the following objectives:
- Gather and present baseline ecological information on site/off site (as necessary) within a suitable report,
 - Identify, measure and map habitats using UK Habitat Classification – Habitat Definitions Version 1.1 (2020) habitats,
 - Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected / priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),
 - Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
 - Identify additional survey requirements,
 - Aim to achieve no 'net loss' of habitat biodiversity units,
 - Identify enhancement opportunities for biodiversity in line with national and local planning policy following 'Biodiversity Net Gain: Good practice principles for development' (CIEEM et al., 2019),
 - Set out any requirements for post-development monitoring, management, or other commitments, and how they can be secured, where required.
- 1.6 As a functioning component of this specific ecological appraisal:
- Habitats on site were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 1.1 (2020),
 - Buildings and trees, where present, were subject to preliminary roost assessment (PRA) for Bats and scored against the bat roost suitability parameters defined in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016).
- 1.7 This report therefore provides important baseline information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.
- 1.8 The Applicant should be aware then that if during the appraisal:
- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats / communities / species, or,
 - Signs of use by particular protected species were found, or suspected, or,
 - Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on which the planning application can proceed;

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

- 1.9 If protected species were subsequently found either during appraisal or during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species Mitigation Licence (EPSML) may be required to proceed with the development.
- 1.10 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then Local Planning Authorities (LPA's), on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.
- 1.11 Protected / priority species omitted from this report have been discounted due to negating factors including obvious absence / isolation of suitable habitats, and / or distributional aspects negating the necessity to survey for them, and/or the proposed works were not considered to impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature considered for the purposes of this report includes the following:

- Biodiversity Net Gain: Good practice principles for development (2019),
- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development (2013),
- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Protection of Badgers Act (1992),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- UK Habitat Classification – Habitat Definitions Version 1.1 (2020),
- Wild Mammals Protection Act (1996),
- Wildlife and Countryside Act (1981) (as amended).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species / group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting / with eggs / young); some species may receive full protection within the EU, whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 **Table 2.1** contains appropriate legislature to each species / group specifically respective to the site and provides the relevance of said legislation.

Table 2.1 – Relevant legislation

Species Group/Species	Relevant Legislation	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	<u>Illegal to:</u> Wilfully kill, injure or take a badger (or attempt to do so), cruelly ill-eradicate a badger, dig for a badger, Intentionally or recklessly damage or destroy a badger sett or obstruct access to it, cause a dog to enter a badger sett, disturb a badger when it is occupying a sett.
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.

Birds (Breeding)	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.
Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended) The Invasive Alien Species (Enforcement and Permitting) Order 2019	Species listed within Schedule 9/Schedule 2 as invasive, including Japanese knotweed (<i>Reynoutria japonica</i>) and Himalayan balsam (<i>Impatiens glandulifera</i>), for example, carry notoriety regarding development. The Acts make it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2019) (EU Exit) - SL/SS Wildlife and Countryside Act (1981) (as amended) - SL/SS CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).

Relevant Policy

- 2.4 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister – Circular 06/2005:

“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 planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision”.

- 2.5 Paragraph 180 of the National Policy Planning Framework (as revised in September 2023) states:

When determining planning applications, local planning authorities should apply the following principles:

a) 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;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact 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;

c) 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; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

- 2.6 Policy EN15 of the Manchester Core Strategy 2012 to 2027, titled Biodiversity & Geological Conservation, echoes this national focus on ecological conservation, and states:

“Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate...”

and:

“Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation”, “It is important to recognise that brownfield sites often contain diverse and valuable biodiversity.”

3.0 Priority Habitats & Species

National Context

- 3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected, due to factors such as their ecological functionality, connectivity, rarity, their vulnerability, environmental importance, or declining population / status. They are referred to as priority habitats and priority species.
- 3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance – now transposed under Section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).
- 3.3 The following Section 41: Habitats of Principal Importance in England and Section 41: Species of Principal Importance in England are considered potentially relevant to the appraisal though the list is not extensive (see **Table 3.1**):

Table 3.1 – Potentially relevant Section 41: Habitats and Species of Principal Importance

Habitats:		
Broad Habitat		Specific Habitat
Boundary and Linear Features		Hedgerows
Broadleaved, Mixed and Yew Woodland		Lowland Mixed Deciduous Woodland
Species:		
Taxon Group	Scientific Name	Common Name
Birds	<i>Acanthus cabaret</i>	Lesser redpoll
	<i>Passer domesticus</i>	House sparrow
	<i>Passer montanus</i>	Tree sparrow
	<i>Prunella modularis</i>	Dunnock
	<i>Pyrrhula pyrrhula</i>	Bullfinch
	<i>Sturnus vulgaris</i>	Starling
	<i>Turdus philomelos</i>	Song thrush
Botanical species	<i>Centaurea cyanus</i>	Cornflower
	<i>Hyacinthoides non-scripta</i>	Native bluebell
Herpetofauna	<i>Bufo bufo</i>	Common toad
	<i>Zootoca vivipara</i>	Common lizard
Mammals (Bats)	<i>Nyctalus noctula</i>	Noctule
	<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle
	<i>Plecotus auritus</i>	Brown long-eared
Mammals (Other)	<i>Erinaceus europaeus</i>	Hedgehog

Regional Context

- 3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together to deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.
- 3.5 LBAP's set out practical steps that aim to help protect, enhance and improve biodiversity where possible, as well as promote biodiversity at a local level.
- 3.6 The Greater Manchester Biodiversity Action Plan (GMBAP), lists key local species and habitats considered to be rare or declining in the area; some may be of national concern (and as such have been mentioned in **Table 3.1** above) while others are significant at local level. In addition to the Section 41: Habitats & Species of Principal Importance listed above, the following locally significant habitats and species plans are considered of potential relevance to the survey (see **Table 3.2**):

Table 3.2 – Potentially relevant GMBAP Habitats and Species

Habitats:		
Broad Habitat		Specific Habitat
Grasslands		Species rich (unimproved) neutral grassland
Species:		
Taxon Group	Scientific Name	Common Name
Birds	<i>Phoenicurus ochruros</i>	Black redstart
Botanical species	<i>Populus nigra subsp. betulifolia</i>	Native black poplar
Bats	<i>Pipistrellus pipistrellus</i>	Common pipistrelle

4.0 Methodology

- 4.1 As part of the ecological appraisal report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

- 4.2 Prior to a site visit, a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations for nature conservation within 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) and species records to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2022/23) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.
- 4.4 In addition, the Manchester City Council ‘Search Planning Applications’ online function was utilised to help inform the desktop study by analysis of existing publicly accessible ecological survey results that have been carried out locally within the previous five years.
- 4.5 A commercial data request to the Local Environment Records Centre serving the area, in this case Greater Manchester Local Record Centre (GMLRC), has not been sourced at this time, with the combination of online EPSML data, extensive company records and the daytime survey data available to the ecologist considered to contain enough information in relation to the protected species likely to be present on site. **If, however, a data search is considered to be necessary by the Local Authority or advisory body to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued / updated report.**

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

“It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

- ii) Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.*
- iii) In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never*

required for such scenarios and this must be judged on a case by case basis and justified accordingly.

