



Woods Hardwick Planning Ltd.

**Land off Bullens Green Lane, Colney Heath**

**Ecological Appraisal**

August 2020

**FPCR Environment and Design Ltd**

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## **1.0 INTRODUCTION**

- 1.1 The following report has been prepared by FPCR Environment and Design Ltd. on behalf of Woods Hardwick Planning Ltd. and provides the results of an Ecological Appraisal of an area of land located to the west of Bullens Green Lane, Colney Heath. This Appraisal has been informed by a desk study, and extended Phase I survey.
- 1.2 The objective of the appraisal was to determine the habitats and species present within the Site and to make an initial assessment of their ecological value and any potential ecological constraints to future residential development. In addition, and where appropriate, the need for additional surveys have been identified along with a consideration of opportunities for ecological mitigation and enhancements within any future development design.

### **Site Context**

- 1.3 The area of land (hereafter referred to as 'the Site') is 5.2ha in extent, and comprises a single arable field. Additional habitats present are restricted to the boundary features and include native species dominated hedgerows with associated trees located along the eastern, southern boundaries and majority of the northern boundary, and a narrow woodland belt along the remaining western boundary.
- 1.4 Surrounding land-use comprises the built edge of Colney Heath to the north and west of the Site, with Bullens Green Lane and Fellowes Lane to the immediate east and south, with arable fields beyond.

### **Development Proposals**

- 1.5 Proposals are for a residential development of up to 100 dwellings, including 45% affordable and 10% self-build, together with all ancillary works. Vehicular access will be via Bullens Green Lane. The planning approval sought will be outline with all matters reserved except access.

## **2.0 METHODOLOGY**

### **Desk Study**

- 2.1 The Multi Agency Geographic Information for the Countryside (MAGIC) website has been reviewed for the presence of any statutory designated sites of international (Special Conservation Area (SAC), Special Protection Area (SPA) or Ramsar Sites), national/regional (Site of Special Scientific Interest, (SSSI)) or local nature conservation importance (Local Nature Reserves (LNR)) within 5km, 2km and 1km of the Site, respectively.
- 2.2 Consultation has been undertaken with Hertfordshire Environmental Records Centre (HERC) for the presence of non-statutory designated sites of nature conservation importance (Local Wildlife Sites (LWS)), and protected / notable species records for within 1km of the Site.
- 2.3 Further inspection, using colour 1:25,000 OS base maps and aerial photographs from Google Maps has also been undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider landscape.

## Field Survey – Habitats/Flora

### Extended Phase I Survey

- 2.4 The Site was surveyed on the 17<sup>th</sup> June 2020 following the extended Phase I survey technique<sup>1</sup>. This involved a systematic walk over of the Site by an experienced ecologist to classify the broad habitat types and to identify any habitats of Principal Importance for the conservation of biodiversity in England as listed within Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. Target notes were made where necessary to record features or habitats of particular interest. Botanical species lists were compiled during the walkover survey.

### Hedgerows

- 2.5 Hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS)<sup>2</sup>. This method of assessment includes noting down canopy species composition, associated ground flora and climbers, structure of the hedgerow including height, width and gaps, associated features including number and species of mature trees, banks, ditches and grass verges.
- 2.6 Each hedgerow is given a grade using HEGS with the suffixes '+' and '-', representing the upper and lower limits of each grade respectively. These grades represent a continuum on a scale from 1+ (the highest score and denoting hedges of the greatest nature conservation priority) to 4- (representing the lowest score and hedges of the least nature conservation priority) as follows:
- Grade 1 – High to very high value
  - Grade 2 – Moderately high to high value
  - Grade 3 – Moderate value
  - Grade 4 – Low value
- 2.7 Under HEGS, hedgerows graded 1 or 2 are considered to be a priority for nature conservation.
- 2.8 The hedgerows were also assessed against the Wildlife and Landscape criteria contained within Statutory Instrument No: 1160 – The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows' under the Wildlife and Landscape criteria of the Regulations. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance<sup>3</sup>

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<sup>1</sup> JNCC (2010), Handbook for Phase I habitat survey – a technique for environmental audit.

<sup>2</sup> Clements, D.K., & Tofts, R.J.(1992). Hedgerow Evaluation and Grading System (HEGS): A methodology for the ecological survey, evaluation and grading of hedgerows. Countryside Planning and Management

<sup>3</sup> DEFRA. (1997). The Hedgerow Regulations 1997. A Guide to the Law and Good Practice. London: HMSO

## Field Survey – Fauna

### General

- 2.9 During the extended Phase I survey, observations, signs of or suitable habitat for any species protected under Part I of the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended) and the Protection of Badgers Act 1992 were recorded. Consideration was also given to the existence and use of the Site by other notable fauna such as Species of Principal Importance (SPI) for the conservation of biodiversity in England as listed within S41 of the NERC Act (2006), Herefordshire Biodiversity Action Plan (BAP) and/or Red Data Book (RDB) species.

### Great Crested Newts

- 2.10 Any ponds within the Site or in close proximity to its boundaries were assessed for their potential to support great crested newt *Triturus cristatus* using the Habitat Suitability Index (HSI) scoring methodology<sup>4</sup>. This is a quantitative means of evaluating habitat quality for GCN measured over ten suitability indices. The HSI provides a numerical index between 0 and 1 where scores closer to 0 indicate poor habitat with a lower probability of great crested newt occurrence, and scores closer to 1 represent optimal habitat with a higher probability of occurrence.

**Table 1: Pond Suitability to support GCN according to HSI score**

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

### Bats

- 2.11 Trees present within or immediately adjacent to the Site were examined from ground level, with the aid of binoculars, for features that could provide suitable roosting opportunities including cracks, cavities, woodpecker/rot holes, fissures or missing limbs, and for evidence of use by roosting bats such as staining or the presence of bat droppings. Dense ivy cover was also noted when present as this can obscure the aforementioned features.
- 2.12 Trees were classified into general bat roost potential groups based on the presence of these features. Table 2 broadly classifies the potential categories as accurately as possible as well as discussing the relevance of the features. This table is based upon Table 4.1 and Chapter 6 in Bat Surveys for Professional Ecologists: Good Practice Guidelines<sup>5</sup>.

<sup>4</sup> Amphibian and Reptile Groups of the United Kingdom (2010) ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Unpublished

<sup>5</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust

Table 2: Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey work
<b>Confirmed Roost</b>	Evidence of roosting bats in the form of live bats, droppings, urine staining, mammalian fur oil staining, etc.	A Natural England derogation licence application will be undertaken. This will require a combination of aerial assessment by roped access bat workers and nocturnal survey during appropriate period (May to August). Replacement roost sites commensurate with status of roost to be provided. Works to be undertaken under supervision using a good practice method statement.
<b>High Potential</b>	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	A combination of aerial assessment by roped access bat workers and nocturnal survey during appropriate period (May to August). Following additional assessments, tree may be upgraded or downgraded based on findings. After completion of survey work, some good practice removal operations likely to be required.
<b>Moderate Potential</b>	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	A combination of aerial assessment by roped access bat workers and /or nocturnal survey during appropriate period (May to August). Following additional assessments, tree may be upgraded or downgraded based on findings. After completion of survey work, some good practice removal operations likely to be required.
<b>Low Potential</b>	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but some good practice removal operations may be required
<b>Negligible/No potential</b>	Negligible/no habitat features likely to be used by roosting bats	None.

