

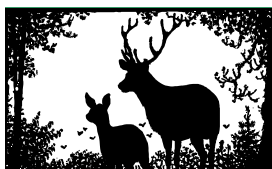


Preliminary Ecological Appraisal

**Land off Breachwood Green
Hitchin
Hertfordshire**

Updated September 2022

For and on behalf of:
Pilkington Farms Partnerships
The Farm Office
Hoo Farm
Great Offley
Hitchin
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Date of Report

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Declaration

This report has been produced endeavouring to follow the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and ecological information has been provided in accordance with British Standards BS 42020 2013-Biodiversity-Code of practice for planning and development.

Whilst every effort has been taken to ensure this report accurately identifies potential ecological constraints to development or the likely presence or absence of species and the spatial and temporal use of the site by such species, it must only be viewed as a snap shot in time and reflects the ecological status of the site at the time of survey.

No liability can be assumed for ecological changes that may or may not occur on the surveyed site after the production of this report. The author of this report must be consulted as to the current applicability of the report if there are any seasonal delays in the use of this report.

This report can only be used for the purposes for which it was instructed and agreed at the time of commission.

Quality Assurance

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Executive Summary

A planning application is being prepared for the residential redevelopment of a small site off Heath Road in Breachwood Green, near Hitchin in north Hertfordshire.

In order to assess any predicted significant impacts of the redevelopment on important and protected species and habitats, a Preliminary Ecological Appraisal has been carried out of the application site by Consultant Ecologists ELMAW Consulting, on behalf of the applicant, in October 2021.

The PEA has established that the application site is not designated as a site of nature conservation importance and no such designated sites are likely to be adversely impacted by the proposed redevelopment of the application site. There are no recorded important or protected species or species groups from within the application site, however because of the presence of suitable habitat within the application site, it has been concluded that a number of protected species may potentially be impacted by the redevelopment proposals; nesting birds, hedgehogs (*Erinaceus europaeus*), polecats (*Mustela putorius*) and roosting bats. Further survey work in the case of roosting bats will be required as the two ash (*Fraxinus excelsior*) trees with PRFs are to be worked on and mitigation measures are available for the other species.

A biodiversity net gain calculation has been made of the applications site's baseline habitats using the Biodiversity Metric 3.0 – July 2021. The baseline area habitats are worth 1.9 Habitat Units and the baseline Hedgerow Habitats are worth 1.55 Habitat Units. In August 2022, an indicative site layout was provided and the biodiversity net gain for the site calculated. The retention of some habitats and the creation of new ones mean the proposed redevelopment is calculated to provide a +11.7% Biodiversity Net Gain in Habitat Units and a +23.7% Biodiversity Net Gain in Hedgerow Units.

1.0 Introduction

1.1 Background

- 1.1.1 A planning application is being prepared for the redevelopment of a former allotment site off Heath Road, Breachwood Green, Hitchin, in Hertfordshire. It is proposed to build ten new residential dwellings, including vehicular access off Heath Road, within the application site. At this time, it is assumed, for the purposes of this Preliminary Ecological appraisal (PEA), that the entire application site will be redeveloped.
- 1.1.2 The purpose of this PEA is to detail the results of an initial ecological appraisal of the application site with the aim of identifying potential biodiversity constraints that may affect the site's redevelopment. The report also informs mitigation measures and establishes the potential need for further species surveys considered necessary under UK legislation and both national and local planning policies. Specifically, these constraints typically involve the provision of biodiversity net gain (BNG) and the protection and enhancement of protected and notably important species and habitats.
- 1.1.3 This ecological study has been commissioned by Sworders, on behalf of the applicant, Mr Duffin of Pilkington Farms Partnerships. The site with which this study is concerned is referred to throughout the report as the application site. The aerial photo below indicates the extent of the application site and shows it in its geographical context with its landscape surroundings.



Plate 1: Aerial photo with indicative site boundary

- 1.1.4 The report's author is Keith Seaman who holds a Bachelor of Science Degree in Environmental Studies; Agri-Ecosystem Management, a Diploma of Higher Education in Ecology and a Certificate of Higher Education in Ecology and Conservation. His professional qualifications include membership of the Royal Society of Biology (RSB) - registered as a Chartered Biologist and professional grade membership of The Chartered Institute of Ecology and Environmental Management (CIEEM). Keith Seaman also holds Natural England Survey, Research and Development licences for all species of bat, badger (*Meles meles*), great crested newt (*Triturus cristatus*), otter (*Lutra lutra*), barn owl (*Tyto alba*) and dormouse (*Muscardinus avellanarius*).
- 1.1.5 Keith Seaman has been an academically qualified Ecologist since 1995 and a professionally qualified Ecologist since 2004 and since then has gained considerable experience working in both the public and private sectors carrying out Ecological Impact Assessments as well as protected species appraisals and developing mitigation strategies.

