Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS

Preliminary Ecological Assessment & Biodiversity net Gain

JW Biodiversity Management
Authored by: James Webster

JW Biodiversity Management

Executive Summary

JW Biodiversity Management has been commissioned to carry out a Preliminary Ecological Appraisal (PEA) and a Biodiversity Net Gain Assessment (BNG) of a large property located in East Horsley, Surrey. This report will provide a baseline assessment of the site reporting on the current conditions of the habitats present within the Biodiversity Net Gain Metric.

Site Description

The site is located in a larger, 70+ ha, wider site consisting of the Innisfree estate. The development site contains the current house and driveway located in the northwest corner - this area is mostly a large house with extensive brick driveway. The area surrounding the building is mostly well manicured gardens, swimming pool with several mature trees. An area of semi-improved grassland lies to the south, this was formerly an amenity grass area, however this area has been left to grow for ecological purposes.

The site is located on the wider Innisfree estate. Woodland surrounds the site to the north and the water body of Pennymead Lake is located to the southwest of the site. Parkland habitats and mature trees are located across the estate as are several ponds. The site is located on the eastern edge of East Horsley. The woodland on the edge of the site is part of a wider block of woodland which contains areas of ancient woodland. Buit areas dominate the wider landscape to the north and west of the site with farmland and woodland dominating the other areas.

The site (as shown on figure 1) is located in East Horsley, Surrey; TQ 09995367.

Protected and Notable Species

Following the site visit and desktop assessment the site was assessed for its potential to support protected and notable species. The table below summarises the sites potential to support these species.

Species	Sites potential to support
Bat roost buildings	Negligible
Bat roosts trees	Low- moderate
Bat foraging/ commuting areas	High
Badgers	Low
Dormice	Low
Small mammals	Moderate
Reptiles	Low
Great Crested Newt	Low
Amphibians	Low

BNG Results

The extract below is taken from the biodiversity metric (further details are in the appendix). As can be seen the proposed project will achieve a net gain of over 30% for habitat units. Hedgerow units will be increased by over 40%. This would meet the aim of achieving a 20% net gain.

The net gain is largely achieved by retaining and enhancing habitats on site, in particular grassland habitats. The hedgerow units show a significant increase due to the enhancement of existing tree lines on site. These habitats will help to provide an ecological benefit on site as well as providing additional bat foraging and commuting habitat.

On-site baseline	*Habitat units*	2.54
	Hedgerow units	0.44
	Watercourse units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	3.59
	Hedgerow units	0.65
	Watercourse units	0.00
On-site net change (units & percentage)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site net change (units & percentage)	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	41.38%
	Hedgerow units	46.40%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Recommendations

A Biodiversity Net Gain assessment has been conducted by a competent ecologist and recommendations have been made to ensure the projects achieves a net gain. This is inline with local and national planning policies. Recommendations have also been made in relation to protected and notable species.

The table below summarises the recommendations updates in **bold** following additional surveys.

Recommendation	Action	Justification
Additional species surveys	**Surveys conducted in 2023. Not bat roosts detected.**	
Retention and enahncment of habitats	Retention and enahncment of majority of the habitats on site.	This will ensure that important habitat is protected.
Protection of breeding birds	Carry out vegetation clearance (if required)/ building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats	Avoid illuminating bat foraging and commuting habitat-woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Remove vegetation in stages	Cut down tall vegetation, if required, in stages to reduce risk of impacting protected/ notable species.	This will allow small mammals, reptiles or amphibians, if present to leave the area safely.
Join GCN district licence scheme	Apply to NatureSpace to join district licence scheme.	This will ensure compliance with legislation and planning permission.
Follow badger protection measures	Follow badger protection measurers during construction.	This will stop badgers becoming potentially trapped.
Screen adjacent woodland with hording	Place hording along border with woodland habitats.	This will protect woodland from disturbance during construction.
Root and crown protection for trees. Soft fell trees	Ensure retained trees have adequate root and crown protection. Soft fell trees if required to be removed.	This will protect trees and protected species during development.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations within the landscaping.	This would benefit local bird and bat populations on the site and within the local area.
Develop detailed planting plan.	Develop detailed planting plan as per BNG assessment.	This will provide a greater longer-term benefit for wildlife and ensure the project achieves the required net gain.

Contents

Job	Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS		
Report title	Preliminary Ecological Assessment & Biodiversity Net Gain report		
Version	Final v3		
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Author	James Webster MCIEEM,		12/02/2024

1. Introduction

JW Biodiversity Management has been commissioned to carry out a Preliminary Ecological Appraisal (PEA) and a Biodiversity Net Gain Assessment (BNG) of a large property located in East Horsley, Surrey. This report will provide a baseline assessment of the site reporting on the current conditions of the habitats present within the Biodiversity Net Gain Metric.

1.1 Development outline

JW Biodiversity Management Ltd that the development will involve the demolition of the main building on site and construction of a new domestic building. Temporary access will also be created across the wider site.

1.2 Site Description

The site is located in a larger, 70+ ha, wider site consisting of the Innisfree estate. The development site contains the current house and driveway located in the northwest corner - this area is mostly a large house with extensive brick driveway. The area surrounding the building is mostly well manicured gardens, swimming pool with several mature trees. An area of semi-improved grassland lies to the south, this was formerly an amenity grass area, however this area has been left to grow for ecological purposes.

The site is located on the wider Innisfree estate. Woodland surrounds the site to the north and the water body of Pennymead Lake is located to the southwest of the site. Parkland habitats and mature trees are located across the estate as are several ponds. The site is located on the eastern edge of East Horsley. The woodland on the edge of the site is part of a wider block of woodland which contains areas of ancient woodland. Buit areas dominate the wider landscape to the north and west of the site with farmland and woodland dominating the other areas.

The site (as shown on figure 1) is located in East Horsley, Surrey; TQ 09995367.

1.3 Aims of Report

The aim of this PEA is to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the ‘Mitigation Hierarchy’
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

The aim of the BNG is to:

- Provide a baseline assessment of the habitats on the site using the DEFRA metric.
- Provide a predicted score based on proposed habitat creation and enhancement using DEFRA metric.
- Provide suitable long term management recommendations for the site, to ensure habitats reach and maintain their desired condition.

1.4 Limitations

The contents of this report are based on a single site visit and a search or the local records bureau. Though the survey and interpretations of the data were carried out by a competent ecologist there may be things that have been overlooked or missed.

The area measurements are based on plans provided by third parties.

1.5 Relevant Legislation and Planning Policies

Relevant legislation implications for this site include;

- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities Act (NERC Act) 2006;
- Environment Act (2021)

Planning policies, both local and national, may affect any proposed development. Relevant planning policies to this development include;

- National Planning Policy Framework (NPPF)
- Policy P7: Biodiversity in New Developments of the Guildford Local Plan March 2023.

Figure 1 : Approximate boundary of the PEA assessment area (image from google).

2. Methods

2.1 Site Visit

EHM undertook a PEA site visit on the 3rd of July 2023. This was to carry out a walk over of the site, determining the basic habitats present and their current condition. The potential for these habitats to support protected and notable species was also recorded. The site visit was carried out by an experienced ecologist who is able to appropriately identify habitats and assess their quality and suitability to support species.

The methodology followed that of an Extended Phase 1 Habitat Survey following the methodology of JNCC (1993) as modified by IEA (1995). The Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are likely to be ecologically important.

2.2 Protected Species

The following evidence of protected species or habitats to support them was assessed;

Badgers

Evidence of badger activity on site was assessed by searching for:

- Presence of setts, indicated by suitably sized holes or burrows with evidence of badgers such as badger hair and footprints
- Evidence of well runs supported by secondary evidence such as foraging signs or footprints; and
- Presence of badger latrines

Bats

The site was assessed for its potential to support:

- Roosting bats; and
- Foraging and commuting bats.

Features which could indicate a potential bat roost include:

- Holes and fissures in trees; and
- Gaps in buildings that could allow access to areas such as roof voids, e.g. holes in soffits, broken, lose or missing tiles, damaged lead flashing, etc.

The methodology for assessing bat roost potential followed that recommended by the Bat Conservation Trust[1].

Breeding Birds

The site was assessed for its potential to support nesting and breeding birds, considering factors including sufficient habitat cover and food sources.

Dormice

The site was surveyed for suitable dormouse habitat, such as the presence of a well-connected understorey broadleaf habitat, and suitable food sources such as hazel, oak and other nut-bearing trees, fruiting trees and shrubs, flowers and invertebrates. Where hazel nut shells were found, these were inspected for evidence of dormouse feeding.

Aquatic Mammals

Aquatic habitats were assessed for their potential to support aquatic mammals such as Otter or water vole. Signs including; foot prints, droppings and evidence of feeding where searched for.

Reptiles

The site was assessed for its potential to support reptile populations. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders and wood/rubble piles that act as hibernacula.

Amphibians

Any aquatic habitat was assessed for its potential to support amphibian species, including Great Crested Newts. Any ponds on site were assessed, using the Habitat Suitability Index, for its potential to support Great Crested Newts. Terrestrial habitat was also accessed for its ability to support amphibians.

Other species

The site was assessed for its potential to support other notable species.

2.3 Desktop Study

In conjunction with the site visit a report was compiled of relevant ecological records within 1 km of the site. This provided details of protected and notable species in the area which will help inform the potential of the site to support such species. The report Surrey Biological Information Centre (SBIC) also provides details of protected sites within a 1 km radius of the site. Magic.gov.uk was also reviewed for additional relevant protected species and habitat information.

[1] Collins, J. (ed) (2016). Bat Surveys for professional Ecologists; Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

2.4 Biodiversity net Gain

A Biodiversity Net Gain Assessment has been conducted using the Natural England Biodiversity Metric 4.0. This was conducted by a competent and qualified ecologist. The methodology set out in the Biodiversity Metric 4.0 User guide was followed[2]. Biodiversity metric 4.0 uses habitats, the places in which species live, as a proxy to describe biodiversity. These habitats are converted into 'biodiversity units'. These biodiversity units are the 'currency' of the metric.

More detail is provided om calculating units further on in the report.

[2] The Biodiversity Metric 4.0: User Guide. First published March 2023. Natural England Joint Publication JP039.

3. Results

3.1 Habitat Assessment

The location and extent of the habitats are shown in appendix 1. TN refers to a target note. CIEEM guidance recommends that the value or potential value of an ecological resource or feature should be determined within a defined geographical context . It recommends the following frame of reference.

- International;
- UK;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish; and
- Site
- Within zone of influence only (which might be the project site or a larger area).

The habitats will be assessed based on these criteria. The habitat map in appendix 1 focusses on the Habitat Distinctiveness

Developed land; sealed surface.

The site contains several buildings. The main house is the main building located in the centre of the site. This was a brick built two level structure with two roof voids. The building has a complex pitched tiled roof with numerous gaps under the tiles and several broken/missing tiles.

