THE BUNGALOW SITE, NEW YEARS GREEN LANE, HAREFIELD, SOUTH BUCKINGHAMSHIRE, UB9 6LX

Report for LONDON BOROUGH OF HILLINGDON

Preliminary Ecological Appraisal and Preliminary Roost Assessment

October 2023

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1.0 Executive Summary

1.1.1 Plowman Craven was instructed by London Borough of Hillingdon to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Bungalow Site, New Years Green Lane, Harefield, South Buckinghamshire, UB9 6LX (hereafter referred to as "the site"). The survey was required to inform a planning application for the demolition of the main building and outbuildings onsite and the erection of a new staff training/ welfare area with associated parking and landscaping (hereafter referred to as "the proposed development").

1.1.2 Table 1 outlines work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 10 of this report.

Table 1: Summary of receptors and recommendations

Feature	Survey Conclusions	Recommendations
Habitats and flora	There are no notable habitats within the site but six habitats are present within 2km of the site, the closest being deciduous woodland located 175m west from the site. Habitats on site comprise dense scrub, tree lined boundaries, neutral grassland and buildings.	Best practice measures to minimise the possibility of pollution must be implemented during construction. Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).
Amphibians	A review of aerial imagery indicates the presence of 10 ponds within 500m of the site. Although there are no ponds onsite, the habitats onsite are also assessed to provide suitable terrestrial opportunities for great crested newts in the form of dense tall ruderal vegetation, grassland, dense scrub,	A precautionary working method will be implemented for common amphibians during construction.

	and tree lined boundaries which will provide optimal foraging, commuting, and refuge opportunities. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a green risk score, which states: Offence highly unlikely.	
Reptiles	The habitats recorded on site are assessed to provide optimal foraging, commuting, and basking opportunities for reptiles in the form of grassland, scrub, and tall ruderal vegetation. These habitats will provide suitable foraging opportunities adjacent to open areas for basking and dense vegetation for refuge. There is good connectivity between the site and habitats in the wider landscape.	Reptile surveys will be required to determine presence or likely absence of reptiles on the site. This will comprise the deployment and monitoring of artificial refugia over seven visits and such surveys must be undertaken between April, May and September, in accordance with current survey guidelines (Gent & Gibson, 2003).
Roosting bats (B1)	B1 has high habitat value for roosting bats. As there were many missing and broken tiles on all elevations of B1, as well as broken windows and broken ridge tiles. The proposed development will result in the demolition of this building. This could result in destruction of any bat roosts present and could cause disturbance, death or injury to bats.	Three bat emergence and re-entry surveys are required during the active bat season (optimal May to August, suboptimal September) to confirm presence or likely absence of a bat roost in the building. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. Infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart. Three surveyors are required to provide full coverage of the building.

		If bat roosts are confirmed in the building an EPSL application to Natural England will be required. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.
Foraging and commuting bats	Tree lined boundaries could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	A low impact lighting strategy will be adopted for the site during and post-development.
Badger	The site has suitable habitat for badgers in the form of grassland, dense scrub, and tall ruderal vegetation which are assessed to provide foraging, commuting and sett building opportunities for badgers. As well, distinct mammal paths running into the dense scrub and a badger scat was observed onsite, on a mammal path which ran into the western section of dense scrub. However, no setts were observed onsite. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.	A precautionary working method will be implemented during construction.

Hedgehog	Although no evidence indicating the presence of hedgehogs was recorded during the site survey, the future presence of hedgehogs foraging and commuting on site cannot be discounted. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.	A precautionary working method will be implemented during construction.
Birds	Barn owl pellets were observed scattered below the trusses within B2 onsite. B2 will be retained onsite post construction, however, it will be renovated to allow for storage.	Owing to the nature of the proposed development and the low potential for impacts to barn owl, further surveys are considered to be disproportionate. It is anticipated that any risk to barn owl can be reduced to an acceptably low level through the implementation of a barn owl mitigation strategy which will detail measures to be implemented during and post-development.

2.0 Introduction

2.1 Background

2.1.1 Plowman Craven was instructed by London Borough of Hillingdon to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Bungalow Site, New Years Green Lane, Harefield, South Buckinghamshire, UB9 6LX (hereafter referred to as "the site"). The survey was required to inform a planning application for the demolition of the main building and outbuildings onsite and the erection of a new staff training/ welfare area with associated parking and landscaping (hereafter referred to as "the proposed development").

2.1.2 A plan showing the proposed development is provided in Appendix 1.

2.1.3 The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting. This has been undertaken with due consideration to the "Bat Surveys for Professional Ecologists —Good Practice Guidelines" publication (Collins, 2016).

2.1.4 No previous ecology reports have been produced for this site by Plowman Craven or, to the author's knowledge, by any other consultancy.

2.2 Site Context

2.2.1 The site is located at National Grid Reference TQ 06228 88175 and has an area of approximately 0.59ha comprising dense scrub, tree lined boundaries, scattered trees and developed land which has been colonised by ruderals and grass species. Additionally, there are six buildings, designated as B1-B6 within the site boundary, all of which were surveyed as they will be affected by the proposed development. It is surrounded immediately to the west by the Harefield Household re-use and recycling centre, arable fields to the north, a recycling centre to the east and grassland within the Dog's Trust to the south. Further afield the site is surrounded by woodland to the north and west, a mosaic of arable and scrub to the north-west and the town of Ruislip to the east. A site location plan is provided in Appendix 2.

2.3 Scope of Report

2.3.1 This report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species, including bats. It identifies possible ecological

constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

2.3.2 To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including an external survey and internal inspection of built structures and a ground level assessment of trees, to determine the presence or the suitability of any features which bats could use for roosting and to assess the suitability of the site's bat foraging and commuting habitat.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

3.0 Methodology

3.1 Desk Study

3.1.1 The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site.

3.1.2 Existing biological records including notable species and non-statutory designated sites within a 2km radius were obtained from Greenspace Information for Greater London (GIGL).

3.2 Field Survey

3.2.1 The survey was undertaken by Beth Ellison-Perrett BSc (Hons) MSc, MRSB, Consultant (2023-11066-CL17-BAT) on 27th September 2023.

PEA

3.2.2 An extended habitat survey was undertaken, following the methodology set out in UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2018). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

3.2.3 During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

PRA

3.2.4 The PRA focussed on six built structures which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

3.2.5 For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the building(s) for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the building(s) was also made, including the living areas and any accessible roof spaces, using a torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

3.2.6 Suitability assessment:

Built structures were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in Table 2 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 2: Features of a building that are correlated with use by bats

Classification	Feature of Building and its Context
High	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Moderate	Buildings or structures with one or more features suitable for more regular roosting due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value such as maternity or hibernation roosts. Continuous habitat connected to the wider landscape which could be used by bats for commuting such as lines of trees, linked gardens. Foraging habitat in the surrounding area such as trees, scrub, grassland or water.
Low	A small number of possible roost sites or features, used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators.

	Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.
Negligible	Unsuitable for use by bats.

3.3 Limitations

3.3.1 It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape and the ecology and biology of species as currently understood.

3.3.2 The boundaries of the site were covered in dense, impenetrable bramble which prevented full access to the eastern and western boundaries of the site. Additionally, full access into the dense scrub could not be undertaken.

3.3.3 There was no access internally into B1 as the building was unsafe due to vandalism and holes in the roof.

3.3.4 The western elevation of B1, the southern and western elevations of B2 and the northern elevations of B4, B5 and B6 could not be fully observed as they were obscured by dense scrub. However, B2, B4, B5 and B6 were single skinned and so these elevations could be assessed internally.