2) The Guidelines for Preliminary Ecological Appraisal, 2nd Edition (CIEEM, 2017) also states:

“Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to low impact or small-scale projects (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis.”

Field Survey

- 4.6 A daytime preliminary ecological appraisal was conducted on the 5th September 2023 in dry, sunny conditions (25°C), average wind 1/12 (Beaufort scale), average 20% cloud cover, by the following surveyor (see **Table 4.1**).

Table 4.1 – Site Surveyor credentials

Name	Description of most relevant credentials
Mr. H. Mulligan Qualifying CIEEM	• Junior Ecologist with 1 year training and experience, • MBiolSci in Biological Sciences (Zoology), • Accredited agent on the Natural England Great Crested Newt: CL08 Class 1 licence (2018-34062-CLS-CLS) of Mr. M. Pritchard, • Accredited agent on the Natural England Class 2 bat license of Mrs K Wilding (CLS-14227), • Holder of a FISC Level 3 (2023).

Floristic assessment

- 4.7 The survey followed the UK Habitat Classification Version 1.1 (Butcher, et.al., 2020) methodology, introduced as the successor to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) in conjunction with the nationwide roll out of Biodiversity Net-gain. Survey techniques were also carried out with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “Guidelines for Preliminary Ecological Appraisal, 2nd Edition” (CIEEM, 2017).
- 4.8 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh et al, 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species (amendment) (EU exit) Regulations (2019). Species nomenclature follows Stace, C. (2019) – definitive English names.
- 4.9 In addition to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological value on a geographical scale which is adopted on a site-to-site basis (*International – National – Regional – County/Vice-County – Local*). For botanical species list compiled in full, see **Appendix II**.
- 4.10 In combination with assessing the area in relation to flora and habitats of conservation importance, the land was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981)

(as amended) and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO).

Faunal assessment

- 4.11 During site walkover, the identification and / or evidence of priority fauna encountered was documented, whilst in tandem the area was assessed for the potential to support the priority species discussed in **Section 3.0**. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

- 4.12 The site was assessed for bats; buildings, where present, would be inspected for potential places that may be of value to bats and to determine evidence of use. This typically involves a search for potential roost features (PRFs) externally, comprising an investigation of features (roof material, building components) using a high-powered torch. An internal assessment of the buildings took place with the aid of a high-powered torch for evidence of bat use. Field signs of bats typically comprise bat droppings, incidental animal presence, dead specimens and / or the presence of prey items. The surrounding habitat was also considered in terms of general suitability.
- 4.13 Trees (where present) would be inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a search for potential roost features along with an investigation of those features using a high-powered torch or close focus binoculars. Potential roost features can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy with stem diameters in excess of 50mm or bat / bird boxes.
- 4.14 Criteria for preliminary bat roost assessment are based upon the determinants given in the Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) (see **Figure 4.1-4.2** overleaf).
- 4.15 Factors considered during the preliminary roost assessment include:
- Practical experience of the surveyor,
 - Knowledge of bat species relevant to the site location and geographical range,
 - Nature of the immediate / surrounding habitat in relation to foraging opportunities,
 - Presence / absence of roost potential,
 - Value and types of roost potential, if present (i.e. – maternity, hibernation, transition).

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible*	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure 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 ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Figure 4.1 –BCT guidelines extract in relation to bat roost potential in structures

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Figure 4.2 –BCT guidelines extract in relation to bat roost potential in trees

Breeding birds

- 4.16 The site was inspected for evidence of nesting and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas

suitable for nesting – this can take the form of searching structures, woody vegetation, semi-aquatic vegetation such as reeds and / or the ground. Elevations of any buildings or structures on site were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example:

- **House martin** (*Delichon urbica*): Birds of Conservation Concern (BoCC) red status,
- **House sparrow** (*Passer domesticus*): BoCC red status,
- **Starling** (*Sturnus vulgaris*): BoCC red status,
- **Swift** (*Apus apus*): BoCC red status.

- 4.17 Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended) and other priority species.

Other terrestrial mammals

- 4.18 The walkover included an assessment for the presence / suitability of badger (*Meles meles*), which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground.
- 4.19 The site was also assessed for the presence / suitability of European hedgehog (*Erinaceus europaeus*) and other priority mammals.

Great crested newt (GCN)

- 4.20 During desktop assessment a 250 metres radial search was undertaken from a site central grid reference in relation to the presence of ponds, ditches or other water bodies that may support GCN (*Triturus cristatus*). The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

- 4.21 Following current best practice considering the national roll out of District Level Licencing (DLL) across England and based on likely effects, a proportionate assessment of the water bodies range within 250m from site has been applied. Where a development is anticipated to affect GCN the search can be extended up to 500m or more.
- 4.22 Based on the desk study, using Google Earth Pro 2022/23, MAGiC Maps 2022/23 as well as Ordnance Survey (OS) map data, no ponds were identified within the red line boundary, with a single body located within a 250m radial buffer of the site: a large man-made lake approximately 100 metres to the north within an urban park.

Wider amphibians

- 4.23 The site and surrounding habitats were assessed relative to their potential to offer suitability for wider, generalist amphibians, in addition to GCN, for example common toad (*Bufo bufo*) and common frog (*Rana temporaria*).

Reptiles

- 4.24 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (e.g. rough grassland and scrub). Beebee & Griffiths (2000) state specific habitat preferences of common UK reptiles:
- **Common lizard** (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites.
- 4.25 In assessment of a site for reptiles several important habitat characteristics are considered, outlined in **Table 4.2** below, as derived from the Reptile Habitat Management Handbook (Edgar, 2010).