Several smaller wooden sheds and outbuildings were located across the site.

Several areas of hardstanding were located on site. A narrow gravel driveway leads up to the main building where it opens up into a brick driveway. Several surfaced footpaths and patios surround the house and there are gravel paths through the landscaping.

A large swimming pool is located to the south of the site and a large ornamental fountain to the south west of the house.

As will be discussed the buildings were assessed for their potential to support protected and notable species. The developed areas are considered as having a benefit at a site level.

Introduced shrubs

Patches of introduced and ornamental planting are located around the house on all sides. There are several young and mature trees within, and they form dense well established areas containing a variety of species. Several dense yew (*Taxus baccata*) hedges have been included in this category as

they are cut regularly and maintained short. A large terraced planter is located to the south of the swimming pool and a large pergola is located to the east of the building with dense established climbers growing on it.

Species included yew, palm species, cherry laurel (*Prunus laurocerasus*), fatsia and ornamental grass species. The ornamental areas provide additional floral diversity, the denser areas are likely provide suitable habitats for nesting birds and small mammals. The introduced shrubs are considered as having a benefit at a site level.

Individual trees/ Line of trees

The site contains mature and semi-mature scattered trees, located in blocks and lines across the site. These are predominately located to the east and west of the site. These trees are a mixture of conifer and broadleaved species; Oak (*Quercus robur*), hornbeam (*Carpinus betulus*), black locust (*Robinia pseudoacacia*), willow (*Salix sp*.), cedar (*Cedrus libani*), ash (*Fraxinus excelsior*) and maple (*Acer sp*.).

Several of the trees were assessed as containing potential to support bat roosts (see below). The trees also provide a woodland like feel to some of the garden areas and they provide connectivity for species connecting to nearby woodlands. They are considered as having a benefit at a local level.

Modified grassland

Several patches of short mown modified grassland are located around the main building and amongst the ornamental planting. Species include perennial ryegrass (*Lolium perenne*), yorkshire fog (*Holcus lanatus*), creeping fescue (*Festuca rubra*), creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), daisy (*Bellis perennis*) and yarrow (*Achillea millefolium*).

To the south of the site is an area of longer grass, part of a wider grassland, that has been recently left uncut. Though containing a longer sward this habitat resembles the modified grassland containing some additional species such as hawkbit (*Leontodon hispidus*), self heal (*Prunella vulgaris*), poppy (*Papaver sp*.), broadleaved plantain (*Plantago major*), spear thistle (*Cirsium vulgare*), birds foot trefoil (*Lotus Corniculatus*) and oxeye daisy (*Leucanthemum vulgare*).

The areas of short sward grassland are unlikely to attract protected and notable species. The longer sward areas have potential to attract notable species and are part of a wider grassland habitat. The modified grassland is considered as having a benefit at a site level.

Ponds

The only waterbody located on or on the boundary of the site is the Pennymead Lake (P5) located to the west of the site. This was fringed by mature trees, mostly willow, and contained some emergent vegetation on the edges including water lily. The lake contained established fish populations and waterfowl were present. Four other waterbodies were located within 500m of the site with two others located over 500m away (figure 3).

The ponds on the wider estate varied in size but appeared to be likely to support species such as amphibians. The ponds on the wider site are part of a wider network of waterbodies it is considered as having a benefit at a local level.

Broadleaved woodland

Broad leaved woodland is located to the north of the site. This contained a mixed of broadleaved and conifer trees, though predominately broadleaved. Several of the trees are mature in nature and there is a mixture of understorey including ornamental species such as laurel.

The woodland is part of an area of priority woodland habitat located across the local landscape that links to ancient woodland. The woodland on the edge of the site is considered as having a benefit at a regional level.

Summary

The table below summaries the habitats on site and their value within a geographical context.

Habitat	Value	Comments
Developed land; sealed surface	Site	Developed land with buildings that have potential to support protected and notable species.
Introduced Shrub	Site	Established ornamental planting with potential to support protected species.
Individual trees/ Line of trees	Local	Variety of trees, including mature trees, across the site.
Modified grassland	Site	Short mown areas with areas of longer grass to the south of the site.
Ponds	Local	Lake on the edge of the site as well as several other ponds on the wider estate.
Broadleaved woodland	Regional	Area of woodland located on northern edge of the site, part of wider priority woodland habitat.

Table 1: Summary of value of habitats on site.

3.2 Species Desktop Results

A recent biological record bureau search from SBIC some records of protected and Species of Conservation Concern (SoCC) within 1 km of the site. Table one below summarises the key species groups and protected areas within these results. A full list of the species can be seen on request.

Protected species are those listed on EC Habitats Directive- Annexes II and IV, EC Bird Directive- Annex I, Conservation (Natural Habitats) Regulations 1994- Schedules 2 & 5, NERC 2006 Section 41, Wildlife and Countryside Act 1981 (as amended_-Schedules 1, 5 & 8, Protection of Badgers Act 1992. Notable species are categorised as being a: BAP priority National, Red list species (not least concern) and or Red status bird species, Red Data Book Species, NERC species. Legislation and BAP designation are explained in the appendix.

Sites and Habitats	**Present/Absent**	**Details**		
Statutory sites	Absent	There are no statutory sites present within 1 km of the site.		
Non-Statutory sites or Local Wildlife Sites	Present	There is 1 Site of Importance for Nature Conservation (SINCs) present within 1 km of the site.		
Ancient Woodland	Present	Ancient woodland is present within 1 km of the site.		
Priority Habitats	Present	Priority woodland habitat is present within 1 km of the site as well as parkland habitats.		
Protected and Notable Species	**Number of species**	**Number of records**	**Date of earliest record**	**Date of most recent record**
Amphibian Species	0	0	-	-
Reptile Species	0	0	-	-
Invertebrate species	10	15	1997	2022
Terrestrial Mammal Species (excl. Bats)	1	1	2013	2013
Bat Species	5	8	2009	2022
Bird Species	16	21	1996	2022
Plant Species	14	28	1993	2019

Table 2: Summary of protected areas and species information.

Other desktop results

Additionally, the Natural England resource; Magic map[3], was consulted for any granted protected species licences that may be in the area. The closest granted licence relates to bats approximately 1.3 km to the southwest of the site.

[3] www.magic.gov.uk

3.3 Species Site Assessment

The following assessment takes into account the information from the desktop study as well an assessment of the habitats on site and their potential to support protected and notable species. The likelihood of species being found on site is defined as follows;

- High- Definite signs of species identified on site and habitat considered suitable.
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected.
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present.
- Negligible- highly unlikely that species is present

Bat Commuting/ Foraging Habitat

The protected species licencing information from the Magic map produced records of granted protected species licences within 3 km of the site. The closest being approximately 1.3 km to the southwest of the site. Other granted licences are located within 3 km of the site across the wider landscape.

The data provided by SBIC contains records of several species of bat including; common pipistrelle bat (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), serotine (*Eptesicus serotinus*), brown long-eared bat (Plecotus auratus) and Myotis species. The closest record is approximately 400m to the southwest of the site, within East Horsley, of a common pipistrelle. A record of a bat (species unknown) is located within 500m to the north of the site. The most recent records, 2022, contain multiple species and is located approximately 1.5 km to the west of the site.

All bat species in the UK eat insects and forage along habitats such as hedgerows, woodlands, grasslands and waterways[4]. Bats use woodland edges, hedgerows, rivers and other linear features like tree-lined footpaths as corridors to commute from one area of countryside to another[5]. The woodland edge habitats and scattered trees provide suitable bat foraging and commuting habitats. The lake to the southwest and the areas of longer grass also provide suitable commuting and foraging habitat and there is connectivity across the local landscape to areas where bats have been recorded.

[4] https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/foraging-habitats
[5] https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/commuting-habitats

Update August 2023

Bat surveys of the main building were conducted in 2023[6]. These surveys confirmed commuting and foraging bats on site. Therefore, The likelihood of commuting or foraging bats being present on site is considered to be **high.**

Bat Roost Assessment

Buildings are known to provide suitable roosting opportunities for a number of bat species[7]. An external inspection of the buildings on site was carried out to assess their potential to support bat roosts, following Bat conservation trust guidelines[8]. An internal inspection was undertaken where possible inspecting all roof voids and potential roosting locations with a high-powered torch looking for signs of bats in the form of staining, droppings, feeding remains and the bats themselves. This was followed by an external inspection of the buildings looking for potential ingress points through soffits, eaves, missing roof tiles/slates and brickwork and windows.

The table below summarises the guidelines for assessing the potential suitability of structures and trees. The buildings and trees on site were assessed against this criterion.

[6] 100723 - Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS. Bat survey report 2023. RP-HHA-100. EHM ltd. 28/08/2023.
[7] Bats and Buildings. Bats and the Build Environment Series. Bat Conservation Trust. January 2012.
[8] Collins, J. (ed) (2016). Bat Surveys for professional Ecologists/; Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

[a] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
[b] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.
[c] This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Table 3: Summary of guidelines for assessing bat potential.

The main house was a large U-shaped two-level building constructed with bricks. The roof had a complex pitched structure and was tiled. The dormer windows all had hanging tiles on the sides, while a long dormer on the west face has hanging tiles on the front. At the back (southwest) of the building there is a large shelter attached to the main house with a pitched roof covered in wooden tiles. The house is mostly in good condition, however many roof tiles were found to be either missing or broken. The following external features were noted as providing a potential roosting opportunity (summarised in figure 2);

- The majority of the roof tiles have gaps underneath, which provided a potential roost site, which was seen on all sides of the building.
- Several broken and missing tiles were noted on all sides except the west face.
- The dormer windows all have gappy hanging tiles, that provide roosting opportunities, on the sides.

- The lead flashing around the eastern chimney had gaps underneath, that bats could use as a roost site.
- Missing mortar was seen along the roof ridge on the eastern section of the building.
- Dense wisteria was found on the building in the southeast section.
- Holes/gaps in the soffits - all on the north/northeast face were noted .

Figure 2: Sketch map of potential roost features noted on the exterior of the building.

The majority of the roof space is currently living space. As such roof voids are limited to above the garage, the central area of the main house, around the chimney and potentially small inaccessible voids around the dormer windows/roof edge. The majority of the east section of the house (except the garage) has an open ceiling to the roof.

The roof spaces were constructed of wooden beams with felt backing the tiles, insulation was noted across the roof spaces. Several mouse droppings were found in the main roof void, along with bait stations for poison, but no bat droppings were found. No evidence or potential access points were noted in the roof spaces.

Due to the presence of several small features that have potential to support individual or small number of bats. Therefore the building is considered as having a **moderate** potential to support a bat roost.

Update August 2023.