\* The Conservation of Habitats & Species Regulations 2010 (as amended) affords protection to breeding sites or resting places at all times. For an area to be classified as a breeding site or resting place, the Regulations require there to be a reasonably high probability that the species will return to the sites and / or place.

Confirmation of a breeding site or resting place in trees can be established through the completion of aerial inspection and / or nocturnal surveys (as appropriate). In situations where nocturnal surveys are completed and a breeding site or resting site is not confirmed, the survey effort is considered to be sufficient to reasonably discount the presence of roosting bats (for a period of time as defined in Natural England's current Standing Advice). However, further precautionary works may be recommended if the trees is affected by works.

Where features of a tree are identified as providing potential to be used as a breeding site or resting place, evidence of current or previous use of the feature should be identified during an aerial inspection to necessitate the completion of further detailed nocturnal survey work prior to the granting of planning permission. In situations where no evidence of use is identified it is reasonable to conclude that a feature is not being used as a breeding site or resting place as defined by the Regulations but further precautionary measures maybe recommended if a tree is affected by development to ensure occupation has not occurred following completion of the survey. If the presence of a breeding site or resting place cannot be discounted from ground level or aerial inspections, nocturnal survey work to confirm the presence of a breeding site or resting place should be completed.

Where features suitable to be used as a roost site (as above) were identified, evidence that bats had used the site as a roost was sought. This evidence can comprise live or dead bats, droppings, urine staining, and grease /scratch marks on wood.

### 3.0 RESULTS

#### Desk Study

- 3.1 The locations of all statutory and non-statutory designated sites referred to in the following section are shown on Figure 1.

#### Statutory Designated Sites

- 3.2 No statutory designated sites of international nature conservation importance were identified for within 5km of the Site.
- 3.3 One statutory designated site of national / regional nature conservation importance was identified within 2km of the Site. Water End Swallow Holes SSSI is located 2km south-east. The SSSI is notified for its geological importance which comprise 'the only major sinkholes in chalk which are a permanent feature of the landscape'. Willow carr/swamp habitats associated with the sinkhole group are also noted to be of biological importance.
- 3.4 The Site does fall within the Impact Risk Zone for the SSSI, however at this distance, residential development is not identified as a category likely to impact on the SSSI.
- 3.5 One statutory designated site of local nature conservation importance was identified within 1km of the Site. Colney Heath LNR is located 500m west of the Site, beyond the urban area of Roestock. Online visitor information highlights that the site supports acid heathland bordering the River Colne.

#### Non-statutory Designated Sites

- 3.6 No non-statutory designated sites of nature conservation importance occur within the Site. Eight non-statutory designated LWS's were identified within 1km from the Site boundary. A summary of these sites including their features of interest is provided within Table 3.

**Table 3. Non-statutory Designated Sites located within 1km of the Site.**

Name / Designation	Features of Interest	Distance from Site
Tollgate Wood LWS	Old secondary woodland with a semi-natural canopy and varied structure.	280m south-east
Colney Heath Farm Meadows LWS	A mosaic of old unimproved neutral to acid grasslands along the River Colne, which forms part of a larger complex of heathland/wetland sites in the area	440m west
Sleapshyde Gravel Pit LWS	Former gravel pit restored to amenity/wildlife Park. Supports mosaic of habitats including open water, wet neutral grassland, tall herb, scrub and plantation. Of ornithological interest.	570m north-west
North Mymms Park LWS	Parkland of semi-improved neutral grassland with planted trees.	580m south
Colney Heath Common LWS / LNR	Acid heathland bordering the River Colne.	500m west
Frederick's Wood LWS	Mature plantation on old heathland/acid grassland	600m west



Name / Designation	Features of Interest	Distance from Site
Scrubby Grassland by Frederick's Wood LWS	Area of unimproved acid grassland with scattered scrub.	960m south-west
Hazel Grove LWS	Ancient semi-natural woodland.	970m north-east

### Existing Protected / Notable Species Records

#### Existing Protected / Notable Species Records

- 3.7 Locations of existing protected / notable species records are shown on Figure 2.
- 3.8 No protected / notable species records were provided for within the bounds of the Site, however HERC provided a number of records for within 1km of the Site. The majority of these are from within the non-statutory designated sites to the north, south and west of the Site. These records are summarised in Table 3.

**Table 3. Non-statutory Designated Sites located within 1km of the Site.**

Species	Conservation Status	Location/Notes
Brown-long eared bat <i>Plecotus auritus</i>	HabRegs, W&C, S41 NERC	2005 field observation record 225m north.
Common pipistrelle bat <i>Pipistrellus pipistrellus</i>	HabRegs, W&C	Three roost records dated 2011, 1990 and 2013 located 130m north, 230m west and 950m north-east.
Soprano pipistrelle bat <i>Pipistrellus pygmaeus</i>	HabRegs, W&C, S41 NERC	2006 field observation record 140m north.
a Pipistrelle bat <i>Pipistrellus</i> sp.	HabRegs, W&C	Three roost records spanning the period 2005 to 2012, 190m – 280m west.
Bullhead <i>Cottus gobio</i>	S41 NERC	Three records dated 2013-2015, 630m west.
Grass snake <i>Natrix natrix</i>	S41 NERC	Records from two locations, spanning the period 1985 – 2004, located 800m west.
Great crested newt <i>Triturus cristatus</i>	HabRegs, W&C, S41 NERC	Records dated 2011 and 1998 from monads TL2206 TL 2004 located minimum distance of 700m east and 850m south-west.
Badger <i>Meles meles</i>	PBA	Records of badger at 900m north.
Hedgehog <i>Erinaceus europaeus</i>	S41 NERC	Four records spanning period 2014-18 located between 250m – 730m north-west and 550m south-east.

Species	Conservation Status	Location/Notes
Notable Invertebrates – Small heath <i>Coenonympha pamphilus</i> , wall <i>Lasiommata megera</i> , white-letter hairstreak <i>Satyrion w-album</i> & white ermine <i>Spilosoma lubricipeda</i> .	S41 NERC	Records spanning the period 1986 to 2016 from Colney Heath LWS / LNR & Frederick's Wood LWS 440-600m west. In addition, single 2011 record of white-letter hairstreak 165m north-east.
Notable Plants – cornflower <i>Centaurea cyanus</i> & shepherd's needle <i>Scandix pecten-veneris</i>	S41 NERC	Records from Colney Heath located 440m west, dated 1999 and 1996.

**Conservation Status** – HabRegs – The Conservation of Habitats and Species Regulations 2017, W&C – Wildlife & Countryside Act 1981 (as amended), PBA – Protection of Badgers Act 1992, S41 NERC – Listed as Species of Principal Importance on S41 of the Natural Environment & Rural Communities (NERC) Act 2006.