2.0 Planning Policy and Legislation

2.1 Relevant National and Local Planning Policies

National Planning Policy Framework

2.1.1 The National Planning Policy Framework (NPPF) superseded Planning Policy Statement 9 (PPS9) in March 2012. The NPPF 2021 states that 'planning policies and decisions should contribute to and enhance the natural and local environment by', in part;

- *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*

2.1.2 It also states that 'when determining planning applications, local planning authorities should apply the following principles';

- *If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused*
- *Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains*

for biodiversity or enhance public access to nature where this is appropriate.'

2.2 Local Plan Policies

- 2.2.1 The North Herts Local Plan Second Review (April 2007) is the current local level policy guidance covering the site. The following policies from the document are deemed potentially relevant to this study;

Policy ENV16 – Protected Species

'Development and other land use changes which may have an adverse effect on badgers and other species protected by Schedules 1, 5 and 8 of the Wildlife & Countryside Act 1981, as amended, and the Nature Conservation (Natural Habitats, &c.) Regulations 1994 will only be permitted where harm to the species can be avoided.

Where in exceptional cases permission is granted contrary to the above, the District Council will impose conditions and planning obligations (or as subsequently revised) which seek to;

Facilitate the survival of existing populations of species as well as encouraging the provision of new habitats;

Reduce disturbance to a minimum;

Provide adequate alternative habitats to sustain at least the current levels of populations.'

- 2.2.2 Cognisance has also been given to the emerging North Hertfordshire District Council Local Plan 2011 – 2031 – Proposed Submission – October 2016. The following policy from this document is deemed potentially relevant (in part) to this study:

Policy NE6 – Designated Biodiversity and Geological Sites

..... 'Development proposals on non-designated sites that include important habitats and species will be expected to meet parts (b) to (d) of this policy.

(b) Submit an ecological survey and demonstrate that adverse effects can be satisfactorily minimised by following the hierarchy below:

i. locating on an alternative site with a less harmful impact

ii. providing adequate mitigation measures; or

iii. as a last resort compensated for

(d) Provide a long-term management plan including mitigation measures as necessary.

2.3 Legislation

Conservation of Habitats & Species (Amendment) (EU Exit) Regulations 2019

- 2.3.1 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 implement the EC Habitats Directive in the UK. These regulations mainly deal with the protection of sites that are important for nature conservation in a European context (e.g., Special Areas of Protection [SACs] and Special

Protection Areas [SPAs]). The legislation also gives protection to certain species of flora and fauna.

- 2.3.2 The 2019 Habitats Regulations makes it an offence to deliberately capture, kill or disturb wild animals and it is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

Wildlife & Countryside Act (WCA)

- 2.3.3 The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CROW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive).

Natural Environment & Rural Communities Act (NERC)

- 2.3.4 The NERC Act of 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

3.0 Methodology

3.1 Field Survey

- 3.1.1 This PEA report has been produced following the *Guidelines for Preliminary Ecological Appraisal* 2017 (Chartered Institute of Ecology and Environmental Management). Habitats have been described, based in part, on the methodology from the UK Habitat Classification (Ref. 4). In some circumstances habitat descriptions and mapping have been adapted to suit non-standard site-specific conditions.

3.2 Scoping for Protected & Important Species

- 3.2.1 The habitat survey has been extended to include a scope of the application site's habitats as to their likely importance or potential to support protected or important species and habitats, as identified under the following legislation; the Habitat Regulations 2019, the Wildlife & Countryside Act (as amended) 1981, the Protection of Badgers Act 1992, the Hedgerow Regulations 1997, International Union for Conservation of Nature (IUCN) Birds of Conservation Concern (BoCC) Red and Amber Lists and the Natural Environment & Rural Communities (NERC) Act 2006.
- 3.2.2 Some species and species groups have been scoped out of this PEA because of the lack of biological records, limitations in geographical distribution and the absence of species-specific suitable habitat and connectivity within or adjacent to the application site. Only those important and protected species and species groups deemed likely to be present on site or affected by the proposals have been included in this PEA.
- 3.2.3 The desk study of this PEA has been completed by ELMAW Consulting's Associate Director and the walk-over field survey of the PEA was carried out the report's author Mr Keith Seaman, on the 28th November 2021, in suitable weather conditions and with no restrictions over access to the entire application site.
- #### 3.3 Biodiversity Metric 3.0
- 3.3.1 The Biodiversity Metric 3.0 (July 2021) uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity value. This value is then adjusted, depending on the condition and

location of the habitat, to calculate 'biodiversity units' for the specific project or development. Biodiversity Metric 3.0 incorporates separate calculations for linear habitats that require a different method of measurement such as hedgerows and lines of trees, rivers and streams and urban trees.