3.3.5 These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

4.0 Results

4.1 Designated Sites

4.1.1 Details of any statutory and non-statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in Table 3 below.

4.1.2 The site lies within the impact risk zone for Ruislip Woods Site of Special Scientific Interest (SSSI). The proposed development type is listed as a possible high risk with regard to this designation.

Table 3: Statutory and non-statutory designated sites within 2km radius of the site

The Bungalow Site, UB9 6LX	Distance from Site and Reason for Notification
Ruislip Woods National Nature Reserve (NNR)	Approximately 540m north-east. Ruislip Woods National Nature Reserve (NNR) consists of five principal areas - Poor's Field, Mad Bess, Bayhurst, Park Wood and Copse Wood - making a total of 295.7 ha. As a unit it represents 10% of London's Semi-Natural Ancient Woodland (SNAW). Park Wood, at 100.2 ha, is the largest unbroken wood in London. The majority of the site is wooded, with extensive areas of hornbeam coppice overstood with either common or sessile oak. The remaining woods are secondary, consisting of oak/birch, birch/aspen, beech and sweet chestnut.
Ruislip Woods Site of Special Scientific Interest (SSSI)	Approximately 540m north-east. The Ruislip Woods form an extensive example of ancient semi-natural woodland, including some of the largest unbroken blocks that remain in Greater London. A diverse range of oak and hornbeam woodland types occur, with large areas managed on a traditional coppice-with-standards system. The site is also unusual in Greater London for the juxtaposition of extensive woodland with other semi-natural habitats, mostly notably acidic grass-heath mosaic and areas of wetland. These habitats and especially the woodland contain a number of plant and insect species that are rare* or scarce* in a national or local context.
Denham Country Park Local Nature Reserve (LNR)	Approximately 1045m south. A scenic and relaxing location on the banks of the rivers Colne, Misbourne and Frays, the park is home to a mix of wildlife. You may catch a glimpse of herons and kingfishers while in summer damselflies and dragonflies dart over the wet meadows.

Mid Colne Valley Site of Special Scientific Interest (SSSI)	Approximately 1500m west. The Mid Colne Valley is of significant ornithological interest, particularly for the diversity of breeding woodland and wetland birds, and for the numbers of wintering wildfowl. On the eastern valley slope is one of the last remaining examples of unimproved chalk grassland in Greater London.
Denham Lock Wood Site of Special Scientific Interest (SSSI)	Approximately 1710m south. Denham Lock Wood is a diverse area of open mire and wet woodland which shows a zonation of wetland habitats occurring rarely in Greater London. The woodland herb flora is particularly varied and reflects subtle differences in topography and drainage.
Frays Valley Local Nature Reserve (LNR)	Approximately 1725m south. The wildlife-rich Frays River meanders through the luxuriant Frays Farm Meadows SSSI. In spring, kingcups vividly pick out the damper areas and hard on their heels comes a splendid expanse of ragged-robin. Snipe; water vole and harvest mouse; kingcups and ragged robin; slow worm; willow; banded demoiselle
Fray's Farm Meadows Site of Special Scientific Interest (SSSI)	Approximately 1725m south. Fray's Farm Meadows are one of the last remaining examples of relatively unimproved wet alluvial grassland in Greater London and the Colne Valley. The meadows contain a variety of grassland communities which range from the grazed grassland of sweet vernal-grass Anthoxanthum odoratum, crested dog's-tail Cynosurus cristatus and perennial rye-grass Lolium perenne through to areas of tall sedge dominated marshy grassland with lesser pond sedge Carex acutiformis and reed-grass Glyceria maxima. The linear features of the site - ditches, hedges and railway embankment - add further habitat diversity, and contribute to the richness of plants and animals present.
Harefield Pit Site of Special Scientific Interest (SSSI)	Approximately 1930m north-west. Harefield Pit provides a key section in the London Basin for a sequence through the Upper Chalk, Reading Beds and London Clay. It is also the only known site for calcareous floral remains in the Reading Beds.
London's Canals Sites of Importance for Nature Conservation (SINCs)	London’s canals support a wide range of aquatic flora, amongst which are found a number of locally uncommon species. These include narrow-leaved water plantain (Alisma lanceolatum), rigid hornwort (Ceratopyllum demersum) and shining pondweed (Potomageton lucens), all species of clean, clear waters. Many waterside plants, including several London rarities, also grow on the brickwork and banks of the canal. The canals also

	support an important invertebrate fauna (including several species of dragon/damselflies), a diverse fish community, and breeding waterfowl. London's network of canals fulfill an important function in allowing nature into heavily built-up environments. The towpath and associated areas of waste ground, especially in East London, support a number of uncommon species of disturbed ground
Ruislip Woods and Poor's Field Sites of Importance for Nature Conservation (SINCs)	The largest block of ancient woodland in London, with adjacent areas of acid grassland, heathland and wetlands. The woodland, which is divided into Park Wood, Copse Wood, Mad Bess Wood and Bayhurst Wood, is varied but predominantly consists of old coppice-with-standards, and is particularly interesting for the occurrence of both pedunculate and sessile oaks (Quercus robur, Q. petraea). The mixture of hornbeam (Carpinus betulus) and beech (Fagus sylvatica) in places is also unusual. Locally uncommon plant species include wild service-tree (Sorbus torminalis), common cow-wheat (Melampyrum pratense), southern woodrush (Luzula forsteri) and moschatel (Adoxa moschatellina). The heathland at Poor's Field consists of fescues (Festuca spp.) and tufted hair-grass (Deschampsia cespitosa), with heather (Calluna vulgaris), dwarf gorse (Ulex minor), the rare petty whin (Genista anglica), heath-grass (Danthonia decumbens) and heath speedwell (Veronica officinalis). Ruislip Lido is a substantial body of open water, with a reed bed at the northern end and fairly diverse marginal vegetation.
Mid Colne Valley Sites of Importance for Nature Conservation (SINCs)	This section of the Colne Valley includes a diverse range of high quality habitats. Several waterways include the Frays River, from which 53 species of aquatic and wetland plants have been recorded. The unimproved wet pastures of Frays Farm Meadows (a Site of Special Scientific Interest and Local Nature Reserve managed by the London Wildlife Trust and Hillingdon Natural History Society) support a very rich flora, including locally uncommon species such as marsh-marigold (Caltha palustris) and ragged-robin (Lychnis flos-cuculi). The invertebrate fauna includes the locally declining glow-worm (Lampyris noctiluca). The meadows support wintering waders such as snipe, as well as a population of harvest mice.
Harefield Chalk Pit Sites of	One of four old chalk pits in the east Colne Valley, Harefield Pit comprises a strip of dense woodland on steeply undulating raised ground to the south,