- 3.9 In addition to the above HERC provided a range of protected / notable bird species records (such as those listed Schedule 1 of the Wildlife & Countryside Act, S.41 of the NERC Act and Red and the Amber Bird's of Conservation Concern (BoCC) lists. The majority of records are from two locations, Sleepshyde Gravel Pit LWS located 570m north and North Mymms Park LWS 580m south. A small number of records were also provided from within the built environment of Colney Heath approximately 180m north of the Site. Species recorded include a range of farmland and wood/scrub edge birds, and raptors characteristic of the habitats occurring locally. These species are identified on Figure 2.

### Field Results – Extended Phase I Survey

- 3.10 Habitat descriptions of the Site are provided below; the locations of the habitats described can be found on Figure 3 – Phase I Habitat Plan. Site photographs taken during the survey are presented throughout the text.

#### Arable

- 3.11 At the time of the survey, the field forming the Site had been recently sown with a maize crop. Established vegetation was restricted to generally narrow margins of poor semi-improved grassland associated with the boundary features. These margins are dominated by broad-leaved grass species such as false oat-grass *Arrhenatherum elatius*, perennial rye-grass *Lolium perenne*, common couch *Elytrigia repens* and soft-brome *Bromus hordeaceus*, with frequent to locally dominant tall, largely ruderal herbs which included common nettle *Urtica dioica*, great willowherb *Epilobium hirsutum*, American willowherb *E. ciliatum*, garlic mustard *Alliaria petiolata* and cow parsley *Anthriscus sylvestris*.



Photograph 1. Site / Arable habitat viewed southwards

#### Tree / Woodland Belt

- 3.12 An approx. 8 - 10m wide belt of semi-mature to mature trees extends along the southern extent of the western boundary, between the Site and Roestock Park. The feature was likely to have previously been a hedgerow which has become outgrown and has been reinforced with supplementary planting of trees along the Park edge. The belt comprises scattered mature sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and pedunculate oak *Quercus robur* with groups of aspen *Populus tremula*. Hawthorn *Crataegus monogyna*, an elm *Ulmus sp.* and hazel *Corylus avellana* form the most abundant species to a dense shrub-layer with holly *Ilex aquifolium*, dogwood *Cornus sanguinea*, holm oak *Q. ilex* and field-rose *Rosa arvensis* also present. Common ivy *Hedera helix* dominated the ground-layer with a small number of other 'woodland' species such as false brome *Brachypodium sylvaticum*, germander speedwell *Veronica chamaedrys* and wood avens *Geum urbanum*, present.
- 3.13 A further belt of mature broad-leaved plantation woodland borders the northern extent of the western boundary. A small number of these trees, including a number of mature pedunculate oak, stand on or close to the boundary and overhang the Site.

### Hedgerows

- 3.14 A total of Seven individual hedgerows were identified within the Site, and form sections of the northern boundary (H1 – H4) with the adjacent residential properties and the eastern (H5) and southern boundaries (H6) with Bullen's Green Lane and Fellows Lane respectively.
- 3.15 All of the hedgerows, with the exception of H1, are native species dominated, the former being formed by Leyland cypress *Cupressus × leylandii*. The majority of these hedgerows are unmanaged in nature exhibiting tall outgrown structures, with the exception of hedgerow H1, forming the boundaries to the adjacent residential gardens, which is subject to routine management and exhibits a more uniform compact structure.
- 3.16 All of the substantive lengths of native hedgerow, H3, H4, H6 and H7, were species-rich (supporting at least six native species on average per 30m sample section). Hawthorn, field maple *Acer campestre*, hazel and blackthorn *Prunus spinosa* form the predominate canopy species within the hedgerows, with species such as holly, elder *Sambucus nigra*, wild plum *P. domestica*, ash, an elm and pedunculate oak as occasional associates. Species occurring more rarely (i.e. of low coverage in individual hedgerows) included field-rose, crab apple *Malus sylvestris* and dogwood.
- 3.17 Mature to early mature trees form a frequent component of the hedgerows. Pedunculate oak and ash from the most common species with small numbers of horse chestnut, field maple and sycamore.



Photograph 2. Tall, outgrown hedgerow (H6) along Bullen's Green Lane, viewed southwards.

- 3.18 A summary of the details (canopy compositions, profile, % gaps etc.) of the individual hedgerows within the site is provided in Table 5.

Table 2. Hedgerow Survey Summary

Ref	Canopy and Tree Sp.	Height / Width (m)	Approx. Length (m)	*Av. Species Per 30m Sample Section	Comments / Associated Features	HEGS Grade	Import. HR
1	<b>Cm, Cs, Cxl</b> , Sv	4+ / 2-3	20	-	Dwelling boundary, non-native dominated	-	N/A
2	<b>Fe, Pd, Ps, Rf, Sc</b>	4+ / 3-4	22	3	Dwelling boundary, >1 standard/50m, <10% gaps.	-	Exempt
3	<b>Ac, Ah, Ca, Cb, Cm, Fe, Ia, Qr, Rf, Sn</b>	4+ / 3+	52	6	>1 Standard/50m, <10% Gaps, Ditch (Dry) >50% of Hedgerow, 1 End Connection Score.	2+	Exempt
4	<b>Ac, Ah, Bp, Ca, Cb, Cm, Cs, Cxl, Fe, Fs, Ia, Pd, Ps, Qr, Ra, Sn, Sv</b>	2-4 / 2-3	167	9	>1 Standard/50m, No Gaps, Ditch (Dry) >50% of Hedgerow, Adjacent to PROW.	2	Exempt
5	<b>Ac, Ca, Ps</b>	2-4 / 3+	26	3	No Gaps, Hedgebank >50% of Hedgerow.	3	No
6	<b>Ac, Ca, Cm, Fe, Ia, Qr, Ms, Pd, Ps, Ra, Rf, Sn, Ul</b>	4+ / 3+	192	8	>1 Standard/50m, <10% Gaps, Ditch (Dry) >50% of Hedgerow, Bank <50% of Hedgerow, Parallel Hege within 15m.	-1	Yes
7	<b>Ac, Ca, Cm, Cs, Ia, Pd, Ps, Pt, Qr, Sa, Rc, Rf, Ul</b>	4+ / 3-4	91	7	<10% Gaps, Ditch (Dry) >50% of Hedgerow, Bank >50% of Hedgerow, Parallel Hege within 15m.	1	Yes

**Species Key:** *Ac* *Acer campestre* – field maple, *Ah* *Aesculus hippocastanum* - horse-chestnut, *Ap* *Acer pseudoplatanus* – sycamore, *Ca* *Corylus avellana* – hazel, *Cb* *Carpinus betulus* – hornbeam, *Cm* *Crataegus monogyna* - hawthorn, *Cs* *Cornus sanguinea* – dogwood, *Cxl* *Cupressus x leylandii* – Leyland cypress, *Fe* *Fraxinus excelsior* - ash, *Ia* *Ilex aquifolium* - holly, *Pd* *Prunus domestica* – wild plum, *Ps* *Prunus spinosa* - blackthorn, *Pt* *Populus tremula* – aspen, *Qr* *Quercus robur* - pedunculate oak, *Ra* *Rosa arvensis* – field-rose, *Rc* *Rosa canina* - dog-rose, *Rf* *Rubus fruticosus* agg. - bramble, *Sa* *Symphoricarpos albus* – snowberry, *Sc* *Salix caprea* – goat willow, *Sn* *Sambucus nigra* – elder *Sv* *Syringa vulgaris* – lilac, *Ul* *Ulmus* sp. – an Elm.