- 3.3.2 Biodiversity Metric 3.0 can be used to measure both on-site and off-site biodiversity changes for a development and can be used to measure the change in biodiversity achieved by different land management interventions. The Metric also accounts for some of the risks associated whenever new habitat is created or existing habitat is enhanced. The Metric calculates the change in biodiversity resulting from a development by subtracting the number of pre-intervention or 'baseline' biodiversity units (ie those originally existing on-site) from the number of post-intervention units (ie those projected to be provided after the development or change in land management).

3.4 Limitations

- 3.4.1 It must be acknowledged that this site assessment has been completed at a sub-optimal time of year, particularly for the recording of flora. However, considering the limited amounts of vegetation within the application site, this limitation is not considered to have materially affected the robustness of the conclusions reached in the report.
- 3.4.2 As to the reliability of the assessment for protected species, it must be further acknowledged that this PEA is based on the presence of suitable habitat, local biological records, geographical distribution and habitat connectivity to support such important species and not on any qualitative species-specific surveys carried out as part of the PEA. Where the potential for important species has been identified, further species-specific surveys or mitigation measures are considered necessary to be confident of either a positive or negative conclusion as to the presence of protected species on site. Where a European Protected Species Mitigation (EPSM) licence is required, species survey data of the current season and year of the application is required by Natural England.

- 3.4.3 The Chartered Institute of Ecology and Environmental Management (CIEEM) advises that where mobile species such as bats and reptiles are concerned, this report is likely to be out of date within 12-18 months and will need updating.
- 3.4.4 The study specifically addresses the issues of potential redevelopment constraints affecting important and protected species and habitats. This report provides generic, not project-specific recommendations, in the absence of any detailed redevelopment plans for the site.
- 3.4.5 Recommendations for mitigation, compensation and biodiversity net gain will need to be re-addressed and/or re-assessed once detailed site redevelopment plans are available.

3.5 Desk Study

- 3.5.1 Biological records of protected and important species and habitats from a radius of 2km around the application site were sourced from the Hertfordshire Environmental Records Centre (HERC) on the 28th October 2021. The results of the data search request were received on the same day. In addition, all international site of nature conservation importance within a 10km radius, nationally important sites within a 5km radius and local sites within a 2km radius of the application site were sourced.
- 3.5.2 Only species records from the last ten years have been included as it is considered that records older than this are not sufficiently recent to be relevant to this study.
- 3.5.3 Google earth aerial photographs and DEFRA's Magic Map Application images have been examined of the application site and surrounding landscape as have the relevant Ordnance Survey Explorer Maps at a 1:25,000 scale.

4.0 Baseline Ecological Conditions

4.1 Designated Sites of Nature Conservation Importance

- 4.1.1 There are no internationally important sites of nature conservation importance within 10km of the application site; therefore, there are no significant redevelopment impacts predicted on any international sites.
- 4.1.2 There is a single nationally important site within the 5km radius around the application site. Wain Wood Site of Special Scientific Interest (SSSI) lies approximately 4.2km from the application site, to the north-east. This site is beyond the Natural England Impact Risk Zone and therefore, there is no need for consultation with Natural England and there are no significant impacts on this national site predicted as the result of the redevelopment of the application site.
- 4.1.3 There are 13 non-statutory Local Wildlife Sites (LWSs) within the 2km radius data search area around the application site. With the exception of just one LWS, all are separated from the application site by roads and arable fields, with no material habitat connectivity, negating the potential for any significant ecological impacts arising from the redevelopment of the application site on these LWSs.
- 4.1.4 There is however one LWS in close proximity to the application site; Watkins Wood & Lords Wood LWS (ref 28/006). This LWS is described as an ancient semi-natural woodland of English oak (*Quercus robur*) and hornbeam (*Carpinus betulus*). It qualifies as an LWS because it supports ancient woodland indicators. This site is not connected to the application site and is separated from it by arable fields. Considering the small scale redevelopment of the application site and the lack of habitat connectivity, it is not predicted that the redevelopment of the application site would have a significant impact on the Watkins Wood & Lords Wood LWS.