Importance for Nature Conservation (SINCs)	and a wooded seasonally damp basin to the north. Part of the southern wood is a Site of Special Scientific Interest.
Harefield Churchyard and Wood Sites of Importance for Nature Conservation (SINCs)	A picturesque 14th century parish church and cemetery with several old trees including yew (Taxus baccata), pedunculate oak (Quercus robur), walnut (Juglans regia), ash (Fraxinus excelsior) and holly (Ilex aquifolium). There is a small wooded patch of common lime (Tilia x europaea) and horse chestnut (Aesculus hippocastanum) used as a garden waste depository. The three ponds in the woodland are heavily shaded by trees, and have a build up of branches and leaf litter tending towards a later successional stage. Common duckweed (Lemna minor) blankets the two ponds with standing water whereas the third is a patch of damp mud. The wetland flora includes locally abundant nodding bur-marigold (Bidens cernua) and water forget-me-not (Myosotis scorpioides), both scarce in London. Other plants present are celery-leaved buttercup (Ranunculus sceleratus), water plantain (Alisma plantago-aquatica) and water-cress (Rorippa nasturtium-aquaticum).
Shepherd's Hill Woods and Fields Sites of Importance for Nature Conservation (SINCs)	A large mosaic of fields and small woods with thick inter-connecting hedges, creating a distinctly rural feel. The woodland canopies are generally dominated by pedunculate oak (Quercus robur), ash (Fraxinus excelsior) and hornbeam (Carpinus betulus) over hazel (Corylus avellana), field maple (Acer campestre), hawthorn (Crataegus monogyna) and midland hawthorn (C. laevigata). alder (Alnus glutinosa) and crack willow (Salix fragilis) are abundant in areas with wetter soil, silver birch (Betula pendula) in open areas and beech (Fagus sylvatica) in poor soils.
Dew's Dell Sites of Importance for Nature Conservation (SINCs)	This old quarry has great wildlife potential. The southern and middle areas are mostly woodland with some grassland at the woodland edges. The section south of the lane to the sailing centre is used as a ‘combat’ course, with sycamore (Acer pseudoplatanus) and silver birch (Betula pendula) being co-dominant, with some pedunculate oak (Quercus robur) and wild cherry (Prunus avium). Beneath these are blackthorn (Prunus spinosa) and elder (Sambucus nigra), with much common nettle (Urtica dioica), bramble (Rubus fruticosus agg.) and occasional male fern (Dryopteris filix-mas).

Newyears Green Sites of Importance for Nature Conservation (SINCs)	Newyears Green covert is a woodland believed to have been planted in the late 19th century. The canopy is dominated by pedunculate oak (Quercus robur), ash (Fraxinus excelsior) and hornbeam (Carpinus betulus) over English elm (Ulmus procera), blackthorn (Prunus spinosa), hawthorn (Crataegus monogyna) and hazel (Corylus avellana). Also present is the locally scarce, buckthorn (Rhamnus catharticus) along with Midland hawthorn (Crataegus laevigata), spindle (Euonymus europaeus) and field rose (Rosa arvensis). The ground flora is dominated in parts by bramble (Rubus fruticosus agg.) and common nettle (Urtica dioica) with some germander speedwell (Veronica chamaedrys) and violets (Viola sp.).
West Ruislip Golf Course and Old Priory Meadows Sites of Importance for Nature Conservation (SINCs)	The area to the west of the River Pinn comprises an old meadow and two narrow fields, at least one of which has not been grazed for a year or more. The Old Priory Meadow has rich plant diversity. The green lane along its eastern edge is flanked by hedgerows of native species dominated by hawthorn (Crataegus monogyna) and English elm (Ulmus procera) and separates it from another field, much wetter in nature, dominated by Yorkshire fog (Holcus lanatus), meadowsweet (Filipendula ulmaria) and tufted hair-grass (Deschampsia caespitosa) with occasional hairy sedge (Carex hirta).
Harefield Hall and The Lodge Sites of Importance for Nature Conservation (SINCs)	This is a complex site with a variety of habitats. The woodland forms part of the golf course and is dominated by pedunculate oak (Quercus robur). Other less abundant species include English elm (Ulmus procera), common lime (Tilia x europaea) and ash (Fraxinus excelsior) over an understorey of yew (Taxus baccata), holly (Ilex aquifolium), cherry laurel (Prunus laurocerasus) and Portugal laurel (P. lusitanica), the latter two being introduced species once used as cover for rearing game-birds. The ground flora is sparse due to the dense shade, but includes bramble (Rubus fruticosus agg.), male and broad buckler ferns (Dryopteris filix-mas and D. dilatata) and the locally scarce butcher's-broom (Ruscus aculeatus). The rest of the grounds have a range of habitats, including a small patch of dense yew woodland, more open woodland of oak, silver birch (Betula pendula) and elder (Sambucus nigra) with patches of sheep's fescue (Festuca ovina), grazed pasture, amenity grassland and shrubberies.

Brackenbury Railway Cutting Sites of Importance for Nature Conservation (SINCs)	This broad, wooded railway cutting provides pleasant, rural views for passengers. The dense tree and scrub cover is dominated by pedunculate oak (Quercus robur), elder (Sambucus nigra), and English elm (Ulmus procera) with abundant ivy (Hedera helix). The trees are mostly young, although there are a number of larger oaks. Areas of grassland are dominated by common couch (Elytrigia repens) and perennial rye-grass (Lolium perenne), with lesser burdock (Arctium minus), weld (Reseda luteola) and perforate St John's-wort (Hypericum perforatum).
Knightscote Farm Ponds Sites of Importance for Nature Conservation (SINCs)	Knightscote Farm Ponds lie in a depression alongside the northern edge of Breakspear Road North. The site consists of two ponds separated by an area of woodland, containing patches of bracken (Pteridium aquilinum) and occasional gorse (Ulex europaeus) indicating the acidic nature of the soil. The smaller northern pond appears somewhat neglected, with farm ruderals growing in disturbed areas of the farmyard more or less up to the pond edge. Crack willow (Salix fragilis) and grey willow (S. cinerea) are frequent around the pond margin, interspersed with dense stands of great reedmace (Typha latifolia). Other wetland plants include gipsywort (Lycopus europaeus), redshank (Persicaria maculosa) and water mint (Mentha aquatica). As the pond is heavily shaded by trees, submerged vegetation is likely to be be limited. If management could allow more light to reach the water, the pond would have greater potential as a breeding site for amphibians. Birds present are Mallard and moorhen.
Breakspear House Wood Sites of Importance for Nature Conservation (SINCs)	This small woodland is dominated by ash (Fraxinus excelsior), with frequent pedunculate oak (Quercus robur) and sycamore (Acer pseudoplatanus). Stands of beech (Fagus sylvatica), with occasional hornbeam (Carpinus betulus) and horse chestnut (Aesculus hippocastanum) make up the rest of the canopy.
Breakspear Road South Pond Sites of Importance for Nature Conservation (SINCs)	A good quality secluded pond with some extensive marshy edges. Emergent and marginal vegetation covers about a third of the pond's area, principally soft rush (Juncus effusus), floating sweet-grass (Glyceria fluitans) and reed canary-grass (Phalaris arundinacea).