**Bold** text denotes those species listed as Woody Species on Schedule 3 of the Hedgerow Regulations.

\* Average Species Per 30m Sample Section includes only Schedule 3 listed Woody Species.

- 3.19 Two hedgerows, H6 and H7, forming the Site's eastern and southern boundaries were identified as being 'important' in accordance with the Wildlife and Landscape criteria of the Hedgerow Regulations 1997. The hedgerow qualified on the basis of it supporting five woody species on average per sample section and at least four associated features. Hedgerows H2, H3 and H4 were exempt from the Act due to their function as boundaries to dwellings.

- 3.20 HEGS identified two hedgerows, H6 and H7, as being of high to very high conservation value (Grade 1), due to their good structural attributes (relatively high number of trees and optimal canopy structures) and diverse canopies. The remaining substantive sections, H3 and H4, were found to be of moderately high to high value conservation, scoring relatively lower in comparison to the aforementioned hedgerows due to their relatively lower structural attributes.

### **Field Results – Extended Phase I Survey**

#### **Badgers**

- 3.21 No evidence of badger was observed on Site or on land immediately adjacent to the Site were accessible/visible, during the Phase I survey.

#### **Bats**

- 3.22 The majority of the hedgerow standards and boundary trees were in relatively good condition and absent of features suitable for use by roosting bats. One ash (TN1) located within the woodland belt along the Site's western boundary was classified as having low potential for roosting bats. Potential roost features on this tree were limited to a small (10cm Ø) downward facing branch-socket cavity located on the western aspect at 5m from ground-level.
- 3.23 The boundary habitats, especially those along Roestock Park, Bullen's Green Lane and Fellows Lane which are currently unlit, are likely to be of value to local bat populations providing suitable feeding and dispersal habitat. Owing to its homogenous structure the arable habitat forming the majority of the Site is of limited value to bats.

#### **Breeding Birds**

- 3.24 Given its relatively small size and lack of habitat diversity, the Site is unlikely to be of any particular value to breeding birds, however the boundary hedgerows and woodland belts provide suitable nesting, foraging and loafing habitat for more generalist, urban edge bird species, and potentially a small number of arable farmlands birds such as yellowhammer *Emberiza citrinella* and linnet *Linaria cannabina*.
- 3.25 Based on the current crop planted, maize, the Site represents sub-optimal nesting habitat to small numbers of skylark *Alauda arvensis*, due to the crop becoming tall and dense by late spring and limiting the number of broods.

#### **Great Crested Newts**

- 3.26 No waterbodies were present within the Site; however, a single ornamental garden pond was noted to the immediate north of the Site (TN2). No further waterbodies were identified within 250m and sharing habitat connectivity to the Site.
- 3.27 The small garden pond was approximately 15m<sup>2</sup> with near vertical lined sides and was stocked with koi carp, as shown in Photograph 3. HSI assessment of the pond found it to be poor habitat suitability (HSI score 0.24) for great crested newts. The results of the HSI assessment are provided in Appendix A.





**Photograph 3. Garden pond (TN2) located to the immediate north of the Site.**

### **Reptiles**

- 3.28 The Site comprising homogenous arable land with generally only narrow field margins, represented unsuitable habitat to common reptile species.

### **Invertebrates**

- 3.29 The majority of the Site comprising intensively farmed arable land is of little interest for invertebrates. The eastern and southern boundary hedgerows, H6 and H7, in addition to the woodland belt along western boundary support elm at varying levels of coverage (locally abundant to frequent) and may provide suitable habitat for white-letter hairstreak *Satyrrium w-album* butterfly.

## 4.0 PLANNING POLICY

### National Planning Policy

#### National Planning Policy Framework (NPPF, February 2019)

4.1 At the heart of the NPPF is the premise of ‘presumption in favour of sustainable development’ which is laid out the planning principles which underpin the production of development plans and decision taking.

4.2 Within the NPPF there are clear objectives for conserving and enhancing the natural environment. These include:

*“The planning system should contribute to and enhance the natural and local environment by:*

- *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

4.3 In addition, the following paragraphs of Section 15 are also of particular relevance:

*171. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.*

*174. To protect and enhance biodiversity and geodiversity, plans should:*

- *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; &*
- *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

*175. 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 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 and a suitable compensation strategy exists; &*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*

## **Local Planning Policy**

### **St Albans District Council**

- 4.4 The following ‘saved’ policies are of relevance to ecology matters and the proposed development:

Policy 106: Nature Conservation. This policy sets out to protect the ecological assets of the District, including SSSI's, Nature Reserves, other sites of wildlife, geological or geomorphological importance and any site supporting species protected by the Wildlife and Countryside Act 1981, when considering planning applications. The policy states *‘The Council will take account of ecological factors when considering planning applications and will refuse proposals which could adversely affect’* such sites, or if planning is granted which could affect such a site, permission would be subject to conditions aimed at the protecting the special features of the site.

### **St Albans City & District Local Plan 2020-2036 Publication Draft 2018**

- 4.5 The St Albans City and District Council Local Plan 2020-2036 Draft Publication 2018 makes reference to biodiversity under the following Policies.

Policy L29 – Green and Blue Infrastructure, Countryside, Landscape and Trees

#### Biodiversity

*“Identified and designated areas, sites and networks of importance for biodiversity including sites of local importance will be conserved, enhanced and managed. Opportunities to link or reconnect wildlife habitats will be taken, along with provision of green infrastructure in new developments. The objectives of current Hertfordshire-wide and local habitat and biodiversity studies and strategies will be implemented.*

*Areas of importance for biodiversity in the District will be conserved and managed. The needs of protected and other important species will be fully considered.*

Development will be refused if harmful to:

- 1) Sites of Special Scientific Interest
- 2) Nature Reserves (international, national, regional and local)
- 3) Any other sites of wildlife, geological or geomorphological importance
- 4) Any site supporting species protected by UK or European law
- 5) The natural regime of either surface or ground waters in river valleys and their wetlands

*Opportunities to improve the ecological value and quality of the District through development, particularly by maintaining, improving and extending defined habitat areas, will be managed in accordance with current advice from the Local Nature Partnership (LNP) supported by the Environmental Records Centre or any successor bodies.*

*Where development that affects biodiversity is unavoidable, a net gain in biodiversity should be achieved on site. Exceptionally, off site proposals for a net gain through habitat creation and / or improvement may be considered, (as an 'offset' to loss and damage caused by the development). Offset values and the acceptability of such proposals will be determined according to national policy and guidance".*

#### Protection of existing woodland, trees and landscape features

- 4.6 Woodland and trees to be retained on a development site shall not be endangered by construction works or underground services or proximity to development. Sufficient provision should be made for root protection. New development must not be sited where it is likely to lead to future requests for tree felling or surgery for reasons of safety, excessive shading, nuisance or structural damage.
- 4.7 There will be a presumption against the removal or destruction of any hedgerow that is considered important (according to the Hedgerow Regulations).