4.2 Habitats

Urban Allotments

- 4.2.1 The majority of the application site is dominated by land which was formerly used as allotment gardens, reported as cleared in September 2021. As a result of the regrowth of vegetation from that clearance, grass and ruderal

vegetation is now redeveloping. The UK habitat classification classifies this land as Urban Allotments of low distinctiveness (albeit now cleared).

4.2.2 The land is now a patchwork of open bare soil and short perennial vegetation appearing to be dominated by rye grass (*Lolium perenne*), false-oat grass (*Arrhenatherum elatius*) and meadow grass (*Poa annua*) with cock's-foot (*Dactylis glomerata*), with ground ivy (*Glechoma hederacea*), creeping buttercup (*Ranunculus repens*), creeping thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*), common cleavers (*Galium aparine*), dove's-foot cranesbill (*Geranium mole*) and white clover (*Trifolium repens*). At the time of the October 2021 survey, where the vegetation had been cleared and stripped, there were now two large piles of vegetation and detritus, with at least one pile lying within the application site boundary. (These piles have since been removed, under the direct supervision of ELMAW Consulting's Principal Ecologist, Keith Seaman, on the 25th of May 2022).

4.2.3 Working allotment sites are generally well-maintained and lack substantive amounts of unkempt or semi-natural habitats. Generally, as allotment gardens become redundant or temporarily uncultivated, grassland habitats can develop, alongside ruderal vegetation, which can increase the allotment gardens' biodiversity value. However, under typical conditions persisting within working or partial-working allotments, any semi-natural grassland habitat, irrespective as to their species diversity is unlikely to qualify as a Sect. 41. NERC Habitat of Principal Importance or as a Priority Habitat for Conservation.



Plates 2 & 3: Views of the former allotment site

4.2.4 Such early-developing grassland and ruderal vegetation on soil-cleared sites are a very common habitat, particularly on former habitats which are likely to

have been species-poor on nutrient-rich soils. As such, this developing grassland habitat is considered to be of negligible value at this time and its condition for the purposes of the Biodiversity Metric 3.0 is classed as poor.

Urban Trees

- 4.2.5 There are 25 Urban Trees within the application site. Five of the Urban Trees are considered to be large, four ash (*Fraxinus excelsior*) and one sycamore (*Acer pseudoplatanus*), 11 are considered to be medium-sized; nine oaks, one hazel (*Corylus avellana*) and one field maple (*Acer campestre*), and nine are considered small-sized hazel trees. The group of Urban Trees has been assessed as of moderate condition based on them qualifying on three of the six condition assessment criteria.
- 4.2.6 The application site's trees are found in three locations, a small block in the south-eastern corner of the site and two small clumps in the north-western corner of the site. All were found generally to be unmanaged with no obvious sign of anthropogenic activity; a number of the mature ash trees are displaying signs of decay and rot and a small number of the trees are covered to a greater or lesser degree with ivy (*Hedera helix*). Ecologically, whilst two of the trees would be considered to be veteran by virtue of their rot and trunk hollowing and at least two of the trees have a covering of ivy, as a group feature, their value to wildlife is considered to be limited - negligible.



Plates 4 & 5: Scattered 'Urban Trees' within the application site

Line of Trees (BNG ref: 3)

- 4.2.7 Growing along the site's eastern boundary with Heath Road is a line of seven trees; one medium-sized multi-stemmed elm *sp.*, two small ash, 1 medium-sized ash, 1 small oak, 1 small elm *sp.* and 1 medium-sized hawthorn. None of these

trees are considered to be veteran or moribund and whilst the ivy on some of these trees provides some limited wildlife value, the line of trees is considered to be geographically of negligible value. Its condition assessment is considered to be moderate as it passes four of the five condition assessment criteria.

Native Hedgerow (BNG ref: 1)

- 4.2.8 Running the length of the site's south-western boundary and measuring approximately 136m is a native hedgerow. The hedgerow is dominated by native shrub species including hazel, hawthorn (*Crataegus monogyna*), elm sp. (*Ulmus sp.*), hornbeam, holly (*Ilex aquifolium*), elder (*Sambucus nigra*) and field maple but with no single species dominating. The condition assessment of the native hedgerow has concluded a good condition.

Native Hedgerow with Trees (BNG ref: 2)

- 4.2.9 Running along the north-western boundary of the application site is a native hedgerow with trees measuring approximately 46m. Four semi-mature trees were found growing within this hedgerow including an English oak, sycamore and field maple. The condition assessment of the native hedgerow with trees has concluded a good condition.
- 4.2.10 All hedgerows in the UK with at least 80% native woody species are considered to be Sect 41. NERC Priority Habitats for Conservation. The application site's native hedgerows provide some habitat connectivity beyond its boundaries, constrained by Brownings Lane and Heath Road. Consequently, the application site's hedgerows are considered to be of at least site value.