Bat surveys of the main building were conducted in 2023[9]. These did not detect any emerging bats therefore the building is considered as having a **negligible** potential to support a bat roost.

The outbuildings and sheds were also assed for their bat roost potential. No features likely to support a bat roost or evidence of bats were noted. The sheds and outbuildings are considered as having a **negligible** potential to support a bat roost.

The trees on the sites were assessed for any Potential Roost Features (PRFs). The bat conservation trust provides information regarding features that may be present in trees that bats could potentially use for roosting[10]. All the trees on the site were assessed for any PRFs that may be present. Several of the trees were summarised a shaving potential to support a bat roost. These were;

T1 - Willow - **moderate potential**. Woodpecker holes x2 and peeling bark.

T2 - Hornbeam - **moderate potential** - gaps and holes all around.

T3 - Hornbeam – **moderate potential** - rotten with several holes and gaps.

T4 - Black locust - **Low potential** - cherry laurel growing in a split with a hole above and peeling bark.

T5 - Willow - **low potential** - rot hole where branch has been removed.

T6 - Black locust - **low potential** - loose bark.

T7 - Oak - **moderate potential** - several holes where branches have been removed.

Badger Assessment

The site was investigated for evidence of Badger (*Meles meles*); setts or signs such as tracks, hair or latrines. No evidence of badgers was seen on the site though there was some anecdotal evidence of badgers being present in the wider woodland. The wider estate contains habitats that have potential to support badgers. The site itself contains some potential foraging habitats and it may be that badgers are seen on site occasionally. The potential for badgers to be on site is considered to be **low**.

Dormouse Assessment

Across its range dormice (*Muscardinus avellanarius*) prefer the successional stage of woody vegetation; this is the new growth that arises after woodland management such as coppicing, ride widening, thinning or glade creation, they may also occur in scrubby habitat[11]. The site itself did not contain any suitable habitat for dormouse and no evidence was seen. The wider woodland may

[9] 100723 - Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS. Bat survey report 2023. RP-HHA-100. EHM ltd. 28/08/2023.
[10] http://www.bats.org.uk/pages/bat_roosts.html#TreeRoosts
[11] https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/

contain suitable habitats and there is good connectivity across the wide landscape. The likelihood of dormouse being present is considered **low**.

Small Mammal Assessment

Hedgehogs (*Erinaceus europaeus*) prefer habitats such as woodland edges and hedges as well as suburban areas[12]. The dense scrub provides suitability for species such as this. The likelihood of small mammals being on site is considered to be **moderate.**

Aquatic Mammals

No suitable waterbodies were present on site therefore aquatic mammals are not a consideration for this site.

Reptile Assessments

Reptiles prefer sites with a diversity of habitats containing a number of micro habitats that provide suitable foraging and refuge sites[13]. In general the habitats on site lack suitability for reptiles, however the areas of longer grass along the southern edge of the site provide some potential for reptiles and there is connectivity to wider areas. Though the site lacks optimal habitat for reptiles it is possible they are seen on site. The likelihood of reptiles being present is **low**.

Amphibian Assessment

The European protected species Great Crested Newt (*Triturus cristatus*) require both suitable aquatic habitats for breeding and terrestrial habitats to forage and shelter during the active season and hibernate over winter[14]. A large lake and four ponds were seen within 500m of the site. An additional two ponds were seen approximately 530m and 550m from the proposed development, summarised in figure 3 below.

[12] http://www.mammal.org.uk/sites/default/files/factsheets/hedgehog_complete_0.pdf
[13] Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and reptile Conservation, Bournemouth
[14] Great crested newt mitigation guidelines. August 2001. English Nature.

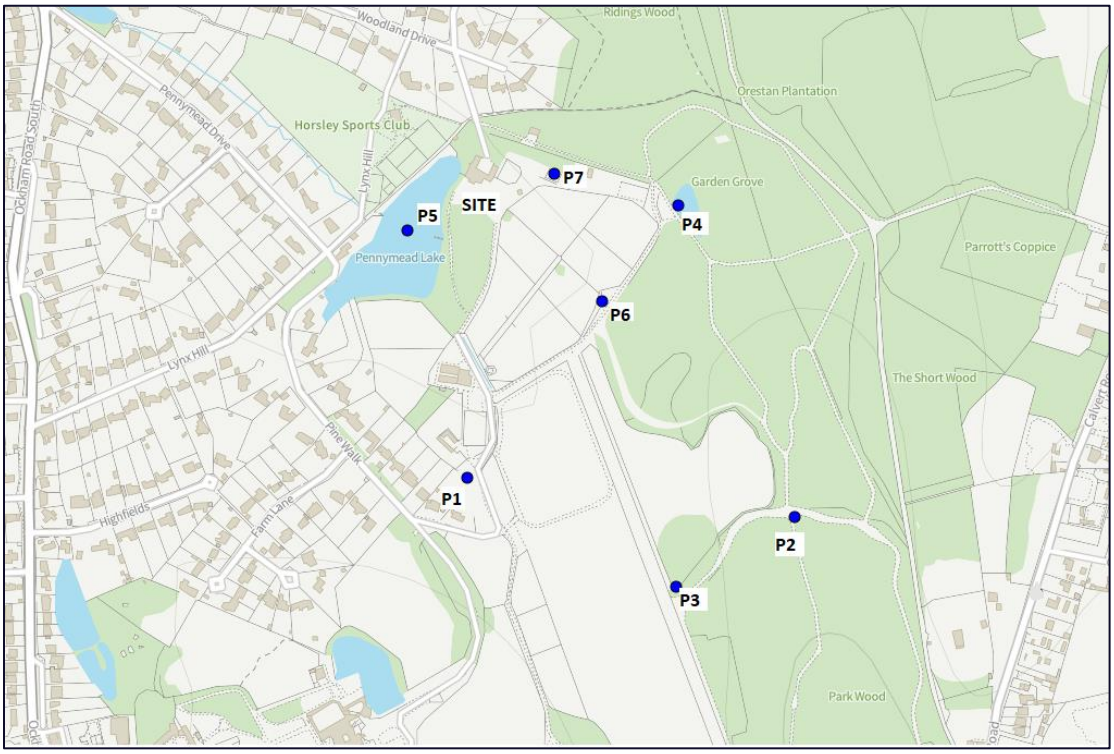


Figure 3: Location of ponds within proximity of the site.

Along with the seven ponds within proximity of the site there are several other waterbodies located within the wider landscape, some of which are shown in figure 3. P5, the closest pond, is a small lake that contained fish and was considered as not being likely to support GCN. The other ponds appeared to provide a suitable potential habitat for GCN. The terrestrial habitats on site provide some limited suitability for GCN, the wider estate likely contains suitable terrestrial habitats for GCN. Though ponds, that have potential to support GCN, are located within proximity of the site the site itself is not likely to contain them. The potential for GCN to be on site is considered to be **Low.**

Common amphibians are also likely to use the ponds within proximity of the site. As with GCN the site does not contain much in the way of likely habitats however they may be seen on site. The likelihood of common amphibians being present is considered **low.**

Bird Assessment

The site contains suitable habitat for nesting birds, all bird nests are protected whilst they are in use. No direct evidence of nesting birds was seen on site though several suitable habitats were noted, including the dense wisteria on the main house. The likelihood of nesting birds being on site is considered **moderate.**

Invertebrate Assessments

The local records data contains records of notable invertebrates. This includes the protected species; stag beetle (*Lucanus cervus*), all from 1998 located approximately 1km to the southwest of the site. The mature trees on site and proximity to wooded areas may mean this species is seen on site.

Butterflies such as white admiral (*Limenitis Camilla*) and small heath (*Coenonympha pamphilus*) have also been recorded in the area. The variety of habitats on site will likely attract invertebrates such as moths and butterflies though the domestic nature of some of the habitats will likely limit the likelihood. The likelihood of notable invertebrates being present is **low**.

Plant Assessment

The SBIC data contained records of notable species such as bluebell (*Hyacinthoides non-scripta*) and wood-sorrel (*Oxalis acetosella*). Common spotted orchid (*Dactylorhiza fuchsia*) was noted on the wider site. The habitats on the site are unlikely to support notable plant species, due to their management, though they may be present within proximity of the site The likelihood of notable plant species being found on site is considered to be **low**.

Summary

Table 3 below summarises the sites potential for protected and notable species. Designations for potential are as follows;

- High- Definite signs of species identified on site and habitat considered suitable.
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected.
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present
- Negligible- highly unlikely that species is present.

Species	Sites potential to support	Justification
Bat roost buildings	Negligible	Surveys conducted in 2023 showed no bat roosts to be present.
Bat roosts trees	Low-moderate	Several of the mature trees have potential to support bat roosts.
Bat foraging/ commuting areas	High	Bat surveys in 2023 confirmed presence of commuting and foraging bats.
Badgers	Low	No evidence of badgers on site. Potential for badgers to be present in wider landscape.
Dormice	Low	Habitats on site considered unlikely to support dormouse but may be present within proximity of the site.
Small mammals	Moderate	Suitable habitat on site for small mammals with connectivity across wider landscape.
Reptiles	Low	Habitat on site generally limited with some suitability on edges of site and connectivity to wider areas.
Great Crested Newt	Low	No pond directly on site, lake bordering site not considered likely to support GCN. Several ponds with GCN potential within proximity of site.
Amphibians	Low	Site contains some suitable terrestrial habitats with several ponds within proximity of the site.
Breeding birds	Moderate	Several potential bird nesting habitats locate don site.
Invertebrates	Low	The site provides some limited suitability for invertebrate species and there is connectivity to wider landscape.
Plants	Low	Habitats on site considered unlikely to support notable species though may be present within proximity of the site.

Table 3: : Summary of sites potential to support certain protected and notable species.

3.4 Protected Areas

Statutory Protected Areas

There are no statutory protected areas with 1 km of the site.

Non-Statutory protected Areas

There is a Sites of Nature Conservation Importance (SNCIs) located within 1 km of the site. This is known as Riding's Wood SNCI and located approximately 100m to the north of the site (figure 4). This site is designated for its populations of rare plants and invertebrates.