Mad Field Covert, Railway Mead and the River Pinn Sites of Importance for Nature Conservation (SINCs)	Railway Mead is an area of herb-rich grassland to the south of the railway, bounded by mature hedgerows of mainly oak (Quercus robur) and blackthorn (Prunus spinosa). The grassland supports abundant red fescue (Festuca rubra), perennial rye-grass (Lolium perenne) with frequent false oat-grass (Arrenatherum elatius) and Yorkshire fog (Holcus lanatus). Herbs include abundant common knapweed (Centaurea nigra), lady's bedstraw (Galium verum), white clover (Trifolium repens) as well as autumn hawkbit (Leontodon autumnalis), burnet saxifrage (Pimpinella saxifraga) and tormentil (Potentilla erecta). Green woodpeckers are regularly seen in this area. Mad Field Covert is a stand of oak and ash (Fraxinus excelsior) woodland over elder (Sambucus nigra), blackthorn and hazel (Corylus avellana). The ground flora is dominated by bramble (Rubus fruticosus agg.) and nettle (Urtica dioica) and includes giant fescue (Festuca gigantea) and herb robert (Geranium robertianum). The River Pinn is shallow and slow-flowing, with a silted bed and its banks are lined in parts by alder (Alnus glutinosa), crack willow (Salix fragilis) and white willow (S. alba) interspersed with ash, English elm (Ulmus procera), field maple (Acer campestre) and dogwood (Cornus sanguinea). In one section, the river flows through woodland dominated by oak with hornbeam (Carpinus betulus), wild cherry (Prunuis avium) and sweet chestnut (Castanea sativa). Riparian herbs and grasses include hemlock (Conium maculatum), hairy brome (Bromopsis ramosus) and wood meadow-grass (Poa nemoralis) along with bramble and Himalayan balsam (Impatiens glandulifera). The water supports occasional fennel-leaved pondweed (Potamogeton pectinatus), water chickweed (Myosoton aquaticum), and fool's water-cress (Apium nodiflorum).
Bury Street Open Space & Wallington Close streamside Sites of Importance for Nature Conservation (SINCs)	This site consists of a section of stream and adjacent habitats, including Bury Street Open Space, an attractive public park. The watercourse, a tributary of the River Pinn, arises from Ruislip Lido to the east, runs through the park in a channel shaded by a variety of trees including crack willow (Salix fragilis). Much of the open space comprises extensive native scrub including field maple (Acer campestre), common hawthorn (Crataegus monogyna), blackthorn (Prunus spinosa), bramble (Rubus fruticosus agg.) and hazel (Corylus avellana). Numerous scattered trees include oak

	(Quercus robur), hornbeam (Carpinus betulus) and ash (Fraxinus excelsior).

4.2 Field Survey Results

4.2.1 The results of the field survey are illustrated in Appendix 3. The weather conditions recorded at the time of the survey are shown in Table 4.

Table 4: Weather conditions during survey

Weather	Condition
Temperature	20ºC
Humidity	72%
Cloud Cover	100%
Wind	13mph
Rain	N/A

Habitats and Flora

4.2.2 The following habitats are present within and adjacent to the site:

- Building (u1b5)
- Developed land; sealed surface (u1b) with ruderals (17)
- Dense scrub (h3d)
- Line of trees (w1g6)
- Neutral grassland (g3c) with ruderals (17), scattered trees (11) and introduced shrubs (1160)

4.2.3 A description and photograph of each habitat is provided in Table 5.

4.2.4 No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site.

Table 5: Description and photographs of habitats within and adjacent to the site

Habitat	Description	Photograph
Building (u1b5)	There are six buildings onsite, all of which were subject to a preliminary roost assessment (PRA). The results of the PRA can be found below (table 6).	
Developed land; sealed surface (u1b) with ruderals (17)	To the north and south of the site, are areas of developed land. These areas have been neglected for quite some time and therefore ruderals have colonised the hard standing. The hard standing is comprised of concrete and shingles. Ruderals within these areas are comprised of nettles (D), thistle (A), teasel (F), herb robert (O), mugwort (O), St-peters wort (R), ragwort (R), pineapple weed (R), ground ivy (R) and purple dead nettle (O).	

Dense scrub (h3d)	To the east and west of the site are areas of dense scrub. This scrub is comprised of bramble and is approximately 3-5m wide. There are significant mammal paths leading into the scrub within these dense patches.	

Line of trees (w1g6)	Along the northern, southern and parts of the eastern and western elevations are lines of trees. The tree line on the northern boundary is comprised of elder and the eastern boundary is comprised of cypress. The southern boundary is comprised of hawthorn (D), maple (F), ash (F), dogwood (O), blackthorn (O), elm (R), holly (R) and ivy (R). The western boundary is comprised of willow (A), sycamore (O) and grapes (O). Trees are semi-mature to mature in age and represent a fair to good structural condition. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity. There is an undisturbed naturally vegetated strip of at least 6 m off-site, however, onsite the tree lines do not have a 6m undisturbed strip.	 

Neutral grassland (g3c) with ruderals (17), scattered trees (11) and introduced shrubs (1160)	To the west of the site is an area of neglected neutral grassland with ruderals, resulting in a sward of approximately 5-10cm in length. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. Species composition is comprised of perennial ryegrass (D), creeping cinquefoil (A), dock (F), teasel (F), black meddick (A), cocks foot (O), meadow grass (O), mugwort (O), nettle (O), yarrow (O), common chickweed (O), purple dead nettle (O), ragwort (R), plantain (O), forget me not (R) and hogweed (R). The grassland has very little (<5%) of bare ground and no bracken cover. Combined cover of species indicative of sub-optimal condition accounts for more than 5% of total area. To the south of the site, there is a small area of introduced shrubs. These are comprised of bamboo and snowberry and are of low ecological value. Additionally, there are scattered trees onsite. They are located mainly to the south-west and are comprised of elder, ash, cypress and prunus sp. Trees are semi-mature to mature in age and represent a fair to good structural condition.	 

Bats

4.2.5 Bat records have been returned by GIGL within 2km of the site. Records from the last ten years are summarised in Table 6.

Table 6: Historical records of bats within 2km of the site

Species	No. Records	Distance (m) of nearest record	Dates
Serotine	2	1150	08/10/2017
Myotis Bat species	3	1412	08/06/2001
Brandt's Bat	1	1664	29/06/18-06/07/18
Daubenton's Bat	93	770	18/10/2017
Whiskered/Brandt's Bat	11	1150	10/10/2017
Natterer's Bat	10	988	02/06/2001
Lesser Noctule	3	1664	12/09/18-21/09/18
Noctule Bat	23	628	20/10/2002
Pipistrelle Bat species	7	627	20/10/2002
Nathusius's Pipistrelle	12	846	22/09/2019
Pipistrelle	46	611	20/10/2002
Soprano Pipistrelle	89	635	08/06/2001
Brown Long-eared Bat	9	1019	08/06/2001

4.2.6 A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. EPSL records for bats are summarised in Table 7.

Table 7: EPSL records of bats within 2km of the site

EPSL Ref	Species	Start dates	End dates	Impact
2019-43429-EPS-MIT 2019-43429-EPS-MIT-1 2019-43429-EPS-MIT-2 2019-43429-EPS-MIT-3 2019-43429-EPS-MIT-4	Soprano pipistrelle	13/11/2019	13/12/2019	Destruction of a resting place
2020-46680-EPS-NSIP1-1	Daubentons	20/07/2020	31/12/2030	Destruction of a resting place
2016-23429-EPS-MIT	Brown long eared bat, common pipistrelle and soprano pipistrelle	16/06/2016	15/06/2021	Destruction of a resting place
2018-38426-EPS-MIT 2018-38426-EPS-MIT-1 2018-38426-EPS-MIT-2	Soprano pipistrelle	18/12/2018	30/12/2023	Destruction of a breeding site
2020-49580-EPS-NSIP1	Brown long eared bat and soprano pipistrelle	06/10/2020	31/12/2030	Destruction of a breeding site

4.2.7 The results of the field survey are illustrated in Appendix 3 and are detailed in Table 8.

Table 8: Results of PRA

Building Ref	Description	Photograph
B1 – eastern and southern elevations	B1 is a detached single-storey brick-built building with a cross-pitched and hipped roof clad in slate roof tiles. The roof tiles are in poor condition with many broken and missing tiles under which bats could roost. Additionally, there are missing ridge tiles on the northern and southern elevations. The doors and windows are wooden framed and appear in poor condition due to broken windowpanes, allowing access internally. The brickwork around the building appears in excellent condition with no gaps or cracks within which crevice-dwelling bats could roost.	 