Table 4.2 – Important habitat characteristics for reptiles

1. Location (in respect of species range)	7. Connectivity to good quality habitat
2. Vegetation structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Invertebrates

- 4.26 The application site was assessed for the presence of features that should be considered of high value to invertebrates. Several important features were considered, based on the assemblage descriptions provided within the Research Report “Surveying terrestrial and freshwater invertebrates for conservation evaluation” (NERR005, 2007), including but not limited to:
- Wood decay,
 - Early successional mosaic habitat,
 - Shaded ground layer,
 - Still and flowing water.
- 4.27 The results, conclusions and recommendations of this report are based on a number of factors i.e.
- Skills and experience of the surveyor,
 - Knowledge of flora and fauna relevant to the site location and geographical range,
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.
- 4.28 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor Mr. H. Mulligan.

5.0 Limitations

- 5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within **Appendix II** are recorded from a combination of the seasonal timing that the survey took place and botanical identification skills of the surveyor. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.
- 5.2 The optimal time of the year to carry out a preliminary ecological appraisal / UK Habitats survey is April to October; therefore, the survey was undertaken within the optimal period for habitat identification, with timing therefore not considered a constraint.
- 5.3 The survey took place towards the end of both the active bat season and the breeding bird period; whilst sub-optimal, survey timing is not considered a constraint in this instance as evidence of both of these species is still often apparent at this time. Nonetheless, assessment of suitability for both species groups can be undertaken at any time of year.
- 5.4 No internal access into the nurse building was possible during the survey; despite this the surveyor is confident that sufficient information was gathered during the external assessment with which to definitively categorise the buildings potential in relation to roosting bats.
- 5.5 No other access limitations were experienced during the survey. In considering possible survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

6.0 Desk Study Results

- 6.1 26a Wilbraham Road (referred to in-part as “the site”) is located to the north of the A6010 Wilbraham Road in Fallowfield, Manchester, and broadly comprises a large building in use as a nursery, with associated playground areas, access and carparking, and small vegetated areas. The site has an estimated total area of 0.25 hectares and is set approximately 4.0 kilometres south of Manchester city centre (see **Figure 6.1** below for location of the site within the surrounding landscape).

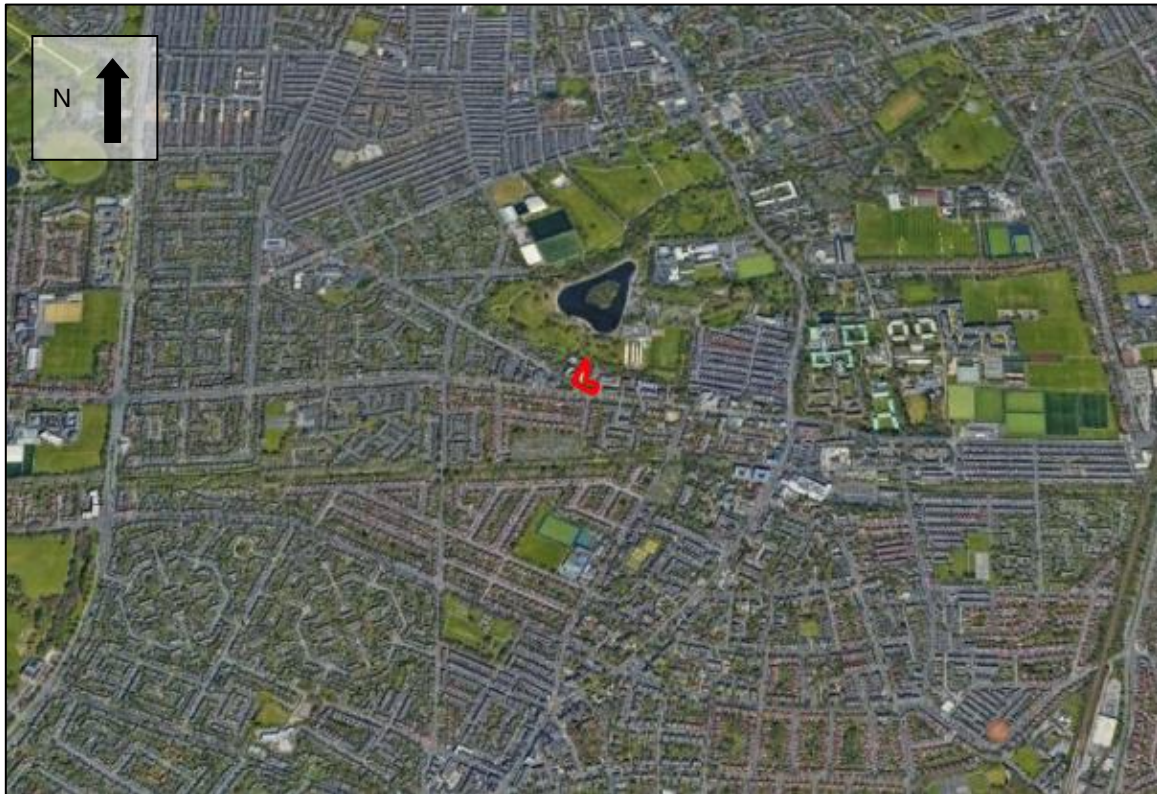


Figure 6.1 – Location of the site (red boundary) within the surrounding landscape (© Google Earth Pro 2022/23)

- 6.2 The immediate environment is primarily suburbanised, with rows of semi-detached and terraced housing and commercial properties located to the south, east and west along Wilbraham Road and the adjacent Hart Road, Rodmill Court and Carrington Road. Directly to the north-east is a large international school, which shares access and parking with the application site. In contrast to this, directly to the north is Platt Fields, a large urban park comprised of expansive semi-natural, albeit heavily managed, grassland and woodland habitats, alongside a sizeable lake.
- 6.3 The extending landscape continues in similarity to the above, with infrastructure typical of a suburbanised environment found to all compass directions, dominated by abundant residential and commercial infrastructure; semi-natural habitats are entirely limited to the occasional urban green spaces which divide the developed regions, with priority habitats limited to deciduous woodland and traditional orchards located within these parks.
- 6.4 Whilst the site is primarily suburbanised, with poor connectivity in most directions to natural habitats, there is no barrier to dispersal to the large expanse of open grassland and woodland to the north, which is likely to support a variety of wildlife. The presence of tree lines along the bordering roads may also provide airborne species the chance to commute onto the site from the south. The protected species group most typically associated with the habitat types described are bats, namely the common pipistrelle (*Pipistrellus pipistrellus*) bat, which are

typically associated with roosting in buildings set in sub-urban environments, alongside several bird species known to be present in the wider landscape, while the presence of suburbanised terrestrial species such as hedgehog could also be feasible.