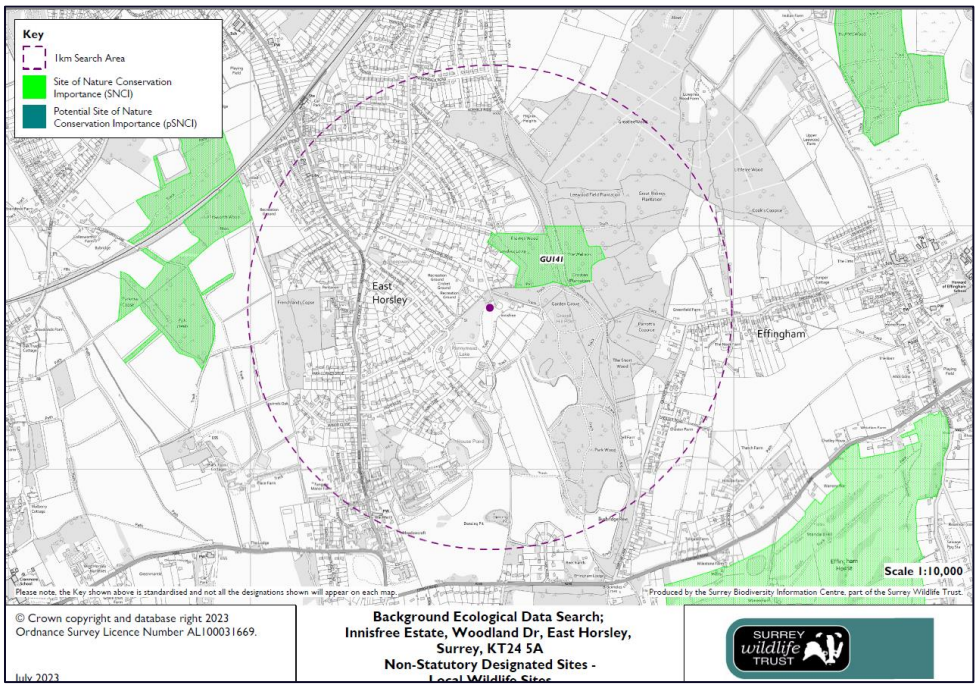


Figure 4: Protected areas within 1 km of the site.

Priority Habitats

Habitats listed on the Priority Habitat Inventory (PHI) are located on site and across the local landscape. Figure 5 shows these areas within proximity of the site. Priority woodland is located on the northern edge of the site. The majority of the site and the wider estate is designated as priority Woodpasture and Parkland habitat. As can be seen in figure 5 this includes the areas of existing developed land. Traditional orchard priority habitat is located to the east of the site on the estate. Priority and ancient woodland dominates the wider landscape to the northeast and east of the site. Other pockets of priority woodland are located across the wider landscape.

Though the site is mostly designated as woodpasture habitat this incorporates areas of developed ground and ornamental areas. It is possible that this is an historic designation and does not reflect the habitats on the ground.

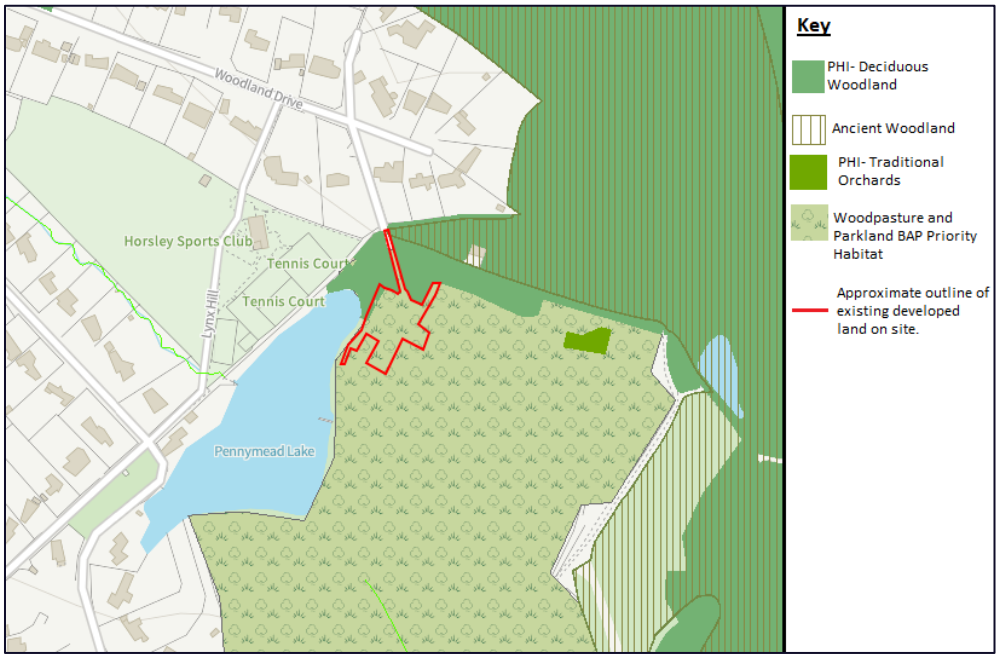


Figure 5: Location of priority habitats in relation to developed land on site (image from MAGIC).

Ancient woodland is found within the local landscape. The closest being approximately 30m to the north of the site. Other pockets of ancient woodland are located across the local landscape (figure 6).

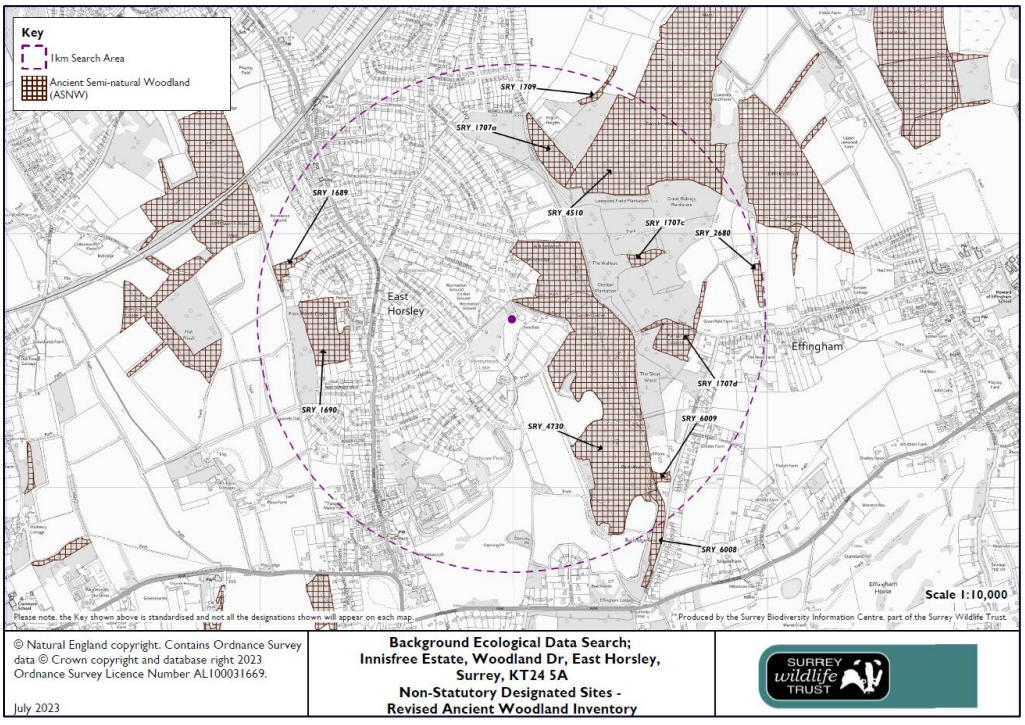


Figure 6: Showing areas of ancient woodland within 1 km of the site (SBIC).

4. Discussion

The following sections consider the effects on protected areas, priority habitats, protected species, notable species and habitats on site. Recommendations for additional surveys and or enhancements are made as necessary.

4.1 Effects of Designated Sites

As can be seen in figure 4 the site is not within direct proximity of the protected areas. It is unlikely that there will be any direct impacts to these protected areas. The general protection measures set out below should be followed to help ensure there are no indirect impacts.

4.2 Effects on Priority Habitats

Areas of ancient woodland are located within the local landscape. The National Planning Policy Framework (NPPF) (2021) paragraph 180 states "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". Natural England's standing advice for Ancient Woodland[15] currently recommends that at least a 15m buffer is created between any development and ancient woodland. Ancient woodland is close to the northern border of the site. This is located approximately 40m from the proposed development therefore outside of the required 15m buffer. The proposed access track may well run along side the ancient woodland. If this is the case there are unlikely to be any direct impacts as no trees will be required to be removed and existing surfaced areas will be used.

The proposed development (appendix 2) will occur on areas that have been designated as priority woodpasture and parkland habitat (figure 5). Key features of these habitats are:

- Ancient/veteran trees which are special in their own right as some of the oldest living organisms in the UK.
- The presence of grazing animals – animal dung contributes to invertebrate and fungal diversity and grazing controls tree and shrub regeneration, maintaining a semi-open habitat.
- The presence of microhabitats including large diameter (relative to the species) hollowing trees, other decaying wood, rot holes, ageing bark and fallen but regenerating trees, which support a wide range of specialised invertebrates, lichen and fungi.
- Nectar sources for invertebrates.

[15] https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences

- Open grassland or heathland ground vegetation.
- Continuity – in terms of very long-lived individual trees and continuity of management.

The majority of the areas on the proposed development site do not contain any of these features. The area is dominated by developed land and domestic habitats such as ornamental plants and lawn. The site contains several small trees but none of these are classed as ancient or veteran and there is an absence of grazing animals. The woodpasture designation extends to the south of the site across the wider estate to neighbouring land. It is possible the habitats on the wider estate more closely match this priority habitat description.

Therefore, it is unlikely that woodpasture and parkland habitat will be directly impacted as the development area does not contain the features required for this habitat.

The development will also occur within the proximity of woodland and orchard priority habitats. These areas will not be directly impacted by the proposed development, by following the pollution control measures set out below any indirect impacts will be minimised.

4.3 Effects on Habitats on Site

As can be seen in appendix 2 the development will largely occur on areas of existing developed land, modified grassland, and introduced shrubs. All of the trees are planned to be retained on site.

It is recommended that adequate root and crown protection be in used for retained trees, where appropriate, during construction.

Overall the majority of the habitats will be retained. There is an opportunity to provide some general enhancements as part of the development. Some recommendations are made regarding protected and notable species below.

JW Biodiversity management understands that the proposed development will involve installing a water source heat pump that uses a closed-loop coil within the adjacent lake. This will require a ‘coil’ of water filled pipes to be set into the lake. There would be no pumps or filters affecting the water in the lake – it is simply the transfer of heat between the water in the lake and the water in the pipe that would be used to heat/cool the house. The temperature fluctuations within the lake will be no more than +/- 1 degree, as the water acts as a solar collector, so the surface area is the driving factor to balance the energy taken out with energy in.

The impacts to the lake habitat will be minimal and unlikely to cause significant impacts, there will be no permanent installation within the waterbody. Recommendations regarding great crested newts are outlined below.

Solar Array

JW Biodiversity management understand that a solar array is planned on an existing area of tennis court to the northwest of the site. As this will occur on existing areas of hard standing impacts t0 protected species is considered to be negligible.

Figure 7: Proposed Solar array.

This array will be placed within proximity of an area of ancient woodland. As discussed Natural England's standing advice for Ancient Woodland currently recommends that at least a 15m buffer is created between any development and ancient woodland. The diagram below shows a 15m buffer from the edge of the designated ancient woodland close to the proposed solar array.