#### **Welwyn Hatfield District Plan, adopted 2005**

- 4.8 The following 'saved' policies are of relevance to landscape and visual matters and the proposed development:
- 4.9 Policy R11 – Biodiversity and Development.
  - (i) The retention and enhancement of the natural features of the site;*
  - (ii) The promotion of natural areas and wildlife corridors where appropriate as part of the design;*
  - (iii) The translocation of habitats where necessary, where it can be demonstrated that the habitat or species concerned cannot be successfully accommodated within the development;*
  - (iv) The use of locally native species in planting in accordance with Policy D8 Landscaping;*
  - (v) Helping meet priorities/targets set out in the Local Biodiversity Action Plan.*
- 4.10 Policy R13 - Sites of Special Scientific Interest
 

*Proposals for development in or likely to affect Sites of Special Scientific Interest will be subject to special scrutiny. Where such development including that on land adjoining or adjacent to the sites may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites. Where development is permitted the Council will consider the use of conditions and/or planning obligations to ensure the protection and enhancement of the site's nature conservation interest.*
- 4.11 Policy R14 - Local Nature Reserves
 

*Planning permission will not be granted for any development likely to have an adverse effect on local nature reserves unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the substantive nature conservation value of the site.*

*Where development is permitted which would damage the nature conservation value of the site such damage should be kept to a minimum. Where appropriate the Council will consider the use of conditions and/or planning obligations to provide appropriate compensatory measures.*

#### 4.12 Policy R15 - Wildlife Sites

*Planning permission will not be granted for any development which would have an adverse effect on Wildlife Sites or Regionally Important Geological/Geomorphological Sites unless:*

*(i) It can be demonstrated that the reasons for development outweigh the need to safeguard the biodiversity of the site; and*

*(ii) Measures are taken to mitigate the effect of the development, to compensate for any residual adverse effects and to reinstate the nature conservation value of the site.*

#### 4.13 Policy R17 - Trees, Woodland and Hedgerows

*The Council will seek the protection and retention of existing trees, hedgerows and woodland by the use of planning conditions, section 106 agreements, hedgerow retention notices and tree preservation orders where applicable. New development will be required to incorporate wherever appropriate new planting with locally native species and should be in accordance with Policy D8 Landscaping.*

### **Welwyn Hatfield Borough Council – Draft Local Plan 2016**

#### 4.14 The Welwyn Hatfield Borough Council Draft Local Plan, going through the examination process at the current time, contains the following policy of relevance to ecology:

##### Policy SADM 16 – Ecology and Landscape

##### Ecological Assets

- i. Proposals will be expected to maintain, protect and wherever possible enhance biodiversity, the structure and function of ecological networks and the ecological status of water bodies.
- ii. Proposals that would result in loss of or harm to:
  - a) International sites, Sites of Special Scientific Interest, National Nature Reserves, Local Nature Reserves or other statutorily protect features or species, will be refused unless:
    - the mitigation hierarchy has been followed, to firstly avoid, reduce and remediate direct and indirect adverse impacts before considering compensation; and
    - imperative reasons of overriding public interest can be demonstrated.
  - b) Ancient Woodland, veteran trees, chalk river habitats or habitats or species of national principal importance, will be refused unless:
    - the mitigation hierarchy has been followed, to firstly avoid, reduce and remediate direct and indirect adverse impacts before considering compensation; and
    - the need for, and benefits of, the development significantly outweigh the loss or harm.
  - c) Local Wildlife Sites, other habitats, species and ecological assets of local importance, including ecological networks, woodland, orchards, protected trees and hedgerows and allotments, will be refused unless:

□

- the mitigation hierarchy has been followed, to firstly avoid, reduce and remediate direct and indirect adverse impacts before considering compensation; and
  - the need for, and benefits of, the development significantly outweigh the loss or harm.
- iii. Where compensation is required to make development acceptable within ii) above, necessary financial and/or other provision will be required to deliver and maintain ecological and biodiversity objectives over appropriate time scales

### **Other Relevant Strategies, Guidelines or Documents**

#### **Hertfordshire Biodiversity Action Plan (BAP)**

- 4.15 The Hertfordshire BAP sets out a 50-year vision for the wildlife and natural habitats of Hertfordshire. The BAP five Species Action Plans and 8 Habitat Action Plans that guide work on protecting, restoring and re-creating a sustainable level of biodiversity in the county. Of some relevance to the Site is the Farmland Habitat Action Plan which seeks to protect and enhance through appropriate management, ancient and species rich hedgerows.
- 4.16 The BAP also identifies a number of Key Biodiversity Areas (KBA), which reflect higher concentrations and/or distinctive types of habitat resource, and where conservation action would be valuable in restoring, creating or enhancing biodiversity.

#### **Herefordshire Ecological Network Mapping**

- 4.17 The 2013 Hertfordshire ecological networks mapping project identifies the strategic priorities and which/where habitats need to be maintained, restored and created, in addition to identifying areas suitable for appropriate development. The map component of the dataset is colour-coded with three overarching categories;
- Green - identifying areas containing habitats listed within S41 of the NERC Act and should be avoided by development and protected by the development management system;
  - Purple – containing habitats not currently qualifying under S41 of the NERC Act but with high potential to do so. Whilst not receiving the same level of statutory and policy-based protection as the green areas, they should nonetheless be avoided by development and protected by the development management system where reasonable to do so.
  - Orange/yellow/cream - These patches contain no mapped existing habitats of any significance. Therefore, in the context of the ecological network's dataset, these areas are suitable for appropriate development.
- 4.18 The Site is categorised as Orange, with the tree belt and plantation woodland along and adjacent to the western boundary categorised as Purple.

## 5.0 DISCUSSION & RECOMMENDATIONS

- 5.1 The following section has been informed by the Proposed Illustrative Layout (Drawing No. 17981 / 1005, Rev. D).

### Designated Sites

#### Statutory Designated Sites

- 5.2 One statutory designated site of national/regional nature conservation importance, Water End Swallow Holes SSSI, was identified 2km south-east of the Site. The SSSI is notified primarily for its geological importance although is also noted to be of biological importance.
- 5.3 The Site falls within the Impact Risk Zone for the SSSI. However, at this distance from the SSSI residential development is not identified as having the potential to adversely impact the SSSI and based on this information the SSSI will not be affected by the proposals.
- 5.4 One statutory designated site of local nature conservation importance, Colney Heath Common LNR/LWS, was identified 500m west of the Site. Based on its distance from the Site it would not be directly affected by the development. The LNR is well-used by the public with a well-defined footpath network and any potential increase in visitation resulting from the occupants from the development would be unlikely to adversely affect the LNR/LWS.

#### Non-statutory Designated Sites

- 5.5 The desk study identified eight non-statutory designated sites between distances of 280m and 970m from the Site. None of the non-statutory designated sites share habitat connectivity to the Site and are isolated from the Site by residential housing and main roads. A small number, including Tollgate Wood, Colney Heath Farm Meadow and Frederick's Wood LWS appear to be located on private land and have no formal public access. It is considered unlikely that any non-statutory designated site would be adversely affected by the proposals.