B1 – northern elevation	There are flat roof sections located on the northern elevation of the building. The flat roof is corrugated plastic lined and is well sealed and allows high level of light internally into the extension. On the northern elevation, there are missing roof tiles and missing ridge tiles, all of which will allow access internally and have created suitable roosting features for crevice dwelling bats. There are timber soffits and fascia around the building which are generally in good condition. There is one chimney located on the roof of the building. The brickwork on the chimney is in good condition. There is lead flashing around the base of the chimney which is flat and without gaps.	
B1 – suitability assessment	There were many missing and broken tiles on all elevations of B1, as well as broken windows and broken ridge tiles. There was no access internally into B1 as the building was in a derelict state due to vandalism. This cannot be used to indicate a likely absence of crevice dwelling bats. This is because bats such as pipistrelles usually roost between tiles and felt and on wall tops, where any external evidence would be quickly weathered	N/A

	away, and all internal evidence is trapped within these crevices. B1 has high habitat value for roosting bats. No birds' nests were observed externally on B1.	
B2 – northern elevation	B2 is a detached single-storey timber-framed building with a pitched and gabled roof clad in corrugated asbestos sheeting. The roof sheeting is in very good condition with no raised tiles under which bats could roost. The doors are wooden framed and appear in excellent condition with no suitable bat roosting sites. The walls of the northern, southern and western elevations are clad in single skinned corrugated asbestos sheeting which is in good condition.	

B2 – eastern elevation	There is no wall on the eastern elevation which allows access internally into B2. In addition, the building has no soffits, fascia or barge boards and there are gaps between the corrugated walls and the roof, also allowing high levels of light internally.	
B2 – interior	There is no loft within B2 as the ceiling is vaulted. The roof structure is built from modern timber beams, however, there is not a main ridge beam. The roof is unlined, and the backs of the corrugated asbestos sheeting can be observed which is in good condition with no gaps. Daylight enters the space through the open wall on the eastern elevation, as well as the large doorway on the northern and through the gaps between the walls and roof. This creates high levels of light internally and will cause the	

	building to be prone to adverse weather and temperature fluctuations, further reducing the suitability for bats.	
B2 – suitability assessment	There was no evidence of bat activity located internally or externally on the survey building. This indicates a likely absence of void dwelling bats such as brown long eared bats. Furthermore, there are no suitable crevices in which crevice dwelling bats could utilise for roosting. Barn owl pellets were observed directly below the trusses within the interior of B2.	
B3 – southern and eastern elevations	B3 is a detached single-storey timber-framed building with a flat roof clad in corrugated asbestos sheeting. The roof sheeting is in good condition with no raised tiles under which bats could roost. There is no wall on the eastern elevation which allows access internally into B3.	

B3 – western elevation	The walls of the northern, eastern and western elevations are clad in single skinned corrugated metal sheeting which is in good condition.	
B3 – interior	There is no loft within B3 as the ceiling is flat. The roof structure is built from modern timber beams, however, there is no ridge beam. The roof is unlined, and the backs of the corrugated asbestos sheeting can be observed which is in good condition with no gaps. Daylight enters the space through the open wall on the eastern elevation. This creates high levels of light internally and will cause the building to be prone to adverse weather and temperature fluctuations, further reducing the suitability for bats.	
B3 – suitability assessment	B3 has negligible habitat value for roosting bats due to a lack of suitable features. No birds' nests were observed internally or externally on B3.	N/A

B4 – southern and eastern elevations	B4 is a detached single-storey timber-framed building with a flat roof clad in corrugated metal sheeting. The roof sheeting is in poor condition with missing sections which lead directly into B4 but no raised tiles under which bats could roost.	
B4 – western elevation	The walls of the northern, eastern and western elevations are clad in single skinned corrugated metal sheeting which is in good condition.	

B4 – interior	There is no loft within B4 as the ceiling is flat. The roof structure is built from modern timber beams, however, there is no ridge beam. The roof is unlined, and the backs of the corrugated asbestos sheeting can be observed which is in good condition with no gaps. Daylight enters the space through the open wall on the southern elevation and through the gaps in the roof. This creates high levels of light internally and will cause the building to be prone to adverse weather and temperature fluctuations, further reducing the suitability for bats.	
B4 – suitability assessment	B4 has negligible habitat value for roosting bats due to a lack of suitable features. No birds' nests were observed internally or externally on B4.	N/A

B5 – southern and western elevations	B5 is a detached single-storey timber-framed building with a pitched and gabled roof clad in corrugated asbestos sheeting. The roof sheeting is in good condition with no raised tiles under which bats could roost.	
B5 – eastern elevation	The doors and windows are wooden framed and appear in good condition with no gaps or cracks within which crevice-dwelling bats could roost. The wooden weatherboarding around the building appears in good condition with no gaps or cracks within which crevice-dwelling bats could roost.	

B5 – interior	There is no loft within B5 as the ceiling is vaulted. The roof structure is built from modern timber beams, however, there is not a main ridge beam. The roof is unlined, and the backs of the corrugated asbestos sheeting can be observed which is in good condition with no gaps. Daylight enters the space through the windows and doors on the eastern, southern and western elevations. This creates high levels of light internally and will cause the building to be prone to adverse weather and temperature fluctuations, further reducing the suitability for bats.	
B5 – suitability assessment	B5 has negligible habitat value for roosting bats due to a lack of suitable features. No birds' nests were observed internally or externally on B5.	N/A

B6 – southern and western elevations	B6 is a detached single-storey timber-framed building with a flat roof clad in corrugated metal sheeting. The roof sheeting is in poor condition with missing sections which lead directly into B6 but no raised tiles under which bats could roost. In addition, a large section of the western elevation is open to the elements as the building is in a poor state of repair.	
B6 – interior	There is no loft within B5 as the ceiling is flat. The roof structure is built from modern timber beams, however, there is no ridge beam. The roof is unlined, and the backs of the corrugated metal sheeting can be observed which is in good condition with no gaps. Daylight enters the space through the open wall on the southern and western elevations. This creates high levels of light internally and will cause the building to be prone to adverse weather and temperature fluctuations, further reducing the suitability for bats.	

B6 – suitability assessment	B6 has negligible habitat value for roosting bats due to a lack of suitable features. No birds' nests were observed internally or externally on B6.	N/A

Other Fauna

4.2.8 An assessment of the suitability of the site for other protected or notable species is provided in Table 9.

Table 9: Assessment of the suitability of the site for protected or notable species

Species	Assessment of Suitability	Biological Records Data
Amphibians	A review of aerial imagery indicates the presence of 10 ponds within 500m of the site, located 140m south-west, 165m south-west, 240m north, 295m east, 355m south-west, 350m north, 360m south, 375m south-west, 430m east and 435m south. P1 and P2 are located within the Dog's Trust centre and are manmade ponds, created in 2007. From arial images (Google Earth Pro), they appear to have very little submergent vegetation with large water features in both ponds. Additionally, they are surrounded by hard standing and intensively managed grassland. P3 and P6 (to the north of the site) appear to have been dry since 2011. The remaining ponds are also manmade, created in 2021 in relation to SCS railways to the east of the site. These ponds have a manmade plastic liner and no submergent vegetation. These ponds (P4, P5, P7, P8, P9 and P10) are separated from the site by urban infrastructure including tarmac roads, buildings, and building sites. These landscape features are suboptimal for great crested newts due to a lack of refuge from predation. As a result, given the distance of this pond from the site, these	A review of the MAGIC database returned no granted EPSL, class licence or pond survey records for great crested newts within 500m of the site. However, there is one EPSL, located 1280m south-east for the destruction of a GCN resting place and two class licence returns, located 1730m north and 1825m north, which show the presence of GCN from historic pond surveys in 2017. The BRD from GIGL returned three records of amphibians within 2km of the search area, one common toad, one common frog and one GCN. The GCN record is located 1815m south from the site. GCN exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton *et al.* 2001). As such, the GCN metapopulation known to be present over 500m from the site, are not suitably connected to the site.