Plates 6 & 7: South-western and north-western boundary native hedgerow and hedgerow with trees

4.3 Protected Species

Plants

- 4.3.1 The biological data search revealed no protected or import species of plant within the 2km radius data search zone. The application site appears to have been of artificial origins (allotment gardens), with a history of management and vegetable gardening. It is considered unlikely that either protected plants or plant species of importance are found within the application site and therefore the site is deemed to be of negligible value to important species of plants at this time.

Invertebrates

- 4.3.2 Very few important species of invertebrate are recorded locally and those that are recorded are all species of butterfly and moth. Three species of butterfly are recorded; white-letter hairstreak (*Satyrrium w-album*), small heath (*Coenonympha pamphilus*) and small skipper (*Thymelicus sylvestris*). The single moth recorded is the ghost moth (*Hepialus humuli*).
- 4.3.3 Currently, the application site is dominated by bare soil and very low-growing perennial vegetation including non-flowering grass species. The site's grassland and bare soil areas lack both horizontal and vertical structure and diversity, as well as lacking typical invertebrate mosaic habitat such as flowering vegetation, porous and artificial substrates. As such, the application site is not considered likely to be of high importance to invertebrates and is unlikely to support assemblages of protected or invertebrate species of importance.

Amphibians

- 4.3.4 There are no records of protected or important species of amphibian (great crested newt and common toad [*Bufo bufo*]) recorded locally, within the last ten years.
- 4.3.5 There are no ponds within the application site although there is a small water collector sunken into the ground. The Ordnance Survey map indicates that there are three ponds within 300m of the application site; two complexes of ponds north and south of the site on the opposite of Heath Road, 200m and 250m respectively and one pond to the south-west of the site 270m on the opposite side of Colemans Road. There are no records of important

amphibians for these ponds within the last ten years and all are separated by roads. The distances between these water bodies and the application site are considered too far to realistically expect material dispersal of amphibians from these open water sites into the application site. Therefore, it is suggested that the application site is unlikely to be important to protected and important species of amphibians at this time.

Reptiles

- 4.3.6 There are no recent records of reptiles from the 2km radius data search area around the application site. However, allotment gardens, depending on their management conditions, can provide suitable habitat for protected (albeit common) species of reptile such as slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). As the application site is a former allotment site, it may have supported reptiles in the past. However, currently, the condition of the application site is not considered to provide suitable reptile habitat and therefore, is not deemed to be important for reptiles.
- 4.3.7 At the time of the original site assessment, the recent site clearance had created three piles, two large and one small, of vegetation and detritus which, should reptiles have been extant on site, may well be used by reptiles for shelter and hibernation. In May of 2022, these piles were removed from the application site under the direct supervision of the Principal Ecologist with ELMAW Consulting, Keith Seaman.
- 4.3.8 The piles were carefully dismantled and destructively searched by Mr Seaman, for reptiles. This required the use of a small excavator, overseen by the ecologist. Since this search had the potential to disturb and possibly injure hibernating reptiles, this mitigation measure was carried out outside the reptile hibernation season (which runs from November through to March, depending on weather and temperature).



Plates 8 & 9: Vegetation and detritus heaps with the potential to support sheltering and hibernating reptiles – now removed from the site