### Habitats

- 5.6 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within specific policy (e.g. veteran trees, ancient woodland and linear habitats in National Planning Policy Framework (NPPF) or non-statutory site designation,
  - Identification as a habitat of principal importance for biodiversity under NERC or identification as a Priority Habitat within the LBAP.
- 5.7 The arable farmland forming the Site, absent of any conservation headlands and with margins of poor semi-improved grassland, is considered to be of negligible intrinsic nature conservation value.
- 5.8 Habitats of nature conservation value within the Site are restricted to the boundary features, including the native species-dominated hedgerows and associated mature trees, and the woodland belt along the western boundary, and which are considered to be of value within a local context.
- 5.9 The majority of the hedgerows within the Site are native species dominated and as such are classified as Habitats of Principal Importance under the NERC Act 2006. Two of the hedgerows, H6 and H7 along the eastern and southern boundaries, were identified as being Important in

accordance with the Landscape and Wildlife criteria of the Hedgerow Regulations Act. 1997. Owing to a combination of their diverse nature and more outgrown optimal structure for wildlife these two hedgerows were also found to be of high to very high value (Grade 1) under the HEGS assessment.

- 5.10 Under the proposals the majority of the boundary habitats of nature conservation value would be retained and buffered from the built development by green space. However, as is inevitable of this type and scale of development some minor loss of hedgerow would occur through the creation of vehicular access off Bullens Green Lane. The length of hedgerow requiring removal to facilitate the access and the associated viability splays would total approximately 70m (through the loss of H4 measuring 26m and an 43m section of H5 at its northern extent) and accounting for an existing 20m gap in this location.
- 5.11 This hedgerow loss would be compensated for through the planting of a new native species-rich hedgerow, set-back beyond the line of the visibility splay and through the planting-up of existing gaps along the eastern (45m) and southern (20m) boundaries. Accounting for the residual loss of the vehicular and pedestrian access points, this planting would result in a net gain of approximately 50m of this Habitat of Principal Importance within the Site.
- 5.12 Consideration to whether it would be appropriate to translocate the existing hedgerow was given however, as hedgerow H4 is species-poor, it is considered more suitable to use the opportunity presented to replant with a more diverse species mix, to increase future ecological and biodiversity value.
- 5.13 Hedgerow planting should seek to use native species of local provenance, and plant at least six species per 30m section to ensure that the hedgerows are species-rich. It is recommended that hedgerow creation along the eastern boundary, incorporates a hedgerow bank and associated ditch characteristic of that being removed.
- 5.14 The landscape proposals for the Site's include areas of green space within the Site's northern and southern extent, the former accommodating the attenuation requirements, and green corridors buffering the boundary hedgerows. The specifics of landscape proposals will be provided at the detailed design stage. However, as to maximise the biodiversity value of these areas and contribute towards the measurable biodiversity gains sought by the NPPF, it is recommended that the following principles are adopted;
  - Areas of informal green space should be sown with a wildflower grassland mix appropriate to the local area, and subject to appropriate management to maintain its species-diversity;
  - Any structural planting (trees and shrubs) within the areas of green space should use native species of local provenance, as is a requirement Policies R11 & D7 of the adopted local plan;
  - Existing gaps in the western and southern boundary hedgerows (totalling approximately 80m) be replanted (with the exception of that required for pedestrian access) with native species of local provenance;
  - The attenuation ponds should be designed with consideration to their value to local wildlife and following best practices guidelines<sup>6</sup> and include an undulating / hummocky form (not engineered smooth) to mimic more natural conditions and support areas of permanent standing water to allow the development of wetland communities.

<sup>6</sup> Graham, A., Day, J., Bray, B. & Mackenzie, S. (2012) Sustainable Drainage Systems, maximising the potential for people and wildlife – a guide for local authorities and developers.

- 5.15 Created and retained habitats within the green space would be subject to a Landscape & Ecological Management Plan (LEMP) secured by way of planning condition, to ensure that their future value is maintained.

### **Fauna**

- 5.16 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2010. Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 5.17 This guidance states that as the presence of protected species is a material consideration in any planning decision, it is essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions for example.
- 5.18 In addition to protected species, there are those that are otherwise of conservation merit, such as species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006 and consequently as priority species in England. These are recognised in the NPPF which advises that when determining planning applications, LPA's should aim to conserve and enhance biodiversity by applying a set of principles including:
- If significant harm resulting from a development cannot be avoided....., adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
  - Development proposals where the primary objective is to conserve or enhance biodiversity should be encouraged.
- 5.19 The implications that various identified species or those that are thought reasonably likely to occur may have for developmental design and programming considerations are outlined below:

### **Badger**

- 5.20 No records of badger were highlighted within close proximity to the Site by the desk study and no evidence of the species was observed within or adjacent to the Site (where accessible) during the survey. As such no potential constraints exist in relation to the species.

### **Bats**

- 5.21 All bat species and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. In summary these make it an offence to damage, destroy or obstruct any place used by bats for breeding and shelter, disturb a bat, or kill, injure or take a bat.

- 5.22 One mature ash tree (TN1) located within the narrow woodland belt along the western boundary was identified as having low potential for roosting bats. The tree will be retained within the proposals and as the potential roost feature is sited on the western aspect (facing away from the Site) no potential impacts (such as lighting disturbance) are anticipated, and no further action is required at this stage.
- 5.23 Proposals will result in the temporary loss of an approx. 70m section of hedgerow prior to the provision of compensatory hedgerow planting, as outlined within paragraph 5.11, and its subsequent maturity. A short, approximate 15m, section would not be replanted as to allow for the creation of site access. Given the presence of alternative foraging habitat and dispersal routes across the local landscape, including hedgerows to the east of Bullens Green Lane, the temporary loss of this section of hedgerow is considered unlikely to result in any adverse impacts to local bat populations.
- 5.24 The boundary features, particularly those along Roestock Park, Bullen's Green Lane and Fellows Lane which are currently unlit, are likely to provide foraging and dispersal habitats for local bats. The conversion of the Site from an agricultural environment to an urban one may result in some bat species, such as brown long-eared bats and most *Myotis*, more sensitive to artificial lighting avoiding the Site. However, given the Site's existing urban edge location and its limited habitat diversity it is unlikely to be of particular importance for these species. Given the widespread availability of similar habitats within the local area, the development of the Site is unlikely to result in adverse effects to the conservation status of local populations of these species. Adversely, the areas of proposed green space and residential gardens containing varied structural planting and a variety of flowering plants which are attractive to insects are likely to provide increased foraging habitat within the site for species such as common pipistrelle and soprano pipistrelle present within the local area.
- 5.25 In order to limit any potential impacts associated with light spill on bat flight-lines or foraging habitat, it is recommended that the lighting strategy is designed in accordance with best practice guidelines as outlined within Guidance Note 08/18 Bats and artificial lighting in the UK<sup>7</sup> and adopts the following principles:
- The avoidance of direct lighting of existing hedgerows, trees and woodland belt or proposed areas of habitat creation / landscape planting;
  - Where appropriate the road and flood lighting should use low pressure sodium or high-pressure sodium lighting instead of mercury or metal halide lamps;
  - Lighting columns would in general be as short as possible, although in some locations taller columns would allow reduced horizontal spill; and
  - Lighting levels would be as low as guidelines permit and only used where required for public safety.