Designated sites

- 6.5 There are no statutory designated sites for nature conservation within 2.0 kilometres of the site (see **Figure 6.2** overleaf for a visual aid).
- 6.6 The site does, however, lie within the impact risk zone (IRZ) for several designated sites in the wider landscape, with the nearest being the Rochdale Canal Site of Special Scientific Interest (SSSI) at a distance of 7.8km. The proposals do not fall under any of the direct impact categories which would trigger the requirement for a Habitat Regulations Assessment (HRA), and the scheme is unlikely to cause any recreational disturbance impacts on the designated sites given the scale of the proposals and distance from the sites.

Notable habitat and species records

- 6.7 An online search of MAGiC maps revealed that three European Protected Species Mitigation Licences (EPSMLs) have been granted within a 2.0 kilometre radius of the application (see **Table 6.1** below for further information).

Table 6.1 – EPSML data records from MAGiC Maps

Licence Number	Distance from Site	Context (where relevant)
2016-21779-EPS-MIT	1.5 kilometres north	Non-breeding common pipistrelle roost
2018-35287-EPS-MIT	1.8 kilometres north-west	Non-breeding common pipistrelle and soprano pipistrelle roosts
2018-38076-EPS-MIT	1.6 kilometres south-west	Non-breeding common pipistrelle roost

- 6.8 A search of biological records submitted to the local record centre serving the area (in this case GMLRC) held by Tyrer Ecological Consultants Ltd revealed an absence of records pertaining to bats within the 2.0km buffer.

26a Wilbraham Road, Fallowfield, Manchester, M14 6JU
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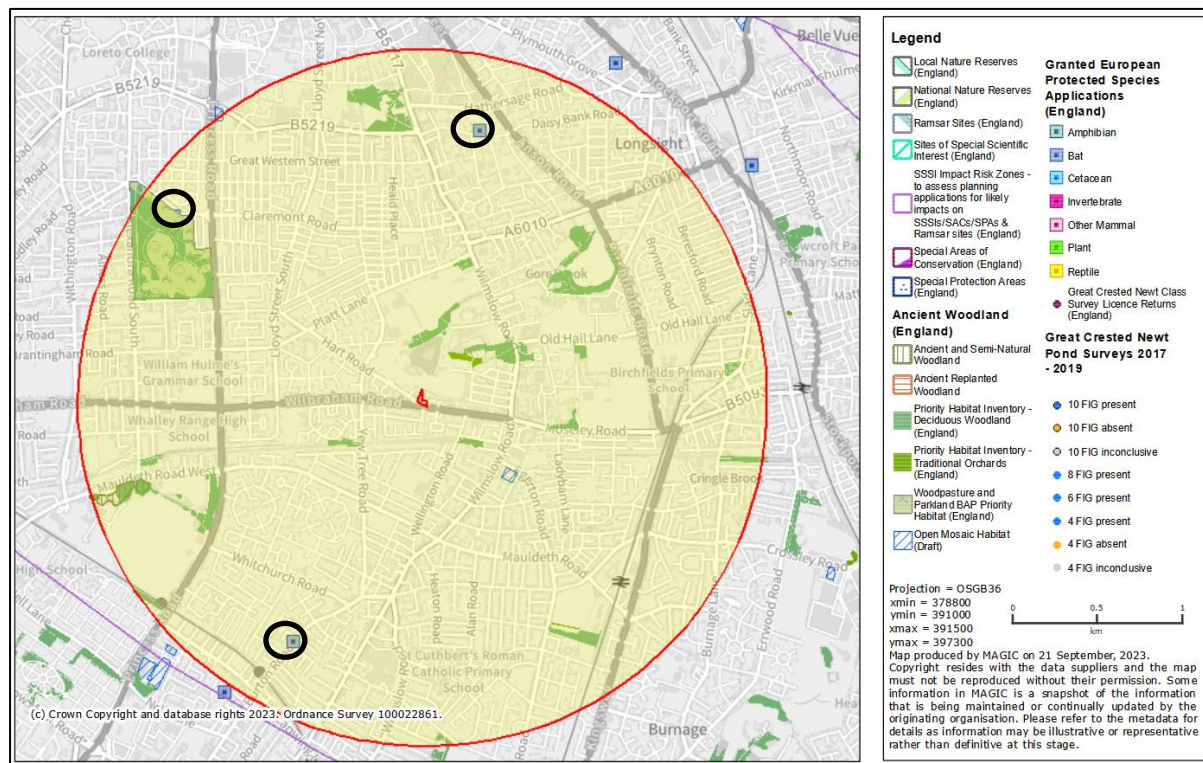


Figure 6.2 – Protected species and designated site data for the area within 2.0 kilometres of the application site, with granted EPSMLs circled in black (© MAGiC Maps 2022/23)

7.0 Field Survey Results

7.1 Habitat survey

- 7.1.1 See **Table 7.1.1** (below) for baseline information and habitat descriptions; refer to **Appendix I** for any supporting imagery; scientific names are given in **Appendix II**. Refer to **Appendix IV** – UK Habitats Map for the location of described habitats & Target Notes (TN).

Table 7.1.1 – UK Habitat types within the survey area

Area habitat	Sec. Codes	Description
g4 Modified grassland	11 Scattered trees	The south and south-east of the site is bordered by a strip of modified grassland, with a total size of approximately 0.03ha. These areas are species-poor and bare in parts, comprised primarily of annual meadow-grass and perennial rye-grass, with frequent herbaceous species typical of enriched grasslands such as ragwort, white clover, creeping buttercup, ribwort plantain and dandelion, alongside other occasional species such as oxeye daisy, wood avens and ground elder, and several scattered holly trees.
u1b5 Buildings	-	A single building is present onsite, with a size of approximately 0.05ha. See Section 7.3 for a full description of the structure.
u1b6 Other developed land	-	The majority of the site (0.15ha) is comprised of a combination of hardstanding and developed surfaces, with carparking and access located to the south-east of the site, and various playground areas at the west comprised of tarmacked surface and artificial grass. Several small timber shed structures are also located within these areas.
u1160 Introduced shrub	10 Scattered scrub 11 Scattered trees 17 Ruderal/ephemeral 189 Scattered grass	A small patch (0.005ha) at the north of the site is comprised of an overgrown introduced shrub habitat, growing over previously developed land. Species present include a mix of low growing tree and shrub species such as bamboo, rowan, alder and bird cherry, graminoids including red fescue, pendular sedge and perennial rye-grass, and various ruderal species, such as smooth sow-thistle, Canadian fleabane, bramble and willowherbs.
Linear habitat	Sec. Codes	Description
h2b Other hedgerows	48 Non-native 81	Directly lining the southern boundary of the site is a flailed hedgerow with a length of approximately 60 metres comprised entirely of garden privet. This borders a wall along Hart Road, and as such has a limited understorey which extends to the north