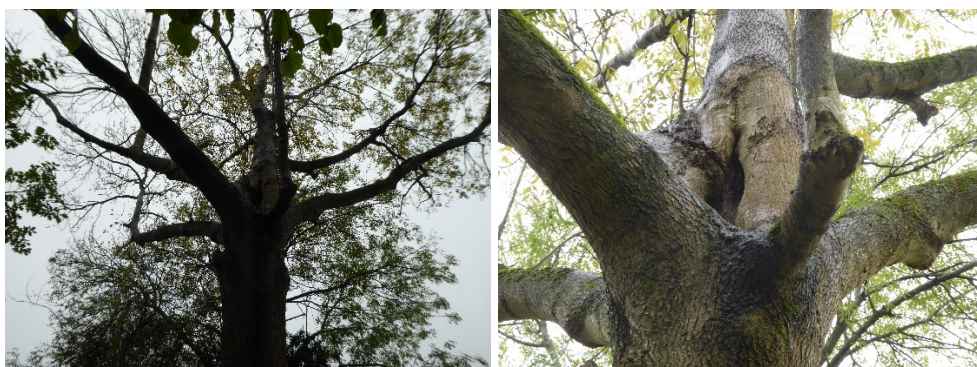
Birds

- 4.3.9 The biological data search indicates 37 species of important bird recorded locally. Of these, four species, the spotted flycatcher (*Muscicapa striata*), song thrush (*Turdus philomelos*), mistle thrush (*Turdus viscivorus*) and dunnock (*Prunella modularis*) are likely to be found breeding within the habitat found within and immediately adjacent to the application site. The boundary hedgerows and trees within the application site provide potential nesting habitat for these species along with other common birds. The application site is surrounded by potential bird nesting habitat with hedgerows, trees and garden shrubberies but this habitat would not be considered abundant in the locality of the application site. Therefore, whilst the application site is not considered important for specially protected birds or species of principal importance, the site may be considered of site value for nesting common species of bird by virtue of its boundary hedgerows and scattered trees.

Bats

- 4.3.10 There are five species of bat recorded locally, although none are specifically recorded from the application itself. The application site supports no buildings and therefore there is no potential for building-roosting bats. There are however at least two ash trees within the site with Potential Bat Roosting Features (PBRFs).

Open cavities within the trunks are visible from ground level, which may provide bat roosting opportunities.



Plates 10 & 11: Potential bat roosting feature in one of the ash trees

- 4.3.11 The application site supports very little semi-natural habitat, with only the scattered trees and the hedgerow providing potential bat feeding and foraging habitat. This potential feeding resource is greatly limited by its location, lack of substantive connectivity to other habitats, particularly wetland or woodlands and, as such, the value of the application site to feeding and foraging bats is considered likely to be negligible. If however the potential bat roosting features are confirmed as supporting roosting bats, the site's potential value to bats may increase.

Badgers

- 4.3.12 Badgers are, unsurprisingly, recorded in the location of Watkins Wood & Lords Wood LWS. The application site was not found to support any badger setts and, as far as was viewable from the application site, there was no indicative evidence to suggest there are any badger setts in close proximity to the application site. Badgers are a very common mammal in Hertfordshire and it is likely they are present in the locality however there were no indicative signs of badger presence found within the application site, suggesting the site is unlikely to be important to the local badger population.

Hedgehog & Polecat

- 4.3.13 Two other mammal species of importance are recorded locally; hedgehog (*Erinaceus europaeus*) and polecat (*Mustela putorius*). There were no indicative signs of either species found within the application site however, both

species can be nomadic and occupy home ranges over large areas of land and their presence may not always be revealed through inductive signs.

- 4.3.14 Suitable habitat for either species is limited within the application site and is currently confined to the boundary hedgerows and line of trees. For a site to be important to hedgehogs, there would need to be extensive areas of foraging habitat such as hedgerow bottoms and scrub and for polecat, access to their food prey, rabbits and rats, would need to be plentiful. The application site is not currently considered to offer ideal conditions for either species and, whilst their presence on site should not be precluded at any time, the value of the site to these two important mammal species is considered to be negligible.

4.4 **Results of Biodiversity Metric On-Site Baseline Calculations**

Site Habitat Baseline

Habitat	Area (ha)	Habitat Condition	Habitat Units
Urban - allotments	0.55	Poor	1.10
Urban Trees	0.1	Moderate	0.8
Total			1.9

Site Hedge Baseline

Hedge No.	Hedgerow Type	Length (km)	Habitat Condition	Habitat Units
1	Native Hedgerow	0.136	Good	0.82
2	Native Hedgerow with Trees	0.046	Good	0.55
3	Line of Trees	0.046	Moderate	0.18
Total				1.55

5.0 Ecological Evaluation & Development Constraints

- 5.1.1 The application site is not a designated site of nature conservation importance and, because of the distance and lack of semi-natural connectivity, it is not predicted that the development of the application site would have a significant negative effect on designated sites of nature conservation importance in the locality.
- 5.1.2 The application site supports just five habitat types; Urban (former) Allotments, Urban Trees, Line of Trees, Native Hedgerow and Hedgerow with Trees. None of these habitats are considered to be significant ecological features with the disturbed/cultivated land of the former allotments considered to be of low distinctiveness and of negligible geographical value. The Urban Trees and Line of Trees are considered to be geographically of negligible value. The Native Hedgerow and Hedgerow with Trees which bound two sides of the application site are considered to be a priority habitat for conservation and to be of site value; providing some value to the local wildlife.
- 5.1.3 Protected and important species are not recorded from within the application site however, a number of protected and important species are considered likely within the site, but the site is not considered significantly important to such species. Specifically, the boundary hedgerows and some of the Urban Trees and the Line of Trees have the potential to support common nesting birds, hedgehogs and polecat and two of the ash trees support potential bat roosting features.
- 5.1.4 Given the application site's very small size, the lack of substantive and diverse areas of semi-natural habitat, the village fringe location and the lack of habitat connectivity, it is suggested that whilst a number of protected and important species may be found, to a greater or lesser degree on site, the application site is unlikely to be significantly important to these species.
- 5.1.5 Whilst the residential redevelopment of the application site is not predicted to have a significant impact on important ecology, mitigation measures will be necessary to ensure protected species are not harmed in the construction of the site. Therefore, prior to development, a number of surveys and mitigation measures will be required.