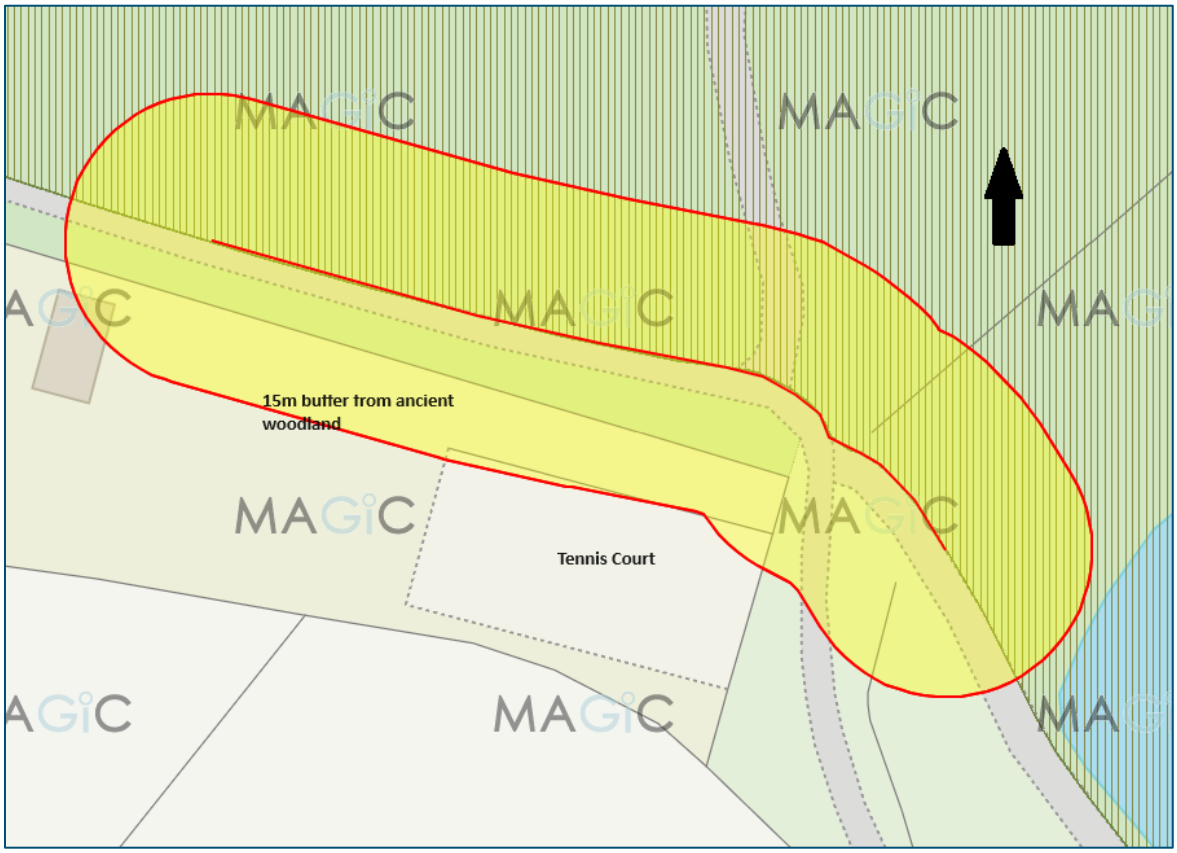


Figure 8: 15m buffer from ancient woodland.

As can be seen the tennis court is mostly beyond the 15m of the ancient woodland. The northern section lies on the boundary of the 15m buffer. As can be seen in figure 7 the proposed array will not be carried out on the northern edge of the tennis court. There may be a minor infringement of the 15m buffer however this will not impact areas of ancient woodland as it will occur on areas of existing hardstanding. Trees will not be directly impacted by the proposed solar array.

The proposed solar array, due to its location on an area of hardstanding, is not considered as being likely to impact protected species of habitats. The general protection measures below should be followed during the installation.

4.4 Effects on Protected and Notable Species

Bats

Bat surveys of the main building were conducted in 2023[16]. These did not detect any bat roosts therefore a protected species licence will not be required for this project.

It should be noted that bat absence is very difficult to prove definitively due to their mobility and size, and single or small numbers of bats are able to roost in extremely small spaces, such as in gaps between panels. The development work should be undertaken with care, for example with roof tiles lifted rather than dragged. If during development works a bat (or an accumulation of bat droppings) is discovered at any time, work is to temporarily cease whilst an experienced bat ecologist is contacted for guidance and assistance. This can be the Bat Conservation Trust (BCT) helpline (0845 1300 228).

T5, will require removal. T5 is considered as having a potential to support a bat roost. The trees that are to be felled on site will be soft felled; cut down in sections and lowered gently to the ground. Material should then be stacked on site overnight. The cut material can be left on the wider site as a habitat pile.

The majority of the suitable bat habitats will be retained on site and there is potential to provide enhancements as part of the overall design.

A sensitive lighting scheme should be incorporated into the final design to protect existing habit habitats and any newly created habitats on the site. To protect potential roost or bat foraging/ commuting habitat in the area it will be important to;

- Avoid illuminating the wider habitats on site and retained building at dusk or night-time- Guidelines provided by the Bat Conservation trust and ILP should be followed[17]
- Limit work to daylight hours
- Limit noise disturbance and other forms of pollution such as dust
- Maintain the wider habitats on site.
- Lighting should also be considered post-development with any external lighting positioned so as not to illuminate potential foraging or commuting habitats.

[16] 100723 - Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS. Bat survey report 2023. RP-HHA-100. EHM ltd. 28/08/2023.
[17] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Badgers

Though no evidence of badgers was seen during the site visit, to help ensure badgers are not harmed during the development the following actions are recommended.

- To prevent badgers becoming trapped in open earth works or excavations that any excavations, that are to be left overnight, should either be covered over or a board placed securely within the excavation that allows access from the bottom of the excavation to the ground level.
- All excavations and trenches should be inspected each morning before works commence. If a badger is found trapped on site the ecologist or local badger group/ RSPCA should be contacted.
- Any lose or soft material such as topsoil should be covered overnight and when not in use to discourage their use by badgers as potential setts. Any mounds should be inspected daily to ensure badgers have not established a sett. If a potential sett is discovered an ecologist should be consulted immediately and the area not disturbed.
- If pipework (over 120mm in diameter) is stored on site the ends should be covered and inspected before use.
- Chemicals will be stored in a secure/ bunded container to avoid disturbance by badgers.

Small Mammals

Small mammals such as hedgehogs may be present on the site. Any vegetation removal should be cleared systematically by hand and cut down to ground level. Any debris such as log or brush pile should be dismantled by hand and removed. This will allow any animals present to leave the work area safely. Additional enhancements are recommended below.

Dormouse

Hazel Dormice, their breeding sites and resting places are protected by law[18]. The woodland will be retained along with the tree lines. Following the general protection measures will help avoid disturbance to this species, if they are present in the area.

Reptiles and Amphibians

Some of the habitats on site are considered as having potential to support reptiles and common amphibians; reptiles are protected from recklessly injuring or killing under UK law. The majority of habitats that will be impacted are unlikely to support these species. To further reduce possible

[18] https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects

impacts, It is recommended that the habitats, that will be directly impacted, be cleared using a suitable method statement to reduce the likelihood of impacting reptiles;

Stage 1

The vegetation will need to be reduced to a height 150-200mm using hand tools (e.g. strimmers). It is recommended that cutting works towards retained areas, where there is connectivity to wider habitats. All potential refugia such as log or rubble piles should be removed by hand to outside of work area.

Stage 2

After a period of at least one day has passed a second vegetation cut should be undertaken to ground level. Again, it is recommended that this second-stage cutting works towards the eastern edge of the site. All cuttings to be removed from work area. The site can then be completely cleared and worked upon as necessary.

If a reptile is seen, then works should stop until an appropriate mitigation strategy can be agreed and implemented.

Great Crested Newts

The site has a low potential to support the European protected species; Great Crested Newt. The development area is unlikely to support this species. Great crested newts are a European protected species. The animals and their eggs, breeding sites and resting places are protected by law. The site is within an area that contains several ponds with the locality (figure 3). None of the ponds will be directly impacted (though a coil of water field pipe will be placed in the water) and the habitats that will be impacted mostly consist of built areas or domestic habitats that are unlikely to support GCN.

The site is within an area that is part of a District Level licensing (DLL), operated by NatureSpace. The DLL is an alternative approach to traditional mitigation licences to develop sites which could affect great crested newts. DLL areas are split into different risk zones;

- Black – nationally or regionally important site for great crested newt – excluded from development impacts under the District Licence Scheme
- Red – highly suitable habitat – the most important areas for great crested newts
- Amber – suitable habitat – great crested newts are likely to be present
- Green – moderate habitat suitability – great crested newts may be present
- White – low habitat suitability – low probability of great crested newt presence

Looking at the Impact maps for the area (https://naturespaceuk.com/district-licensing/impact-map/) the site appears to be (the resolution is not sufficient to be sure) either in an amber or red zone. Therefore it is recommended that the project apply to join the DLL. This is done in different stages,

before and after planning permission, the client should apply to NatureSpace to join the scheme (https://naturespaceuk.com/district-licensing/the-process/).

Joining the DLL does not require additional surveys and assessment. NatureSpace will be able to confirm the risk zone that the site is in

Nesting Birds

To ensure breeding birds are not impacted any vegetation that may require removal should be removed outside of the breeding bird season, this typically runs from March to September. If vegetation/ buildings require removal during the nesting bird season the area should be subjected to a survey by an experienced ecologist. If there are any nest sites located within the work area a suitable exclusion zone will have to be established until the chicks have fledged. All bird nests are protected in the Wildlife and Countryside Act (see appendix).

Additional planting and inclusion of nest boxes would help replace any potential loss in nesting habitat.

Invertebrates

Retention of scattered trees and grassland on site will help maintain suitable habitats on site for invertebrates. Inclusion of log or brush piles is also recommended in retained habitats. Post development planting could also be used to provide enhancements to invertebrate species and should look to retain or recreate areas of the open mosaic habitats currently on the site.

4.5 General Ecological protection Measures

The following measures are suggested to help minimise the impact to the wider environment;

- Establish biodiversity exclusion zone around development site with hoarding. All construction personnel and materials will be excluded from leaving this designated area. This should be marked on site with fencing or hording. This will also limit disturbance to nearby priority habitats and ancient woodland.
- Suppression and monitoring of dust where relevant.
- Control sources of aquatic pollution, particularly from entering local water courses or ground water.
- All proposed work must strictly be in accordance with all relevant Pollution Prevention Guidelines (PPG) published by the Environment Agency which may include but is not limited to PPG1 (general), PPG5 (works in, near, or liable to affect watercourses) and PPG6 (work at construction & demolition sites). Contingency plans should be drawn up to address chemical spillage, collision, etc.