	Flailed hedgerow	into the modified grassland habitat and the line of trees described below.
w1g6 Line of trees	-	Two separate lines of trees are present onsite, along the south-eastern boundary at a length of approximately 40 metres, and close to the southern boundary directly north of the aforementioned hedgerow and extending to the west, at a length of 60 metres. The former is a smaller, more disjointed tree line comprised of low growing and immature holly, hawthorn, yew and cherry, with the invasive Himalayan cotoneaster located within its understorey. The latter is a much larger, more mature and species-rich tree line, featuring several horse-chestnuts, sycamore, rowan and yew, with various low-growing shrubby species below including Japanese laurel, hawthorn and the invasive rhododendron.
u1e Built linear feature	69 Fence	Several stretches of timber fencing are present within the site, separating the carparking area and playground areas at the south of the site, and surrounding a bin shelter area within the modified grassland. These stretches have a total length of approximately 40 metres.
Target Notes	1	Location of INNS Himalayan cotoneaster
	2	Location of INNS rhododendron
	3	Location of shed structures

7.2 Vegetation

Notable species

- 7.2.1 No species of conservation importance were located anywhere within the site during the appraisal.

Invasive non-native species (INNS)

- 7.2.2 Two INNS, listed as such under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) were located within the red line boundary of the site during the diurnal appraisal, namely Himalayan cotoneaster to the south-east and rhododendron to the south-east (see **Appendix IV** for approximate locations).

7.3 Bats

- 7.3.1 The main structure present within the red line boundary of the site is a breezeblock-built, single-storey nursery building with a pitched, corrugated metal roof and approximate maximum dimensions of 30m x 15m x 4m (length x width x height). The building features steel doors, UPVC windows and security lighting. In respect of its condition, the surveyor is not qualified to assess structural state, however the aesthetic condition of the building was adjudged to be good, with no structural degradation noted on any elevation.
- 7.3.2 Viewed via the windows, it is apparent that no true loft space is present within the building, with it being open to the roof throughout; the interior of the building is thus highly illuminated and highly disturbed due to its use as a nursery.
- 7.3.3 The building is therefore considered broadly unsuitable for the breeding purposes of loft-dwelling species such as the brown long-eared bat, with these species requiring open spaces

with room to fly and with stable thermal characteristics in which to raise their young. No evidence of BLE bats such as droppings or prey items was encountered; however no meticulous search of the interior could be undertaken.

- 7.3.4 No underlining is present beneath the roofing materials in the building, with the interior being open to the metal roof throughout; where present, underfelt or other such roof lining typically improves a buildings value to bats, notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between the lining and the roof cover material provided external opportunities exist. Again, no evidence of crevice dwelling bats was identified at the site, however this is often the case due to the crevice-dwelling nature of these species.

NB: The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.

- 7.3.5 Externally, no potential roosting features (PRFs) were identified on the building; the structural elements were tight throughout, while typical features favoured by roosting bats such as timber fascia, bargeboards and roof slates are absent from the building.
- 7.3.6 Based on the above, the building pertains to a potential bat roost suitability categorisation of **'None'** in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).
- 7.3.7 While there are also several timber shed structures present within the site boundary, each of these was considered entirely unsuitable for bats due to an absence of internal or external PRFs, and as such were also considered to hold a potential bat roost suitability categorisation of **'None'**.
- 7.3.8 A large number of trees are present within the site, though all are absent of any roosting suitability for bats including splits, tears, rot holes, cavities or other PRFs and have therefore been determined to hold a potential bat roost suitability categorisation of **'None'**.
- 7.3.9 All trees, taller vegetation, and hedgerows should, however, be considered of value to commuting and foraging bats, whereby they act as landmarks for navigation and foci around which invertebrate prey species gather.

7.4 Breeding birds

- 7.4.1 In relation to WCA Schedule 1 specially protected bird species such as the black redstart, no evidence to indicate use of the site by such species or suitability for use was identified.
- 7.4.2 In relation to more common breeding birds, no evidence to indicate the building's use was observed. However, the trees present throughout and the hedgerow to the south are likely to be utilised heavily by nesting birds.

7.5 Other terrestrial mammals

Badger & hedgehog

- 7.5.1 No field signs were located to suggest the presence of badgers, including any setts, latrines, pathways, hairs, footprints or feeding signs such as snuffle holes and scratched trees/logs, and the habitats present within the site boundary are broadly unsuitable for badgers to utilise.
- 7.5.2 In respect of hedgehogs, whilst no direct evidence was located to suggest presence of this species, the habitats and habitat features present within and in close proximity to the

application site are potentially suitable for this species, with commuting pathways present in the form of hedgerows, and suitable foraging and refuge areas, alongside connectivity to semi-natural space directly to the north. Given this species is highly adapted to urbanisation, its presence cannot be conclusively discounted.

7.6 Herpetofauna

Great crested newt (GCN)

7.6.1 Important elements to consider when assessing likely impacts against GCN includes:

- The scale, nature and magnitude of proposals,
- Site proximity to a potential breeding pond and to any additional ponds,
- Habitat linkage / barriers between potential breeding ponds and the site,
- Nature and extent of available terrestrial habitat around the pond,
- Area of site habitat loss,
- Nature of habitat to be lost and potential value to GCN,
- Most up to date Government guidance considering EPS.

7.6.2 As derived from the desktop assessment:

- No granted EPSMLs for GCN within 2.0 kilometres,
- No 'Present' Class Survey Licence Returns within the search range,
- No 'Present' ponds survey within the considered search range (Great Crested Newt Pond Surveys 2017 - 2019),
- A single waterbody within 250 metres, a large amenity lake within an urban park surrounded by hardstanding which is absent of emergent aquatic vegetation and population with waterfowl and gulls.

7.6.3 Terrestrial habitat within the application site boundary is unsuitable for GCN, with no areas offering refuge, hibernation, or commuting and foraging opportunities. Furthermore, the only waterbody occurring within 250m is unsuitable to host a breeding population or even individual GCN. Given this, the absence of records in the area and of a suitable pond network with commuting corridors for this species, the presence of GCN at the site is considered highly unlikely.

Wider herpetofauna

7.6.4 The site is also unlikely to support generalist, more robust common amphibians including common frog and common toad given the lack of pond networks, suitable habitats and connectivity in the nearby environment. Risk of impacts to such species is thus considered negligible.