5.2 Further Surveys

- 5.2.1 If it is intended to remove or carry out tree surgery on the two ash trees with the potential bat roosting features, in the first instance, an off-ground inspection of these features by a Natural England licensed bat surveyor will be required. If the inspection finds no bat roosting potential then no further investigations would be required and it may be concluded that the development of the site would have no negative impacts on roosting bats. If however potential bat roosting evidence is found then further investigations may be necessary and a Natural England mitigation licence would be required before the tree could be felled or pruned to facilitate the application site's development.

5.3 Mitigation Measures

Nesting Birds, Hedgehogs and Polecats

- 5.3.1 If any trees or sections of hedgerow or the line of trees are to be removed to facilitate the development, then each tree or hedgerow/line of trees section should be first searched for nesting birds, hedgehogs and polecats by a suitably qualified ecologist. In the case of searching potential bird nesting habitat – this must be carried out if works are taking place during the bird nesting season (March through to the end of August inclusive). Any evidence of occupied bird nests would delay the tree or hedge work until an ecologist confirms the bird nest is no longer occupied and it is lawful to continue.

5.4 Biodiversity Net Gain

- 5.4.1 As discussed above, NPPF requires that impacts on biodiversity are minimised and the development should result in a biodiversity net gain. The mitigation measures discussed above will, in part, help minimise the impacts on biodiversity. To further minimise impacts on biodiversity, an avoidance strategy has been proposed to limit light spillage, general construction disturbance and the avoidance of tree root damage.

Site Habitat Creation

- 5.4.2 Post development, the application site will comprise approximately 0.21ha developed land, sealed surface (made up of buildings and hard-standing paths and access road). Vegetated gardens will make up 0.22ha, a new wildlife beneficial pond will be created, measuring 0.03ha, surrounded by

0.08ha of wildflower grassland. Finally, new urban tree planting will cover 0.003ha and the existing urban trees within the site will be retained.

Site Habitat Creation

Habitat Type	Area (ha)	Habitat Condition	Habitat Units
Developed land; sealed surface	0.21	N/A – other	0.0
Vegetated garden	0.22	Poor	0.42
Other neutral grassland	0.08	Good	0.67
Ponds (Priority Habitat)	0.03	Moderate	0.22
Urban Trees	0.003	Poor	0.01
Total			1.32

Site Habitat Retention

Habitat Type	Area (ha)	Habitat Condition	Habitat Units
Urban Trees	0.1	Moderate	0.8
Total			0.8

- 5.4.3 With regard to the native hedgerow, native hedgerow with trees and the line of trees within the application site at present, these will be retained. In addition, a new 110m wildlife-beneficial native hedgerow will be planted along the application site's northern boundary.

Site Hedgerow Creation

Hedge No.	Habitat type	Length (km)	Habitat Condition	Habitat Units
1	Native hedgerow	0.11	Moderate	0.37
	Total			0.37

Site Hedgerow Retention

Hedge No.	Habitat type	Length (km)	Habitat Condition	Habitat Units
1	Native hedgerow	0.136	Good	0.82
2	Native hedgerow with trees	0.048	Good	0.55
3	Line of Trees	0.046	Moderate	0.18
	Total			1.55

- 5.4.4 Overall, the newly developed site will represent a +11.7% biodiversity net gain in Habitat Units and a +23.7% biodiversity net gain in Hedgerow Units. The Headline Results Table is appended to this report.
- 5.4.5 The proposed biodiversity net gain measures discussed above are specific to this particular project and will form part of the design scheme for the application site. Their inclusion will ensure compliance with the NPPF and local planning policies. Should the design of the scheme change before being finalised, these measures will need to be reviewed and the biodiversity net gain recalculated.

5.5 **Species-Specific Ecological Enhancements**

- 5.5.1 In addition to the habitat and hedgerow enhancements above, a number of species-specific enhancements will be included within the newly redeveloped site.

Bats

A cavity bat roosting tube (Wienerberger Habitat, as illustrated below, or similar) will be installed into three of the newly built dwellings within the newly redeveloped site. These will be installed at the time of construction and require no continued maintenance. The tubes will be installed at least four metres above the ground.