4.6 Ecological Enhancements

A number of enhancements can be made to the final development to help reduce potential ecological impacts, as well as to try and achieve biological net gain. It is important to utilise native species of local provenance in landscaping schemes to enhance the ecological value of the development.

A Biodiversity Net Gain assesment has been conducted (section 5).

Planting

Native tree and flower planting should be used to provide additional habitats. Additional native planting will provide a benefit for invertebrates, bats, birds and mammals.

Additional Features

To enhance the local bat population and provide roosting opportunities within the site artificial roost sites could be incorporated into the development. Boxes could be added to the retained trees, the Schwegler 2F is a good general purpose box that can be hung on trees.

The inclusion of bird boxes into the proposed development would provide a benefit for local bird population. A range of different boxes is recommended.

It is also recommended that log piles could be made in areas of retained green spaces. The log piles can be created from any trees that are being removed as part of the proposal. Log piles offer shelter for hibernating small mammals and insects, as well as a foraging area for some birds.

5 Biodiversity Net Gain Assessment

5.1 Net Gain Target

Mandatory Biodiversity Net Gain, as part of the Environment Act (2021), is likely to come into place in late 2023. In the interim Guildford Borough Council has a desired target of 10- 20% net gain[19]. Guildford Borough Local Plan as adopted in April 2019. Policy ID4 states "New development should aim to deliver gains in biodiversity where appropriate". Policy P7: Biodiversity in New Developments (Page 39), of the Guildford Local Plan (March 2023)[20], requires that qualifying development proposals deliver at least 20% BNG 'measured using the national biodiversity net gain calculation methodology' once BNG becomes mandatory.

For the purpose of this assessment a target of 20% net gain will be used as, even though BNG is not yet mandatory, as this will be in line with the policies in the adopted local plan.

5.2 Net Gain Assessment

A Biodiversity Net Gain Assessment has been conducted using the Natural England Biodiversity Metric 4.0. This was conducted by a competent and qualified ecologist. The methodology set out in the Biodiversity Metric 4.0 User guide was followed[21]. Biodiversity metric 4.0 uses habitats, the places in which species live, as a proxy to describe biodiversity. These habitats are converted into 'biodiversity units'. These biodiversity units are the 'currency' of the metric.

5.3 Baseline Assessment

The area for assessment will be smaller than the entire site. As the development will only impact the western half of the site the assesment will focus on this area.

The baseline assessment is calculated by categorising the broad habitat and habitat type. This is based on the assessment carried out in section 3.1. The matrix then assigns the habitat distinctiveness, the distinctiveness of a habitat is considered as a component of the quality of a habitat parcel. The distinctiveness band of each habitat has been preassigned in the biodiversity metric.

A strategic significance is also assigned to each habitat type. Strategic significance relates to the spatial location of a habitat parcel and works at a landscape scale. It gives additional biodiversity unit

[19] Sustainability Appraisal (SA) of the Guildford Local Plan Part 2: Development Management Policies SA Report December 2021
[20] https://www.guildford.gov.uk/guildfordlocalplan
[21] The Biodiversity Metric 4.0: User Guide. First published March 2023. Natural England Joint Publication JP039.

value to habitats that have been identified as habitats of strategic importance to that local area. For this assessment the Biodiversity and Planning In Surrey March 2019 was used [22].

A habitat condition is also calculated. This is calculated based on certain criteria set out in the metric habitat condition sheets. These were completed based on the details collected during the PEA site visit.

Baseline assessment scores

The table below summarises the baseline habitat assessment. Full details can be seen in the appendix. The area assessed for the BNG is slightly smaller than the overall site, this is because the assessment will concentrate on areas that will be directly impacted.

The trees on site are described as rural trees and tree lines where appropriate. The area of the rural trees is calculated using the tree helper within the metric. Rural trees are grouped by size; small, medium and large.

Broad habitat	Habitat type	Area (ha)	Condition	Distinctiveness	Strategic Significance
Onsite Area Habitats					
Urban	Developed land; sealed surface	0.2247	N/A	Very low	V. Low Strategic Significance
Urban	Introduced shrub	0.1406	N/A	Low	Low Strategic Significance
Grassland	Modified grassland	0.1931	Good	Low	Low Strategic Significance
Grassland	Modified grassland	0.0233	Moderate	Low	Low Strategic Significance
Individual trees	Rural Tree	4x medium	Moderate	Medium	Medium Strategic Significance
		1x small	Moderate		
Onsite Hedgerow Units					
Hedgerow	Line of trees	TL1- 0.032 km	Moderate	Low	Medium Strategic Significance
		TL2- 0.03 km	Good		
		TL3- 0.015 km	Moderate		
		TL3- 0.018	Poor		
				On-site Baseline	**2.54 Habitat Units**
				On-site Hedgerow Baseline	**0.44 Hedgerow Units**

Table 5: Summary of BNG baseline assessment.

[22] https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20applications%20and%20enforcement/Inquiry-land-off-Oxted-Rd/CD6/6.12-Surrey-Biodiversity-Action-Plan.pdf?ver=2021-08-03-103410-220

5.4 Post Development Assessment

The development (appendix 2) will largely impact existing areas of developed land and areas of modified grassland and introduced shrubs. The majority of the individual trees and all tree lines will be retained and enhanced.

The nature of the development allows for enahncment of retained habitats and creation of new habitats.

Habitats Created/ Retained

The table below summarises the habitats that will be in place post development. Broad details of the required ecological enhancements for each habitat are provided.

There is an opportunity to enhance areas of existing modified grassland and create a more ecologically diverse grassland that will be classed as 'other neutral grassland'. New areas of neutral grassland will also be created in an areas formerly occupied by developed ground. These areas will be maintained as a hay meadow type habitat that will be allowed to grow long throughout the spring and summer with a cut being undertaken in the late summer/ autumn and the arisings removed, this will extend the management regime already being undertaken in grassland areas on the wider estate.

Retaining trees and creating a more ecologically diverse grassland will help to create conditions for woodpasture habitat to develop, in the long term, on site. The new habitats will help to complement the habitats on the wider estate and priority habitats found in the area.

Pockets of introduced shrubs and modified grassland will be added to the site around the new house.

The proposed development will result in approximately the same area of developed land.

A layout of the proposed habitats is shown in appendix 4.

Retained/ Newly Created Habitat	Area (Ha)	Distinctiveness	Desired condition	Strategic Significance	Required Enhancements
On site					

Developed land; sealed surface (New and retained)	0.1618	Very Low	N/A	Low	• Follow ecological protection measures during construction.
Introduced shrubs (planted)	0.0021	Low	N/A	Low	• Plant species with wildlife benefit- such as those on RHS pollinators list.
Modified grassland (planted)	0.0557	Low	Moderate	Low	• Increase wildflower diversity with suitable low growing seed mix such as LW12M[23]. • Manage with a Varied sward height- >20% <7cm and >20% <7cm. • Maintain Bracken <20% and scrub <5%. • Maintain an absence of non-native species and <5% undesirable species/ damage
Other neutral grassland (created)	0.0199	Medium	Moderate		• Sow wildflower mix with 9-15 species/ m^2. Example mix EL1 (in created areas) • Varied sward height- >20% <7cm and >20% <7cm. • Maintain Bracken <20% and scrub <5%. • Maintain an absence of non native species and <5% undesirable species/ damage. • Allow sward to grow through spring/ summer then cut and collect in autumn.
Other neutral grassland (enhanced from modified grassland)	0.0982	Medium	Moderate/ Good	Medium	
Rural Tree retained/ enhanced	4 x medium	Medium	Moderate/ good	Medium	• Plant native trees • Manage to good horticultural standard. • Allow micro habitats to develop • Maintain vegetated habitats around trees
Line of trees – retained	0.10 km	Low	Moderate/ Good	Low	

Table 6: Summary of enhancement of new habitats.

[23] https://www.wildflower.co.uk/products/wildflower-seed-mixtures/lw12-low-growing-80-20.html

5.5 Biodiversity Net Gain

The extract below is taken from the biodiversity metric (further details are in the appendix). As can be seen the proposed project will achieve a net gain of over 40% for habitat units. Hedgerow units will be increased by over 40%. This would meet the aim of achieving a 20% net gain.

The net gain is largely achieved by retaining and enhancing habitats on site, in particular grassland habitats,. The hedgerow units show a significant increase due to the enhancement of existing tree lines on site. These habitats will help to provide an ecological benefit on site as well as providing additional bat foraging and commuting habitat.

On-site baseline	*Habitat units*	2.54
	Hedgerow units	0.44
	Watercourse units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	3.59
	Hedgerow units	0.65
	Watercourse units	0.00
On-site net change (units & percentage)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Off-site net change (units & percentage)	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.05
	Hedgerow units	0.21
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	41.38%
	Hedgerow units	46.40%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Table 7: Summary of BNG calculations.

Planting Detail

Once the proposed enhancements have been agreed a more detailed planting plan and methodology may be required. This should include full details of all enhancements and can be a condition of the proposed development.

6. Conclusion

A Biodiversity Net Gain assessment has been conducted by a competent ecologist and recommendations have been made to ensure the projects achieves a net gain. This is inline with local and national planning policies. Recommendations have also been made in relation to protected and notable species.

The table below summarises the recommendations updates in **bold** following additional surveys.