7.6.5 Similarly, the site lacks any habitats that would offer potential for reptiles, with no mosaic/ecotones or refugia that would afford shelter, hunting, or basking opportunities required by this taxon. Risk of impacts to reptiles can therefore be reasonably discounted.

7.7 Invertebrates

- 7.7.1 No specially protected invertebrate species, nor significantly diverse invertebrate assemblages, are likely to be present at the site, given the suburban environment and lack of suitable features.

8.0 Conclusions & Recommendations

Habitats

- 8.1 No habitats of conservation importance were identified on the application site.

Vegetation

- 8.2 No impacts are anticipated in relation to any priority vegetative species or communities at this time.
- 8.3 A large number of mature tree specimens are present within the tree line along the south of the site. It is acknowledged that the vast majority of the trees are to be retained, notably including the large, mature horse-chestnuts and sycamores, however if this stance changes in the future then replanting should occur at a 2:1 ratio for trees lost, with native species prioritised over ornamental introduced species as per **Appendix III**.
- 8.4 Two INNS listed under Schedule 9 (WCA) were recorded within the site in the form of Himalayan cotoneaster and rhododendron. Whilst it is not illegal to host any species designated as such within a site, it is an offence, under current legislature, to knowingly permit the spread of INNS beyond the confines of your site, either via allowing it to grow unchecked or through the irresponsible removal and dumping of waste.
- 8.5 To prevent incidental spread of these species during the proposed works it is recommended that a precautionary working method statement with appropriate biosecurity protocol is instated prior to commencement of site works.

Bats

- 8.6 Based upon the findings of the survey, covered through sections 6.0 – 7.0 of the report and supported by **Appendix I**, the main building and all other structures present at the site are determined to pertain to a potential bat roost suitability categorisation of '**None**' (see **Figure 8.1**) in accordance with BCT guidance, therefore no further surveys in relation to this species group are required.

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).

Figure 8.1 – BCT extract on structure roost suitability criteria

- 8.7 Bats are a transient species group and buildings can deteriorate over time. In the highly unlikely event that bat(s), or evidence of bat(s), are found during the proposed works, then, as a legal requirement, the work at the site should immediately cease and an Ecologist should be contacted for further advice. If bat(s) or their roost(s) will be affected, then an EPSML may be required to legally commence with the works. See **Figure 8.2** overleaf for indicative evidence of bats.



Figure 8.2 – Indicative evidence of bats – droppings on the left / a common pipistrelle bat on the right

- 8.8 Similarly, no recommendations are necessary in relation to bats and trees, with all the trees on site pertaining to a potential bat roost suitability categorisation of '**None**' (see **Figure 8.3**). Nonetheless, all trees and taller vegetation including the hedgerows are of value to commuting and foraging bats and should be retained where possible. If any trees are set to be planted as a part of the landscaping proposals, then they should be constituted of native species, with suitable individuals shown in **Appendix III**.

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any

Figure 8.1 – BCT extract on structure roost suitability criteria

- 8.9 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas of that are currently free from illumination, particularly including tree lines and other boundary features which are currently unilluminated. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information.

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill.
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand.
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Breeding birds

- 8.10 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as black redstart, and no further surveys or recommendations are necessary in relation to specially protected birds. Development work at the site could consider the erection of nest boxes to enhance the site in terms of roosting provision.
- 8.11 In relation to more common birds, the taller and denser vegetation across the site offers a variety of bird species a plethora of potential nesting sites, particularly within the tree lines, hedgerows and scattered trees during the breeding bird season of March – August.
- 8.12 Given that all birds are protected when at the nest, it is recommended that any vegetation clearance works on site are carried out outside of the breeding bird season (March – August inclusive, extending into September dependent upon species). For works undertaken within

the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

- 8.13 Where / if active nests are located by the Ecologist, then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5 – 10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist based up on the species and specific conditions.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: *“a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.”*

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

Other terrestrial mammals

- 8.14 No badger setts or field signs were located during the survey, and the proposals are considered to pose negligible risks to badgers; no further surveys are required.
- 8.15 Hedgehog may feasibly use the site for foraging, commuting and shelter, however there is poor connectivity to natural habitats in the surrounding environment. To minimise risks of impacts to hedgehogs, a precautionary approach is recommended to be adopted; in the event that any hedgehogs are encountered if they cannot be left in-situ they should be carefully captured and relocated to an area of like-for-like habitat off site / adjacent to site with sufficient shelter. Resting or hibernating animals should be given a fair period of time to awake and move on of their own accord particularly if discovered in the colder months.
- 8.16 In addition, as a minimum, the following Reasonable Avoidance Measures (RAMs) should be strictly adhered to throughout the development, particularly where excavations / trenches will be made (see overleaf:

Reasonable avoidance measures for the protection of hedgehogs:

- limit working hours to the daylight,
- carry out morning checks for the presence of hedgehogs and other small animals,
- provision of low angle sloping boards of approximately 300 mm wide within any excavations at the end of each working day, to facilitate a means of escape,
- excavations should be backfilled at the end of the working day, where possible,
- do not leave any bulky equipment / general construction aggregates around the development area, instead leave them on bare ground away from semi-natural habitats.

Herpetofauna

Great crested newt (GCN)

- 8.17 Regarding great crested newt (GCN), the results of both the desktop and field study suggest that risks of this species being present within the application site or the immediate vicinity are absent. As such, no further recommendations are made in relation to GCN.

Wider herpetofauna

- 8.18 Given the suburban nature of the site, lack of waterbodies in the vicinity and unfavourable terrestrial habitat present, risks to generalist amphibian and reptile species are considered negligible and there are no further recommendations made in relation to these species.

Invertebrates

- 8.19 No impacts to local populations of invertebrates are foreseen; no further surveys are recommended though enhancement measures for invertebrates as provided within **Appendix III** should be considered by that applicant to improve the biodiversity value of the site.

Enhancement

- 8.20 General recommended ideas to enhance the site in accordance with the principles of '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019), are presented in **Appendix III**. The suitability of the enhancement suggestions provided will depend upon the finalisation of the proposals for the application site.