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<sup>7</sup> Bat Conservation Trust & Institution of Lighting Professionals (2018) Guidance Note 08/18 – Bats and artificial lighting in the UK, Bats and the Built Environment series



### Breeding Birds

- 5.26 The Site is considered to be of limited value to breeding birds due to the lack of habitat diversity, however, owing to its arable nature it has the potential to be of value to small numbers of declining farmland birds, such as linnet and yellowhammer listed as Species of Principal Importance or Red BoCC species.
- 5.27 Development of the site will result in the loss of habitat to these farmland species. However, given the widespread availability of similar farmland habitats within the local area; its loss is unlikely to result in any significant impacts to local bird populations of these species.
- 5.28 The green space proposals including areas of tree and shrub planting, in addition to the garden habitats, will in the long-term as the habitats become established result in greater habitat diversity within the Site and subsequent enhancements for more generalist and urban edge species.
- 5.29 Additional enhancements for the general breeding bird assemblage could include the installation of bird boxes. These could be installed both on the buildings and existing mature trees within the scheme. In order to provide nesting opportunities for the maximum number of species as possible, a variety of box types should be installed.
- 5.30 All birds are protected whilst on the nest. Any vegetation should therefore be removed outside of the bird breeding season (March to August/September). If this is not possible, vegetation should be checked prior to any vegetation removal being undertaken by an experienced ecologist. If active nests are found vegetation would be left untouched until all birds have fledged.

### Great Crested Newts

- 5.31 No ponds suitable to support great crested newts were identified within 250m and sharing habitat connectivity to the Site. As such no potential constraints exist in relation to the species.








### Invertebrates

- 5.32 The eastern and southern boundary hedgerows, in addition to the woodland belt along the eastern boundary support elm and offer potential habitat to the white-letter hairstreak butterfly, which the desk study identified has been recorded locally. The white-letter hairstreak is listed as a species of principal importance under S41 of the NERC Act 2006, although is noted to be fairly widespread and common within Herefordshire and Middlesex<sup>8</sup>.
- 5.33 The majority of the suitable habitat would be retained under the proposals, although some minor loss of elm may occur through the removal of the section of the eastern hedgerow (H6) to create the vehicular access. Based on the small amount of habitat affected, should the species be present, it is considered unlikely that its conservation status would be adversely affected.
- 5.34 The inclusion of elm, including the disease-resistant form Dutch Elm also known as 'Sapporo Autumn Gold' *Ulmus japonica* within the landscape proposals, would ensure that any minor loss of suitable habitat is compensated for.

<sup>8</sup> Butterfly Conservation Hertfordshire and Middlesex Branch White-letter Hairstreak. [online] Available at: <https://www.hertsmiddx-butterflies.org.uk/species/White-letterHairstreak.php> [Accessed 20 Jul. 2020].



## Key

-  Site Boundary
-  1km Buffer
-  2km Buffer
-  Local Wildlife Site (LWS)
-  Local Nature Reserve (LNR)
-  Site of Special Scientific Interest (SSSI)
-  Ancient Semi-Natural Woodland (ASNW)

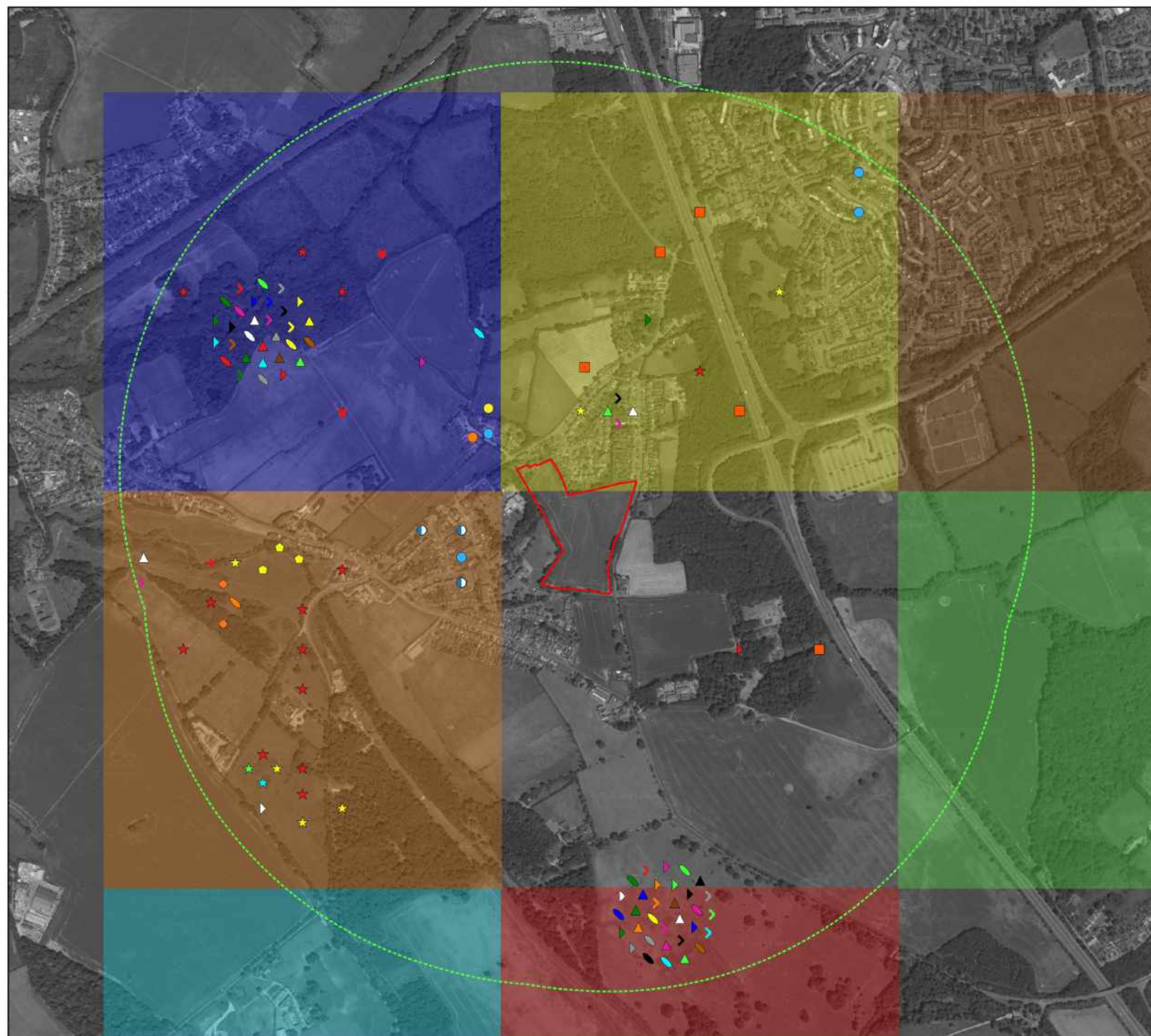
- 1 - Tollgate Wood LWS
- 2 - North Mymms Park LWS
- 3 - Colney Heath Farm Meadows LWS
- 4 - Colney Heath Common LWS, LNR
- 5 - Frederick's Wood LWS
- 6 - Scrubby Grassland by Frederick's Wood LWS
- 7 - Sleepshyde Gravel Pit LWS
- 8 - Hazel Grove LWS, ASNW
- 9 - Water End Swallow Holes SSSI
- 10 - Cobs Ash / Cagsley Grove ASNW
- 11 - Bush Wood ASNW
- 12 - Millwards Park ASNW