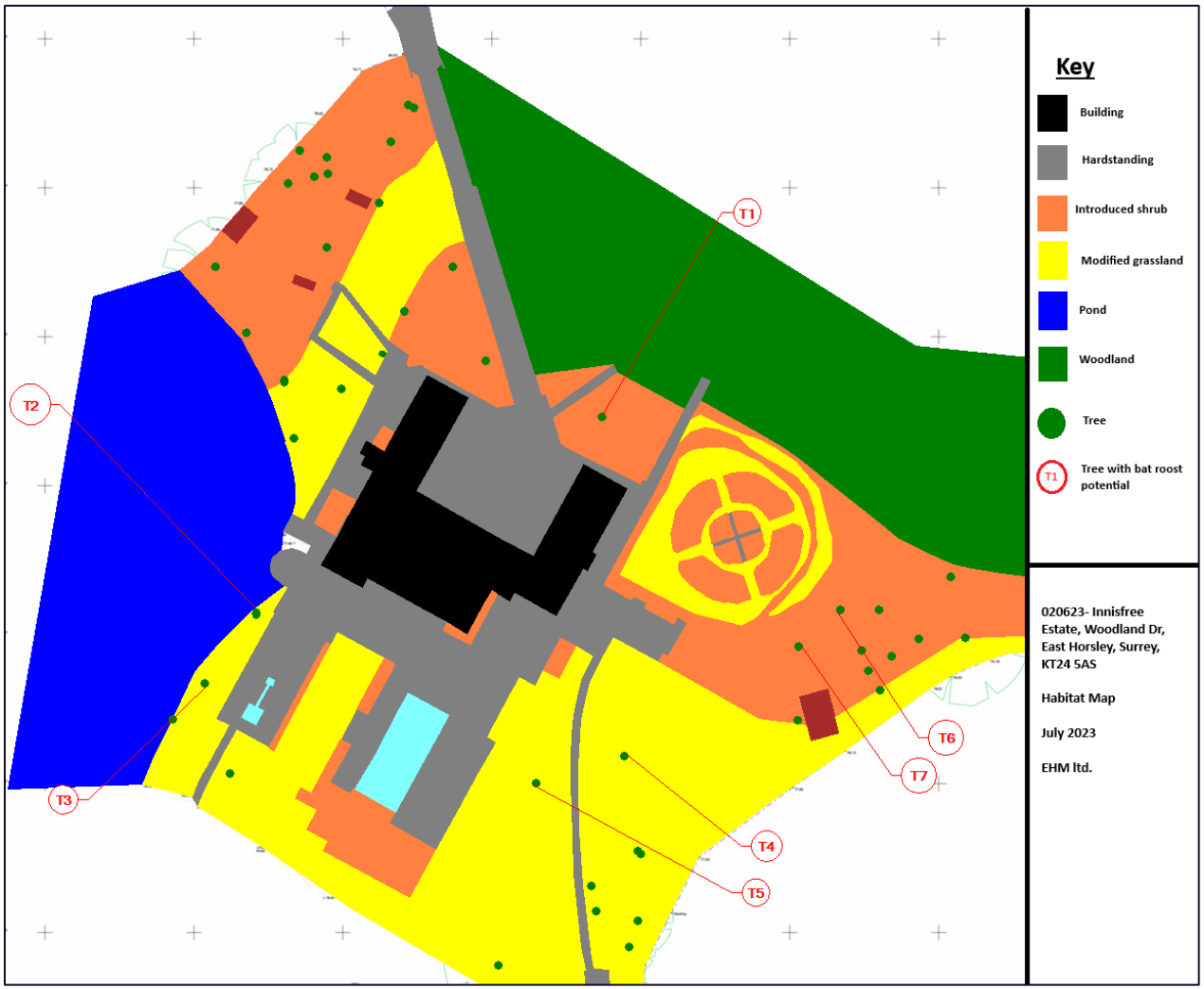
Recommendation	Action	Justification
Additional species surveys*	**Surveys conducted in 2023. Not bat roosts detected.**	
Retention and enahncment of habitats*	Retention and enahncment of majority of the habitats on site.	This will ensure that important habitat is protected.
Protection of breeding birds*	Carry out vegetation clearance (if required)/ building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats*	Avoid illuminating bat foraging and commuting habitat-woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Remove vegetation in stages*.	Cut down tall vegetation, if required, in stages to reduce risk of impacting protected/ notable species.	This will allow small mammals, reptiles or amphibians, if present to leave the area safely.
Join GCN district licence scheme*	Apply to NatureSpace to join district licence scheme.	This will ensure compliance with legislation and planning permission.
Follow badger protection measures*	Follow badger protection measurers during construction.	This will stop badgers becoming potentially trapped.
Screen adjacent woodland with hording	Place hording along border with woodland habitats.	This will protect woodland from disturbance during construction.
Root and crown protection for trees. Soft fell trees	Ensure retained trees have adequate root and crown protection. Soft fell trees if required to be removed.	This will protect trees and protected species during development.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations within the landscaping.	This would benefit local bird and bat populations on the site and within the local area.
Develop detailed planting plan.	Develop detailed planting plan as per BNG assessment.	This will provide a greater longer-term benefit for wildlife and ensure the project achieves the required net gain.

Table 8: Summary of recommendations.

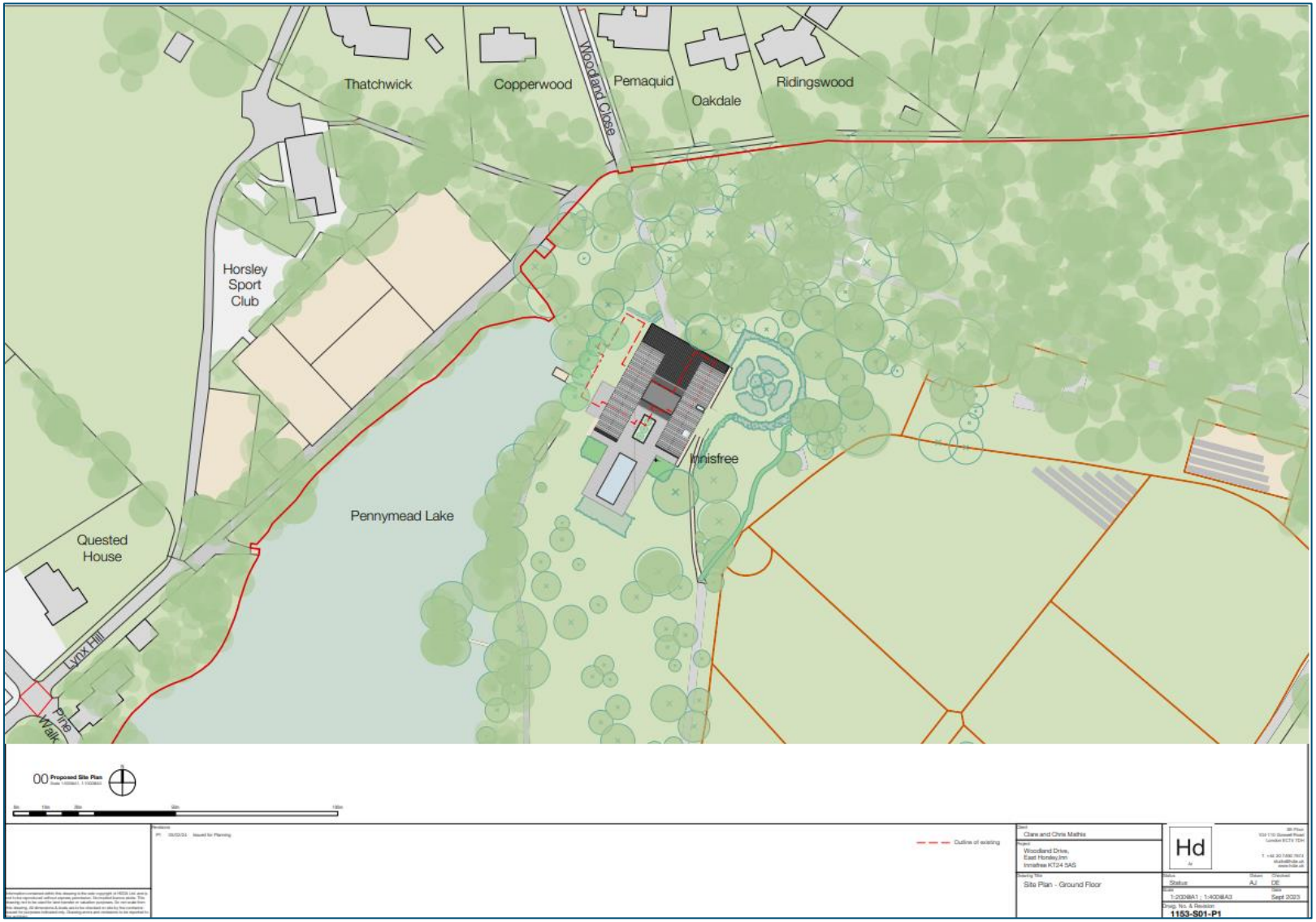
* Indicates recommendation to avoid impact to legally protected species.

7. Appendix

7.1 Appendix 1: Habitat Map



7.2 Appendix 2: Proposed Development Outline



7.3 Appendix 3: Photos

Photo 1: Looking at main house across paved driveway.

Photo 2: Showing treeline and grassland to west of site, P5 in background.

Photo 3: Looking south along western edge of site.

Photo 4: Showing short and longer modified grassland on south pf site, looking beyond site to wider estate. .

Photo 5: Looking north towards building with ornamental planting

Photo 6: Showing ornamental planting and hardstanding to east of building

Photo 7: Showing treelines and planting to east of site

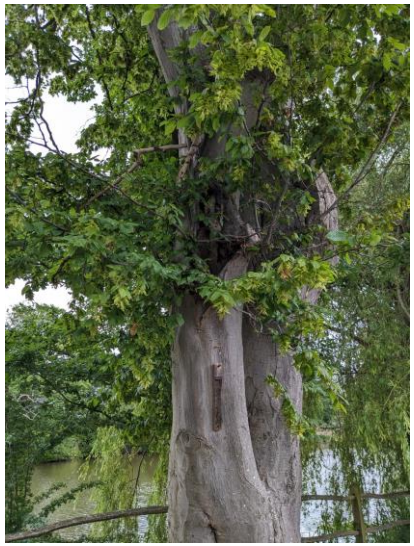


Photo 8: Example of tree with bat potential.

Photo 9: P5 to west of site.

Photo 10: P7 to east of site

7.4 Appendix 4: Biodiversity Net Gain Information

BNG Calculations- Baseline Area Habitats on Site

Existing area habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline	Retention category biodiversity value					
Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units	Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost
Urban	Developed land; sealed surface	0.2247	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00	0.00029	0	0.00	0.00	0.22	0.00
Urban	Introduced shrub	0.1406	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.28	0.1322	0	0.26	0.00	0.01	0.02
Grassland	Modified grassland	0.1931	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	1.16	0.0949	0.0982	0.57	0.59	0.00	0.00
Grassland	Modified grassland	0.0233	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.09	0.0233		0.09	0.00	0.00	0.00
Individual trees	Rural tree	0.114	Medium	Moderate	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	1.00	0	0.114	0.00	1.00	0.00	0.00
	Total habitat area	0.70					2.54	0.25	0.21	0.93	1.59	0.23	0.02
	Site Area (Excluding area of Individual trees and Green walls)	0.58											
								Total area lost (excluding area of Individual trees and Green walls)				0.23	

BNG Calculations- Area Habitat creation on site

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier	Difficulty multiplier	Habitat units delivered
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	
Urban	Developed land; sealed surface	0.1618	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Medium	0.00
Urban	Introduced shrub	0.0021	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	0.00
Grassland	Modified grassland	0.0557	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	4	Low	0.19
Grassland	Other neutral grassland	0.0199	Medium	Moderate	Location ecologically desirable but not in local strategy	Standard time to target condition applied	5	Low	0.15
	Total habitat area	0.24							0.34