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Appendix I: Site Photographs



Plate 1 – *The northern elevation of the main building, with hardstanding and artificial grass area*



Plate 2 – *The northern section of the site, with playground area*



Plate 3 – *Introduced shrub area at the northern site boundary*



Plate 4 – *Timber shed structure at northern site boundary*



Plate 5 – *Southern aspect of the main building*



Plate 6 – *Artificial grass area at south-west of the site, with tree line and shed structure seen to rear*



Plate 7 – *Modified grassland habitat to the south of the site, with tree line evident to rear*



Plate 8 – *Hardstanding car park at south-east of the site, with tree line to rear*



Plate 9 – Further character of the car park, with south-eastern aspect of main structure behind



Plate 10 – Location of INNS rhododendron in relation to grassland and tree lines at south of site



Plate 11 – *INNS Himalayan cotoneaster* located to the south-east of the site



Plate 12 – *Character of the flailed garden privet hedgerow* to the south-east

Appendix II: Botanical Species List

Species nomenclature follows Stace, C (2019) – definitive English names; scientific names for given flora are presented below.

Any invasive non-native species are denoted by the acronym (**INNS**).

Each species recorded was given an abundance value according to the standard DAFOR scale, where:

- D = Dominant
- A = Abundant
- F = Frequent*
- O = Occasional*
- R = Rare*

(*These values can be prefixed by the letter L (locally) to provide more subtle biogeographical data.)

Common Name	Scientific Name	Abundance
Alder	<i>Alnus glutinosa</i>	R
Annual meadow-grass	<i>Poa annua</i>	F
Beech	<i>Fagus sylvatica</i>	R
Bird cherry	<i>Prunus padus</i>	R
Bramble	<i>Rubus fruticosus agg.</i>	O
Broad-leaved bamboo sp.	<i>Sasa sp.</i>	R
Canadian fleabane	<i>Erigeron canadensis</i>	O
Cock's-foot	<i>Dactylis glomerata</i>	O
Common bird's-foot trefoil	<i>Lotus corniculatus</i>	O
Common ivy	<i>Hedera helix</i>	F
Common ragwort	<i>Jacobaea vulgaris</i>	F
Creeping buttercup	<i>Ranunculus repens</i>	F
Dandelion	<i>Taraxacum officinale agg.</i>	O
Garden privet	<i>Ligustrum ovifolium</i>	LD
Greater plantain	<i>Plantago major</i>	O
Ground elder	<i>Aegopodium podagraria</i>	O
Hawthorn	<i>Crataegus monogyna</i>	R
Herb-Robert	<i>Geranium robertianum</i>	F
Himalayan cotoneaster INNS	<i>Cotoneaster simonsii</i>	O
Hogweed	<i>Heracleum sphondylium</i>	R
Holly	<i>Ilex aquifolium</i>	F
Horse-chestnut	<i>Aesculus hippocastanum</i>	LA
Japanese laurel	<i>Aucuba japonica</i>	R
Lady's-mantle	<i>Alchemilla vulgaris</i>	LF
Lamb's-ear	<i>Stachys byzantina</i>	R
Oxeye daisy	<i>Leucanthemum vulgare</i>	O
Pendular sedge	<i>Carex pendula</i>	R
Perennial rye-grass	<i>Lolium perenne</i>	F
Petty spurge	<i>Euphorbia peplus</i>	R

Red fescue	<i>Festuca rubra</i>	O
Rhododendron INNS	<i>Rhododendron ponticum</i>	LA
Ribwort plantain	<i>Plantago lanceolata</i>	F
Rowan	<i>Sorbus aucuparia</i>	O
Selfheal	<i>Prunella vulgaris</i>	O
Smooth sow-thistle	<i>Sonchus oleraceus</i>	O
Sycamore	<i>Acer pseudoplatanus</i>	O
White clover	<i>Trifolium repens</i>	F
Wild cherry	<i>Prunus avium</i>	O
Willowherb sp.	<i>Epilobium sp.</i>	O
Wood avens	<i>Geum urbanum</i>	O
Yew	<i>Taxus baccata</i>	O

Appendix III: Biodiversity Enhancement: General Recommendations

Bats

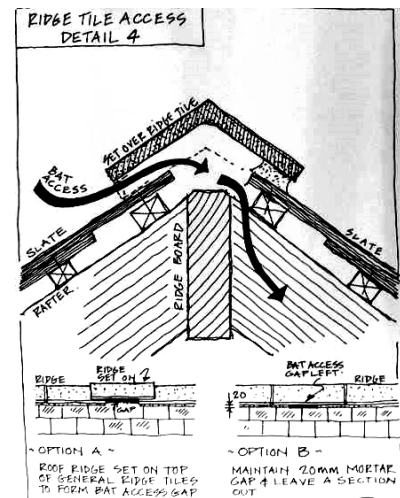
Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



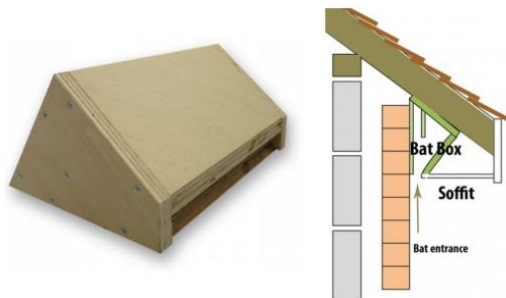
Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.



Soffit access

Where soffits are installed at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Eco Kent Bat Box.



Breeding Birds – House Sparrow

The sparrow terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.



Breeding Birds – Swallow

Although Swallows are currently placed on the Green list for Birds of Conservation Concern (BoCC), meaning that they are under the least protection, numbers of this species can fluctuate heavily based on environmental and ecological factors, with high regional variation observed.

Swallows will readily adopt these nest cups which are based on the size and shape of natural swallow nests. The nest cup is ideal for placing in a garage, shed, stable, barn or even beneath an archway and should be placed beneath the roof with free access. It provides somewhere secure for swallows to nest and means that they will expend less energy in producing their own nest. It also means that they do not need to find suitable nest building mud which can be in short supply in a dry spring. This WoodStone® Swallow Bowl is made from durable WoodStone®, a mixture of concrete and wood fibres, that is guaranteed to last for years and is mounted on an exterior grade plywood board.



Specifications

- * Height: 120mm
- * Width: 200mm
- * Depth: 110mm
- * Weight: 600g

Breeding Birds – Other

This traditional design has proved to be highly effective in attracting robins, as well as other small species such as black redstart, spotted flycatcher and wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.



This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in Ivy, Honeysuckle or other climbing plants.

Hedgehog Home

Specification:

Exterior quality 12mm resin bonded ply. The box remains untreated on the inside. Best situated in a quiet corner of the garden, and covered with leaves and other garden debris. Removable lid for cleaning purposes and reinforced corners, manufactured with surface sunk nails to resist rusting.

Nest box size: Height 22cm x Width 38cms x Length 47cm



Environmentally positive: Direct action to help hedgehog survival rates, encouraging biodiversity; FSC timber; Zero carbon footprint in use.