- 5.5.2 These bat tubes are especially suitable for (among others) both common and soprano pipistrelle bats (*Pipistrellus pipistrellus* and *P. pygmaeus*), the latter

being a Species of Principal Importance and the subject of a UK Biodiversity Species Action Plan. These Habibat bat boxes are made from brick slips, featuring a plinth detail at the bottom to allow bats to enter and exit. Habibat boxes can be integrated into the façade of a new building or installed retrospectively, using matching or a contrasting colour brick.

- 5.5.3 This type of bat tube is specifically designed to meet the characteristic behavioural requirements of the species of bat that inhabits buildings. The design maintains excellent climatic conditions inside, providing bats with a safe and stable environment in which to roost and it requires no maintenance because droppings fall out of the entrance ramp.

Hedgehogs

- 5.5.4 A number of hedgehog 'pop-holes' around the site will be created, between each garden and the surrounding countryside, to allow the free movement of hedgehogs throughout the newly redeveloped site. The pop-holes will be created at the time of close-board fencing installation around the gardens. No maintenance is required of these features.
- 5.5.5 The hedgehog is a UK Biodiversity Action Plan Species and a Species of Principal Importance under Section 41 of the NERC Act 2000. It is possible that hedgehogs may persist on site given the connectivity with the neighbouring habitats. As such, small hedgehog 'pop-holes' (as illustrated below) will be provided at the bases of close-board fencing within the site, to allow the free movement of hedgehogs around the site (although not nearest the roads/parking areas). Hedgehog 'pop-holes' measuring 13cm x 13cm, as illustrated below, will be pre-cut at the base of the close-board fencing in a number of locations within the newly redeveloped site.



Example of a hedgehog 'pop-hole' in base of close-board fencing

6.0 Conclusions

- 6.1.1 The purpose of this report is to identify potential development constraints pertaining to biodiversity and planning policies for biodiversity.
- 6.1.2 This PEA has established that the application site is not designated as a site of nature conservation importance and no such designated sites are likely to be adversely impacted by the proposed development of the application site. There are no recorded important or protected species or species groups from within the application site, however because of the presence of suitable habitat within the application site, it has been concluded that a number of protected species may potentially be impacted by the development proposals; nesting birds, hedgehogs, polecats and roosting bats. Further survey work in the case of roosting bats will be required as the two ash trees with PRFs are to be worked on and mitigation measures are available for the other species.
- 6.1.3 For the local planning authority to determine any planning application that may implicate a protected species, it is a requirement that the presence and status of that species is established in order for the application to be determined. As stated in ODPM Circular 06/2005 (Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system) *“The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”* (paragraph 98).
- 6.1.4 The Circular goes on to state that *“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted”* (paragraph 99).

- 6.1.5 The redevelopment of the application site has been calculated to achieve a Biodiversity Net Gain of +11.7% in Habitat Units and a +23.7% gain in Hedgerow Units.

7.0 References

- Ref. 1 Chartered Institute of Ecology and Environmental Management. 2017 *Guidelines for Preliminary Ecological Appraisal*
- Ref. 2 Chartered Institute of Ecology and Environmental Management. 2017 *Guidelines for Ecological Report Writing*
- Ref. 3 Joint Nature Conservation Committee. 2010. *Handbook for Phase 1 Habitat Survey* Revised re-print
- Ref. 4 UK Habitat Working Group (2018). *UK Habitat Classification*
- Ref. 5 Bat Conservation Trust. 2016. *Bat Surveys for Professional Ecologists Good Practice Guidelines 3rd Edition*
- Ref. 6 Sewell D, Griffiths RA, Beebee TJC, Foster J and Wilkinson JW 2013 *Survey Protocols for the British Herpetofauna Version 1.0*
- Ref. 7 Rose F 2006 *The Wildflower Key* Fredrick Warne & Co.
- Ref. 8 Hubbard CE, 1992 *Grasses 3rd Edition* Penguin Books

8.0 Appendix 1 – Habitat Map



9.0 Appendix 2

9.1 Biodiversity Net Gain Headline Results

On-site baseline	<i>Habitat units</i>	1.90
	<i>Hedgerow units</i>	1.55
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	2.12
	<i>Hedgerow units</i>	1.92
	<i>River units</i>	0.00
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	11.69%
	<i>Hedgerow units</i>	23.72%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.22
	<i>Hedgerow units</i>	0.37
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	11.69%
	<i>Hedgerow units</i>	23.72%
	<i>River units</i>	0.00%
Trading rules Satisfied?	Yes	