BNG Calculations Area Habitat Enhancement

	Baseline habitats	Proposed Habitat (Pre-populated but can be overridden)		Change in distinctiveness and condition		Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal risk multiplier		Difficulty risk multipliers	Habitat units delivered
Baseline ref	Baseline habitat	Proposed Broad Habitat	Proposed habitat	Distinctiveness change	Condition change				Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of enhancement	
3	Grassland - Modified grassland	Grassland	Other neutral grassland	Low - Medium	Lower Distinctiveness Habitat - Good	0.0982	Medium	Good	Location ecologically desirable but not in local strategy	Standard time to target condition applied	15	Low	1.03
5	Individual trees - Rural tree	Individual trees	Rural tree	Medium - Medium	Moderate - Good	0.0774	Medium	Good	Location ecologically desirable but not in local strategy	Standard time to target condition applied	16	Low	0.87
									Location ecologically desirable but not in local strategy				
					Total habitat area	0.18							1.90

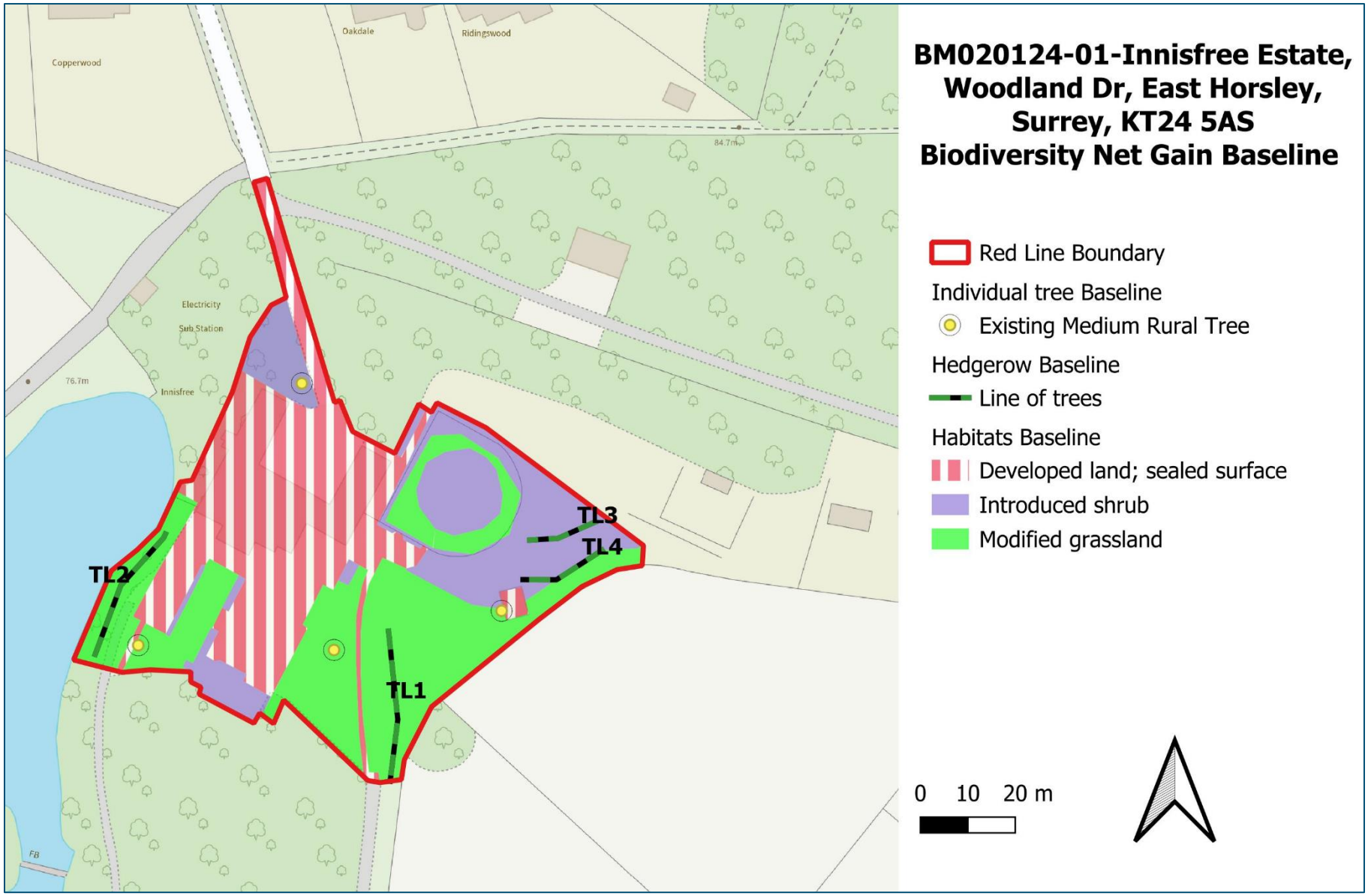
BNG Calculations- Hedgerow Baseline

Existing hedgerow habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline	Retention category biodiversity value					
Hedge number	Hedgerow type	Length (km)	Distinctiveness	Condition	Strategic significance		Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost
TL1	Line of trees	0.032	Low	Moderate	Location ecologically desirable but not in local strategy	Same distinctiveness band or better	0.14	0.032		0.14	0.00	0.00	0.00
TL2	Line of trees	0.03	Low	Good	Location ecologically desirable but not in local strategy	Same distinctiveness	0.20	0.03		0.20	0.00	0.00	0.00
TL3	Line of trees	0.015	Low	Moderate	Location ecologically desirable but not in local strategy	Same distinctiveness band or better	0.07	0.015		0.07	0.00	0.00	0.00
TL4	Line of trees	0.018	Low	Poor	Location ecologically desirable but not in local strategy	Same distinctiveness	0.04	0.018		0.04	0.00	0.00	0.00
		0.10					0.44	0.10	0.00	0.44	0.00	0.00	0.00

BNG Calculations- Hedgerow Creation

	Proposed habitats		Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty risk multipliers	Hedge units delivered
New hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	
H1	Native hedgerow	0.056	Low	Moderate	Location ecologically desirable but not in local strategy	Standard time to target condition applied	5	Low	0.21
		0.06							0.21

BNG Baseline Map



BNG Proposed Map

BM020124
Innisfree Estate, Woodland Dr, East Horsley, Surrey, KT24 5AS.
Proposed Habitats

Red Line Boundary

INDIVIDUAL TREES

Individual tree

Existing Tree

HEDGEROWS

Hedgerow Baseline

Line of trees- retained

Native hedgerow- created

Habitats Proposed

Modified grassland

Other neutral grassland

Habitats Baseline

Developed land; sealed surface

Introduced shrub

Modified grassland

Other neutral grassland

0 10 20 m

5.6 Appendix 4:Legislation

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

(1) If there is no record of a particular protected species, this does not signify that that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.

(2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.

(3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the plants,

this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures

National Law

Wildlife and Countryside Act The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection; these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

S9 (1) prohibits the intentional killing, injury or taking. S9 (2) protection is limited to possessing and controlling. S9 (4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection. S9 (4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection. S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations the Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

Protection of Badgers Act the Protection of the Badgers Act prohibits the killing, injuring or taking of badgers and damage or interference with a badger sett, unless licensed to do so by a statutory authority.

International and European Obligations

In the UK, species receiving protection under international legislation and agreements are protected through the Wildlife and Countryside Act, so are not shown separately in the BMERC notable species lists. For reference, the relevant categories are shown below.

Bern Convention on the Conservation of European Wildlife and Natural Habitats the Bern Convention aims to ensure the conservation of wild flora and fauna species and their habitats.

• Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.

• Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs. Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, and transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species the Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

• Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.

• Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

The EC Council Directive on the Conservation of Wild Birds the Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

UK BAP & notable species

UK Biodiversity Action Plan and Section 41 Species

Biodiversity, or biological diversity, is the whole variety of life on Earth. The Convention on Biological Diversity (CBD) came about as a result of the 1992 Earth Summit. As one of 168 countries to sign up to the CBD, the UK was required to develop a national strategy for the conservation of biodiversity; the UK Biodiversity Action Plan (UKBAP) was born.

The UKBAP is the result of contributions involving a wide range of people and organisations, enabling the identification of species and habitats that are listed as priorities for conservation action. A 2007 review of the UKBAP has resulted in 1149 species and 65 habitats being listed as conservation priorities. For more information see www.ukbap.org.uk.

In addition to the national priorities and targets, action is also being taken at local level. The Essex Biodiversity Project is responsible for implementing the Essex Biodiversity Action Plan, which has 28 priority species and 15 priority habitats currently listed. For more information see www.essexbiodiversity.org.uk.

The UK BAP

(From Explanatory Note by Defra and Natural England on Section 41 of the Natural Environment and Rural Communities

(NERC) Act 2006 - Habitats and Species of Principal Importance in England)

The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity.

The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

• Regional Planning Bodies and Local Planning Authorities will use it to identify the species and habitats that should be afforded priority when applying the requirements of National Planning Policy framework (NPPF) and PPS9 Circular to maintain, restore and enhance species and habitats.

• Local Planning Authorities will use it to identify the species and habitats that require specific consideration in dealing with planning and development control, recognising that under NPPF and PPS9 Circular the aim of planning decisions should be to avoid harm to all biodiversity.

• All Public Bodies will use it to identify species or habitats that should be given priority when implementing the NERC Section 40 duty.

Habitats of Principal Importance Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). They range from habitats such as upland hay meadows to lowland mixed deciduous woodland and from freshwater habitats such as ponds to marine habitats such as subtidal sands and gravels.

Species of Principal Importance There are 943 species of principal importance included on the S41 list. These are the species founding England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the List because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

Relationship with the UK Biodiversity List of Species and Habitats the UK BAP list of priority species and habitats is an important reference source and will be the focus for conservation action across the UK over the next decade. It has been used to draw up the species and habitats of principal importance in England under S41 of the NERC Act.

The revised UK BAP list of priority species and habitats can be downloaded from the UK Biodiversity Website: http://www.ukbap.org.uk/NewPriorityList.aspx

Relationship with the biodiversity duty under Section 40 of the NERC Act There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

There is no direct relationship between the Section 41 duty on the Secretary of State to publish the list and promote the taking of steps to conserve the habitats and species on it, and the Section 40 duty on public bodies to have regard to the purpose of conserving biodiversity. Importantly:

(a) Biodiversity, as covered by the Section 40 duty includes all biodiversity and not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the section 40 duty.

(b) The duty on the Secretary of State to promote the taking of steps by others is not restricted to public bodies.

Defra guidance for local authorities and public bodies on implementing the biodiversity duty in the NERC Act draws attention to the S41 list, emphasising that local authorities and public bodies have a role to play in ensuring the protection of these species and habitats. Copies of the guidance can be downloaded from: http://archive.defra.gov.uk/environment/biodiversity/documents/pa-guid-english.pdf