Invertebrates – Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used. Available in a choice of four colours: white grey, dark grey, yellow and red.



Specification

- * Material: Concrete
- * Origin: Cornwall, UK
- * Dimensions: W 215mm x D 105mm x H 65mm
- * Weight: 2.9kg
- * Colours: White grey, yellow, dark grey and red

Herpetofauna

Hibernacula are underground chambers that amphibians and reptiles use throughout the winter to protect themselves from the cold. Creating a hibernaculum will provide a safe space for amphibians and reptiles to hibernate over winter, as well as a spot for solitary bees to soak up the sun and for birds to relax. These habitats can be integrated into a wide variety newly created or enhanced habitats and attract herps to new areas.

You will need:

- A spade
- Logs and branches
- Rocks and bricks
- 2-3 drainpipe cut-offs or cement pipes (if using plastic drainpipes, roughen the insides with sandpaper, so that they are not too slippery for animals to climb)
- Turf or meadow flower seeds (optional)

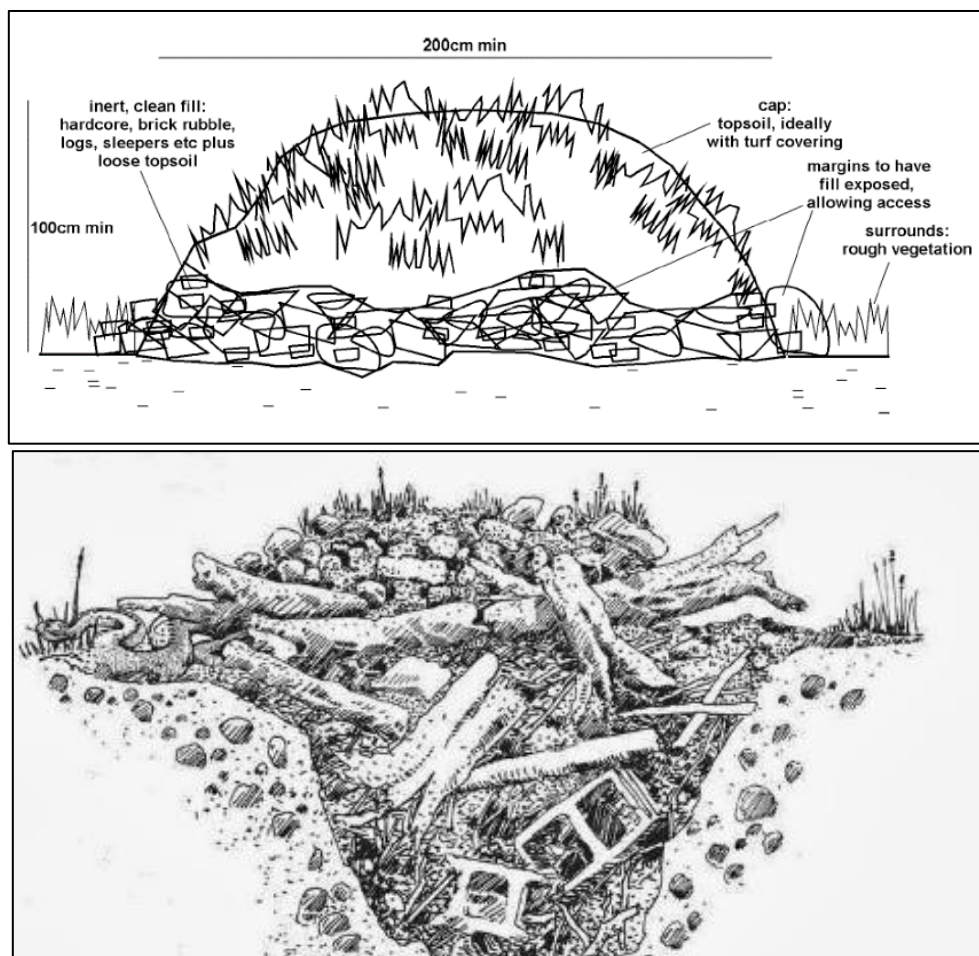
How to make your hibernaculum yourself:

- In a sunny spot, dig a hole about 50cm deep and 1.5 metres across.
- Fill with logs, branches, bricks and rocks, leaving plenty of gaps in between.
- Insert entrance tubes (drainpipes) at ground level into the hole.
- Cover the pile with soil (to about 50cm high).
- Plant meadow seeds or long grasses over the mound to create a feast for summer pollinators.

To construct a hibernaculum to Natural England standard:

- In desired areas, remove the turf from the footprint of the hibernaculum and set aside.
- On well-drained soil excavate to a depth of approximately 500 mm and set aside spoil (this is unnecessary on poorly drained soils).
- Fill the footprint or pit with core material. Materials likely to retain moisture are preferable, such as cut timber, brash and grubbed up tree roots. Other material such as inert hardcore, bricks, rocks, and building rubble may also be used. Materials that will decompose should not be placed beneath heavy components such as bricks or rocks, to reduce the risk of collapse.
- Pack the larger spaces within the core materials with wood chippings, loose topsoil or spoil.
- Cover the hibernaculum with the turves removed from the footprint.
- Take care not to create structures that might attract rodents, such as piles of rubble with many entrance holes. There has been no rigorous investigation of the optimum size of hibernacula, but larger hibernacula are probably more useful than small constructions because they contain a variety of different microhabitats and are more likely to maintain stable conditions.
- A suggested minimum size is 4.0 m long by 2.0 m wide by 1.0 m deep. 2.0 x 2.0 x 1.0 metres (length x width x height) as a minimum.

Illustrative aid for hibernaculum:



Native Planting and/or Landscaping

The below species have been assessed against the local soil and habitat types and are deemed suitable for the site. All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor should replace all plants rejected at own cost. New hedgerows should be primarily comprised of Blackthorn (*Prunus spinosa*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*), and Holly (*Ilex aquifolium*), whilst climbers/creepers such as Hops (*Humulus lupulus*) and Honeysuckle (*Lonicera periclymenum*) can be planted at the base of boundary features such as fences and walls, and new tree planting should include species such as Pedunculate Oak (*Quercus robur*), Wild Cherry (*Prunus avium*), and Alder Buckthorn (*Frangula alnus*).

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shield-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils - suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils - suitable for rockeries
	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
Climbers	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
Woody Shrubs	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
	Holly	<i>Ilex aquifolium</i>	-
Trees	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-
	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
	Wych Elm	<i>Ulmus glabra</i>	-