	landscape features are likely to represent a significant barrier to dispersal eliminating connectivity to the site for great crested newts. Although there are no ponds onsite, the habitats onsite are also assessed to provide suitable terrestrial opportunities for great crested newts in the form of dense tall ruderal vegetation, grassland, dense scrub, and tree lined boundaries which will provide optimal foraging, commuting, and refuge opportunities. When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of approximately 0.35ha of suitable GCN habitat. None of the off-site ponds will be affected or directly impacted by the proposed development. Therefore, if great crested newts are present within the pond, 140m to the south-west of the site, this will constitute a loss of 0.35ha of land between 100-250m from a potential breeding pond. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Green risk score, which states: Offence Highly Unlikely.	

Reptiles	The habitats recorded on site are assessed to provide optimal foraging, commuting, and basking opportunities for reptiles in the form of grassland, scrub, and tall ruderal vegetation. These habitats will provide suitable foraging opportunities adjacent to open areas for basking and dense vegetation for refuge. There is good connectivity between the site and habitats in the wider landscape, due to an absence of development and subsequent presence of unperturbed vegetated habitats.	A review of the MAGIC database returned no EPSLs for reptiles within 2km of the site. Additionally, the BRD from GIGL did not return any records of reptiles within 2km of the site.
Badgers	The site has suitable habitat for badgers in the form of grassland, dense scrub, and tall ruderal vegetation which are assessed to provide foraging, commuting and sett building opportunities for badgers. As well, distinct mammal paths running into the dense scrub and a badger scat was observed onsite, on a mammal path which ran into the western section of dense scrub. There is good connectivity between the site and habitats in the wider landscape, due to an absence of development and subsequent presence of unperturbed vegetated habitats.	The BRD from GIGL returned one record of badgers within 2km of the search area.
Hazel Dormice	No evidence of dormice was found within the site. It is not anticipated that dormice are present on the site due to the lack of suitable of the habitats present. Furthermore, for isolated habitats in the UK, research indicates that dormice require	A review of the MAGIC database returned no EPSLs for hazel dormice within 2km of the site. Additionally, the BRD from GIGL did not return any records of dormice within 2km of the site.

	20ha of woodland habitat to support a viable population (Bright *et al.* 1994). There are no areas of woodland present on or directly adjacent to the site that are big enough (20ha) to support dormice.	
Hedgehogs	No evidence indicating the presence of hedgehogs was recorded onsite. Habitats recorded on site are assessed to provide foraging, commuting, and refuge opportunities for hedgehogs. Foraging and commuting opportunities are present in the form of scrub and neutral grassland with ruderals. There is good connectivity between the site and habitats in the wider landscape, due to an absence of development and subsequent presence of unperturbed vegetated habitats. Additionally, the tree lined boundaries and grassland with ruderals provides suitable refuge opportunities from predation. Although no evidence indicating the presence of hedgehogs was recorded during the site survey, the future presence of hedgehogs foraging and commuting on site cannot be discounted.	The BRD from GIGL returned one record of hedgehogs within 2km of the search area, located 162m east of the site.
Riparian Mammals	There is no evidence of otters or water voles onsite and no suitable habitat for riparian mammals to forage or create holts/burrows onsite. Grand Union canal is located 1070m west of the site, with large lakes, located 755m south-west and	The BRD from GIGL did not return any records of otters within 2km of the site. However, it did return one record of water voles, located 645m south of the site.

	a small stream located 205m south-east of the site which could be utilised by riparian mammals. However, these features are separated from the site by urban infrastructure including tarmac roads, buildings, and building sites. These landscape features are suboptimal for riparian mammals due to a lack of refuge from predation.	
Birds	Barn owl pellets were observed scattered below the trusses within B2 onsite. Due to the type and extent of habitats recorded, the site is not considered suitable for a significant assemblage of protected and/ or notable bird species. However, the tree lined boundary could provide nesting opportunities for common species of breeding birds.	The BRD from GIGL returned 41 records indicating the presence of birds within 2km of the site between 2001 and 2021. These records include the following schedule 1 birds; kingfisher, marsh harrier, great northern diver, red kite and osprey. However, these records are located over 860m north-west of the site. The closest record is from a short-eared owl, located 180m west of the site.
Invertebrates	The site is suitable for common species of invertebrates due to the habitats onsite.	The BRD from GIGL returned 36 of invertebrates within 2km of the site between 2004 and 2022.

5.0 Conclusions and Recommendations

5.1 Informative Guidelines

5.1.1 A summary of the relevant legislation and planning policies is provided in Section 8 of this report.

Likelihood of the Presence of Protected Species

5.1.2 Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

5.1.3 Where this report supports a planning application, the ecological interest of the study area (i.e. the area covered by the desk study and field survey) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

5.2 Evaluation

5.2.1 Taking the desk study and field survey results into account, Table 10 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development.

Table 10: Evaluation of the site and any ecological constraints

Feature	Survey Results Summary	Impact Assessment	Recommendations
Designated sites	There are eight statutory sites within 2km of the site, the closest being Ruislip Woods NNR and SSSI located 540m north-east from the site.The site lies within the impact risk zone for Ruislip Woods Site of Special Scientific Interest (SSSI) and the proposed development type is listed as a possible high risk for this designation. There are 16 non-statutory sites within 2km of the site, the closest being Dew's Dell Sites of Importance for Nature Conservation (SINCs) located 250m west from the site.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites.	Best practice measures to minimise the possibility of pollution must be implemented during construction.
Habitats and flora	There are no notable habitats within the site but six habitats are present within 2km of the site, the closest being	No impacts to any notable habitats are anticipated due to the small scale and distance of the	Best practice measures to minimise the possibility of pollution must be implemented during construction.

	deciduous woodland located 175m west from the site. Habitats on site comprise dense scrub, tree lined boundaries, neutral grassland and buildings.	proposed development from such habitats.	Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).
Amphibians	A review of aerial imagery indicates the presence of 10 ponds within 500m of the site. Although there are no ponds onsite, the habitats onsite are also assessed to provide suitable terrestrial opportunities for great crested newts in the form of dense tall ruderal vegetation, grassland, dense scrub, and tree lined boundaries which will provide optimal foraging, commuting, and refuge opportunities.	Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of 0.35ha of suitable great crested newt habitat. If great crested newts are present within the pond 140m to the south-west of the site, this will	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible

		constitute a loss of 0.35ha between 100-250m of a potential breeding pond. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a **Green risk score**, which states: **Offence highly unlikely**.	presence of amphibians, including great crested newt, at the site. • Heras fencing will be erected around the working area to prevent encroachment towards aquatic habitats where amphibians could be present. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

			• Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Reptiles	The habitats recorded on site are assessed to provide optimal foraging, commuting, and basking opportunities for reptiles in the form of grassland, scrub, and tall ruderal vegetation. These habitats will provide suitable foraging opportunities adjacent to open areas for basking and dense vegetation for refuge. There is good connectivity between the site and habitats in the wider landscape.	Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. The loss of such habitats could result in a reduction in reptile habitat and could result in the fragmentation of the local landscape. Furthermore, site clearance could result in the death or injury of reptiles, if present.	Reptile surveys will be required to determine presence or likely absence of reptiles on the site. This will comprise the deployment and monitoring of artificial refugia over seven visits and such surveys must be undertaken between April, May and September, in accordance with current survey guidelines (Gent & Gibson, 2003).
Roosting bats (B1)	B1 has high habitat value for roosting bats. As there were many missing and broken tiles on all elevations of B1, as well as broken windows and broken ridge tiles.	The proposed development will result in the demolition of this building. This could result in destruction of any bat roosts present and could cause disturbance, death or injury to bats.	Three bat emergence and re-entry surveys are required during the active bat season (optimal May to August, suboptimal September) to confirm presence or likely absence of a bat roost in the building. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive.

			Infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart. Three surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building an EPSL application to Natural England will be required. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.
Roosting bats (B2-B6)	Buildings (B1-B6) have negligible value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on roosting bats as a result of the demolition of these buildings.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice

Foraging and commuting bats	Tree lined boundaries could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will result in the loss of small areas of the southern tree lined boundary but given the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of

			light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that

			the lights are on. All lighting on the developed site will make use of the most up to date technology available.
Badger	The site has suitable habitat for badgers in the form of grassland, dense scrub, and tall ruderal vegetation which are assessed to provide foraging, commuting and sett building opportunities for badgers. As well, distinct mammal paths running into the dense scrub and a badger scat was observed onsite, on a mammal path which ran into the western section of dense scrub. However, no setts were observed onsite.	Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • Heras fencing will be erected around the working area to

			prevent encroachment into retained habitats where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Hazel dormouse	No evidence of dormice was found within the site. It is not anticipated that dormice are present on the site due to the lack of suitable of the habitats present.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.
Hedgehog	Although no evidence indicating the presence of hedgehogs was recorded during the site survey, the future presence of hedgehogs foraging and commuting on site cannot be discounted.	Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.	A precautionary working method will be implemented during construction, including the following measures: • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 30cm and left overnight to allow any hedgehogs to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter hedgehogs from the working area. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

			• The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.
Riparian Mammals	There is no evidence of otters or water voles onsite and no suitable habitat for riparian mammals to forage or create holts/burrows onsite.	No impacts are anticipated on otters or water voles as a result of the proposed development.	None.

Birds	Barn owl pellets were observed scattered below the trusses within B2 onsite. Due to the type and extent of habitats recorded, the site is not considered suitable for a significant assemblage of protected and/ or notable bird species. However, the tree lined boundary could provide nesting opportunities for common species of breeding birds.	B2 will be retained onsite post construction, however, it will be renovated to allow for storage. Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Owing to the nature of the proposed development and the low potential for impacts to barn owl, further surveys are considered to be disproportionate. It is anticipated that any risk to barn owl can be reduced to an acceptably low level through the implementation of a barn owl mitigation strategy which will detail measures to be implemented during and post-development. Vegetation clearance (especially scrub) should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.

Invertebrates	The site is suitable for common species of invertebrates due to the habitats onsite.	Dense scrub, neutral grassland, ruderals and a small section of the tree lined boundary to the south will be removed during construction. will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.	None.

5.3 Biodiversity Enhancements

5.3.1 The installation of three bird boxes, including a barn owl box at the site will provide additional nesting habitat for birds. The bird boxes will be installed a retained tree or building. General purpose bird boxes should be positioned 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight.

5.3.2 Planting of native scrub, native tree, hedgerow and shrub planting to increase foraging opportunities.

5.3.3 The following habitat creation and enhancement opportunities could be incorporated into the proposed development to provide additional opportunities for invertebrates on site:

- beetle banks
- dead wood piles
- floral borders
- insect habitat, including bee bricks installed into new buildings
- sedum roofs on flat roof structures

5.3.4 The following would be beneficial for hedgehogs:

- Creation of brash piles or installation of hedgehog houses in shady areas.
- Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