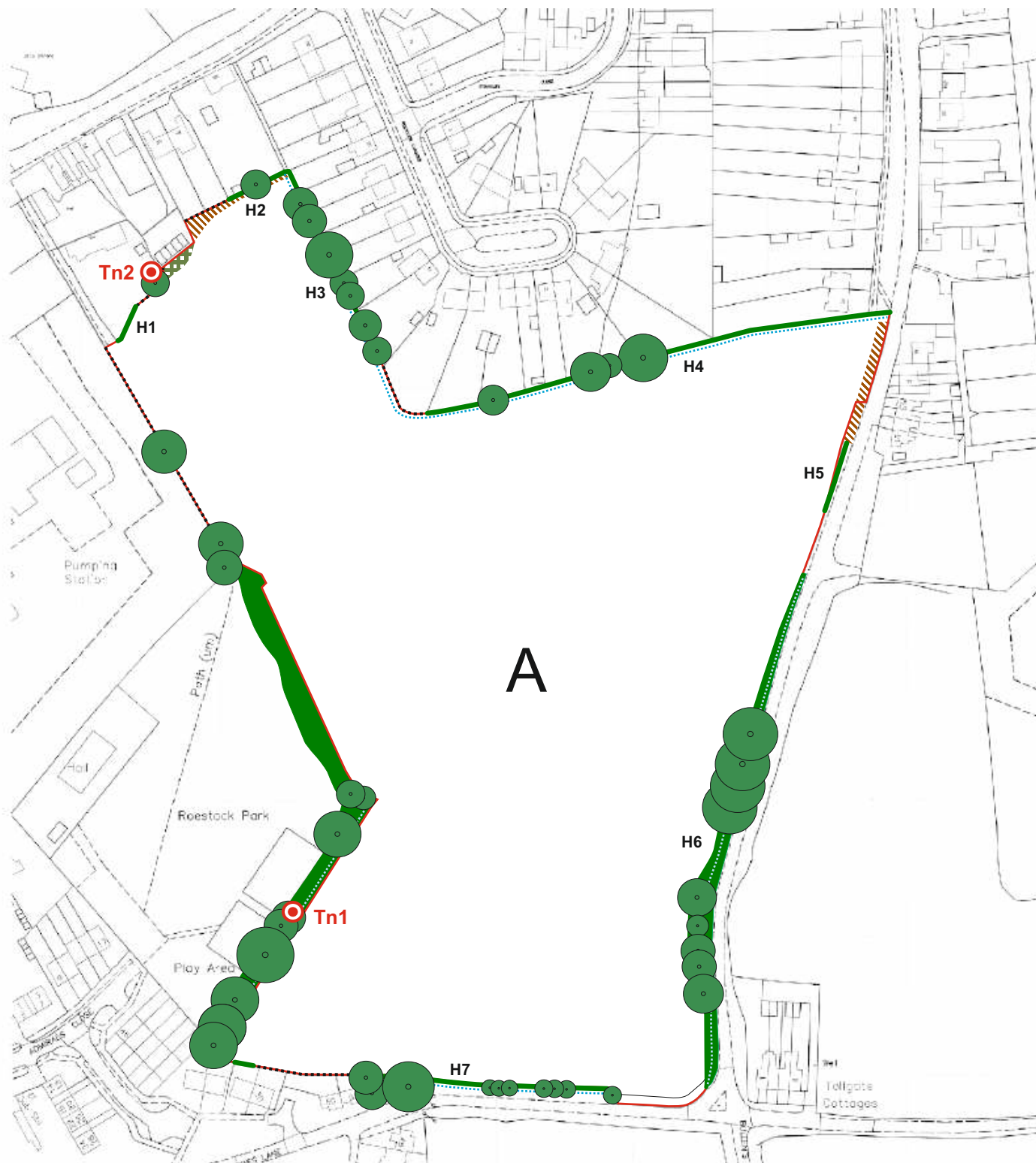










## Key

Site Boundary	1km Buffer	
<b>Bats</b>		
Brown Long-eared	Common Pipistrelle	Soprano Pipistrelle
	Pipistrelle sp.	
<b>Birds</b>		
Barn Owl	Hobby	Red Kite
Brambling	House Martin	Redstart
Bullfinch	House Sparrow	Redwing
Common Redpoll	Kestrel	Reed Bunting
Cuckoo	Kingfisher	Skylark
Curlew	Lapwing	Snipe
Dunnock	Lesser Redpoll	Song Thrush
Fieldfare	Lesser Spotted Woodpecker	Spotted Flycatcher
Firecrest	Linnet	Starling
Goshawk	Marsh Tit	Swift
Grasshopper Warbler	Meadow Pipit	Tree Pipit
Green Sandpiper	Mistle Thrush	Tree Sparrow
Grey Partridge	Osprey	Willow Warbler
Grey Plover	Oystercatcher	Woodcock
Grey Wagtail	Peregrine	Yellow Wagtail
		Yellowhammer
<b>Fish</b>	<b>Herpetofauna</b>	
Bullhead	Grass Snake	
<b>Mammals</b>		
Hedgehog		
<b>Notable Invertebrates</b>		
Cinnabar	Small Heath	White-letter Hairstreak
	Wall	
<b>Notable plants</b>	Shepherd's-needle	
Cornflower		
<b>Species Records of 1km Accuracy</b>		
Species within TL2006: Cinnabar; 33 notable bird species		
Species within TL2106: House sparrow; Red kite; Shaded broad-bar; Small heath; Starling		
Species within TL2206: Great crested newt		
Species within TL2005: Blood-vein; Cinnabar; Cornflower; Small heath; White ermine		
Species within TL2205: Swift		
Species within TL2004: Great crested newt; 48 notable bird species		
Species within TL2104: 44 notable bird species		







- |  |               |   |             |
|--|---------------|---|-------------|
|  | Site Boundary |  | Dense Scrub |
|  | Arable        |  | Dry Ditch   |
|  | Hedgerow      |  | Target Note |
|  | Mature Tree   |   |             |
|  | Tall Ruderal  |   |             |



Woods Hardwick Planning Ltd.

Land off Bullens Green Lane  
Colney Heath

## PHASE I HABITAT PLAN

NTS

AL

14.07.20

**Figure 3.0** 9501-E-03

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masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture ■

## **APPENDIX A – HSI ASSESSMENT**

**HSI Assessment**

Pond No.	SI - 1	SI - 2	SI - 3	SI - 4	SI - 5	SI - 6	SI - 7	SI - 8	SI - 9	SI - 10	HSI Score	Pond Suitability	Predicted Presence
	Geographical location	Pond Area	Pond Drying	Water Quality	Shade	Fowl	Fish	Ponds	Terrestrial Habitat	Macrophytes			
1	1	0.05	0.9	0.67	0.2	1	0.01	0.1	0.33	0.3	0.24	Poor	0.03