5.3.5 A separate Biodiversity Net Gain (BNG) report is being produced to inform the planning application.

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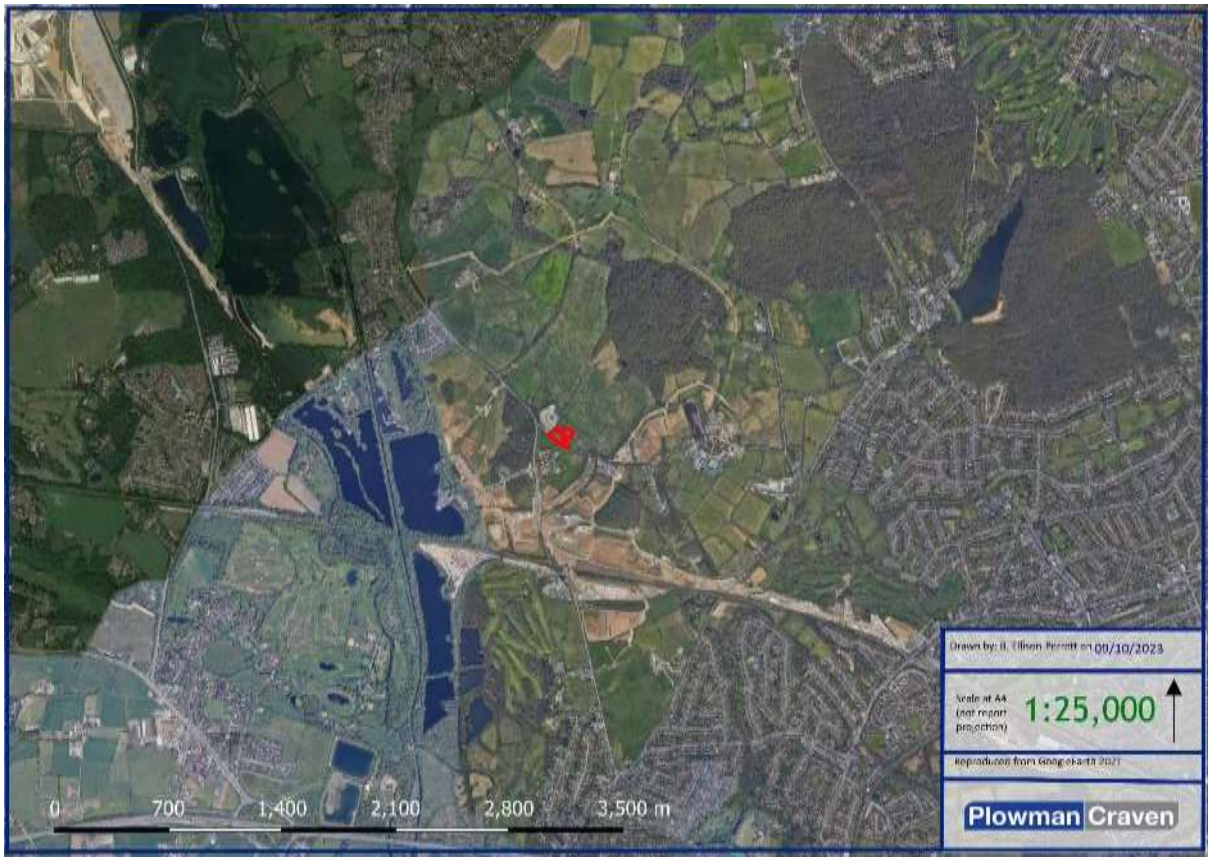
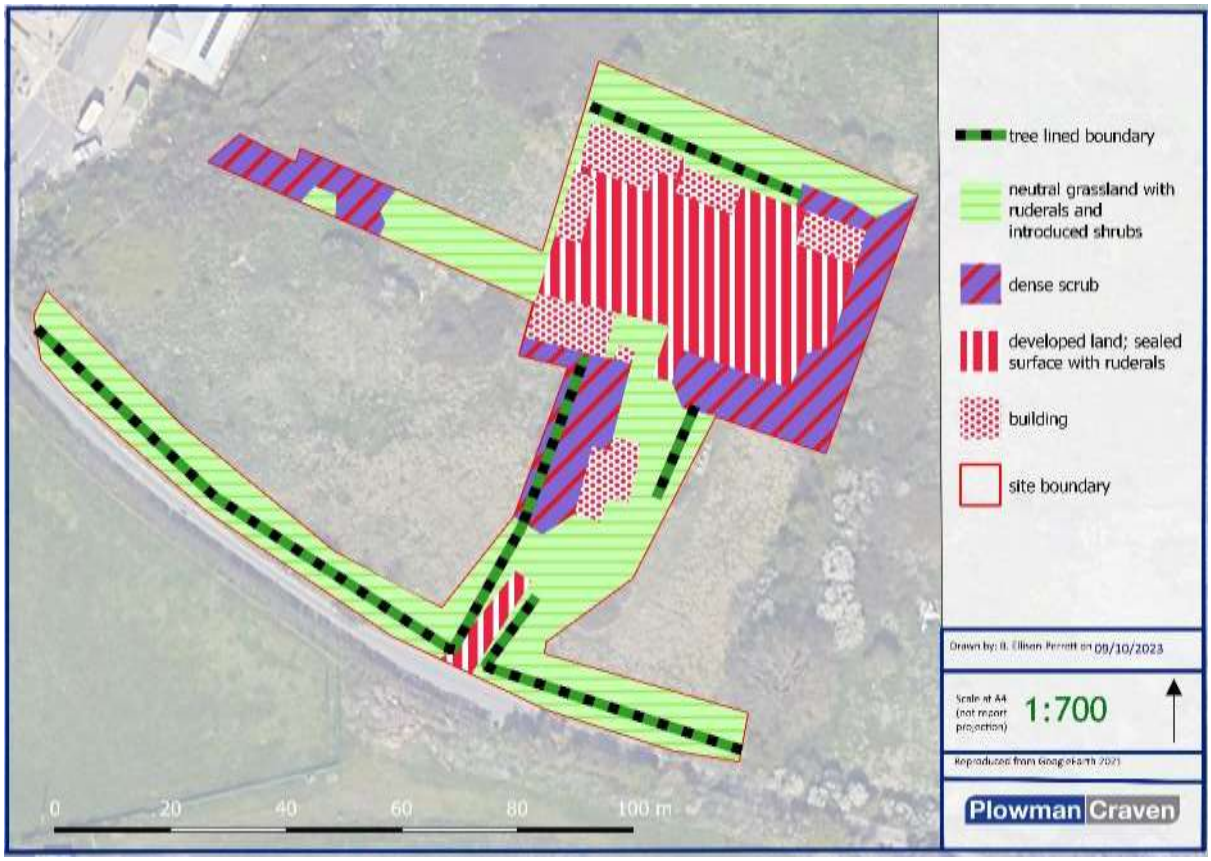
7.0 Appendices

7.1 Appendix 1 – Proposed Site Plan

7.2 Appendix 2 – Site Location Plan

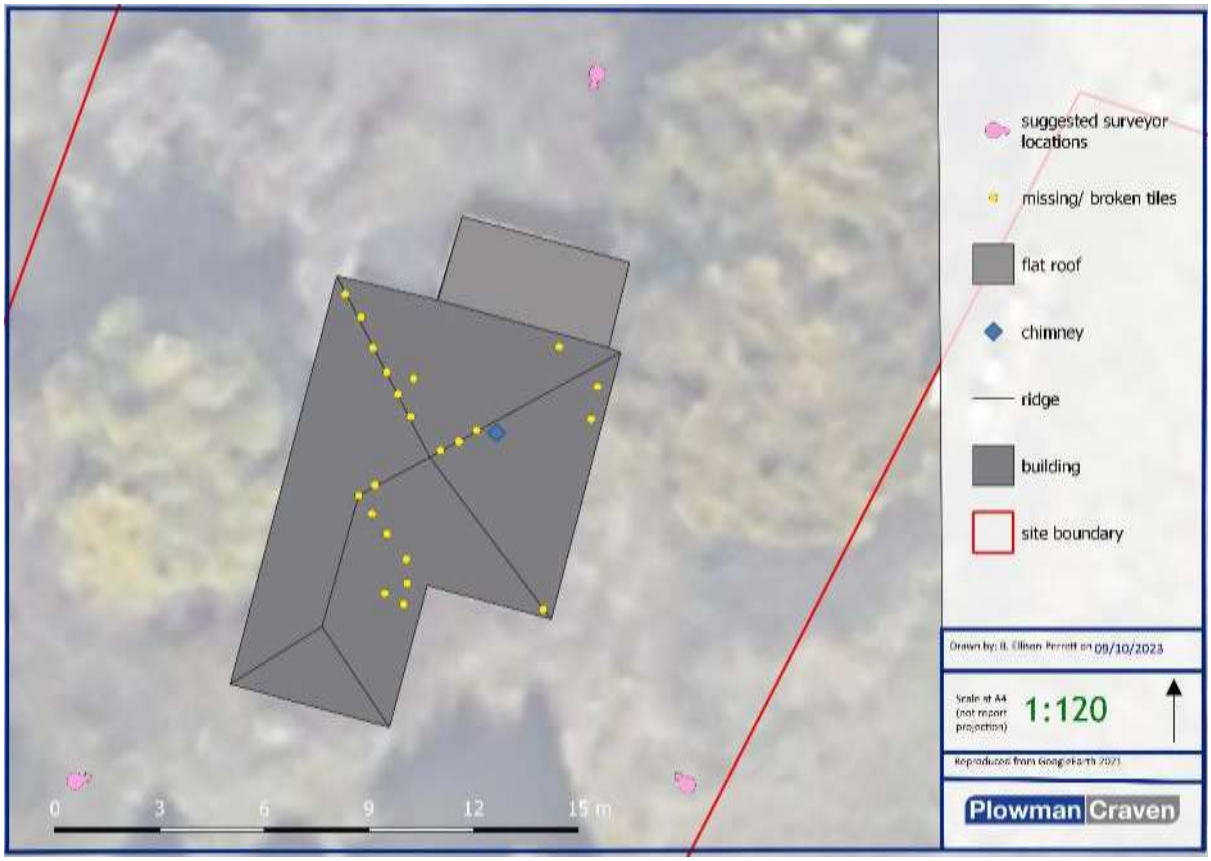


7.3 Appendix 3a – Habitat Survey Plan



7.4 Appendix 3b – PRA Survey Plan

7.5 Appendix 3c – BERS Location Plan



8.0 Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as "*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*". However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect ‘important’ countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance

has been issued by the countryside agencies to define what would constitute a licensable activity. It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate

- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency

for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)

- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking
- Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish

(Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an ‘unauthorised’ person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)

- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain ‘injurious weeds’ including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

Effects on development works:

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort

is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY (ENGLAND)

Environment Act 2021

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.