peachecology
& environmental services

Longacre,
Walberton, BN18 0BA

Ecological Assessment

Report Number: 0698

Issue Number: 01

Date of Issue: 18th November 2024

Prepared by: Angus Layton

Reviewed by: Davog McCloskey

Peach Ecology

9 Elizabeth Road

Wilton

Wiltshire

England

SP2 0JH

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Appendices

1.0 Summary

The proposals are to build six residential dwellings on two large, adjacent residential gardens. The loss of the gardens will be compensated for with improvements to the surrounding species rich hedgerow and fruit tree planting in each new garden.

One garden had some potential for reptiles with areas of longer grassland and structures suitable for hibernation. A presence/absence survey concluded that a small/transient population of Slowworms are present. Improvements to the hedgerow and the creation of hibernacula will maintain connectivity through the site and compensate the small loss of vegetated garden. As a precautionary step, reptile fencing, a reptile relocation effort and destructive search will take place to protect the reptiles from harm and to maintain their population at the site and local level.

The hedgerow with mature trees offers habitat to commuting and foraging bats. It is important that it is protected from light spillage and so a lighting plan reviewed by an ecologist will mitigate long term impacts to bats that use the site. A range of wildlife features including bird and bat boxes will be included into the site design, in line with local and national policies. The dark corridors around the site will be maintained dark, below 1lux. External lighting will be designed in accordance with the Bat Conservation Trust *Guidance Note 08/23: Bats and Artificial Lighting at Night*. One Ash tree in the northern boundary of the site contains a potential roosting feature, this is due to be retained although it will be investigated further to determine its suitability if the tree is to be removed.

A construction environmental management plan is required to ensure that disturbance is minimised during the construction phase.

2.0 Introduction

Background

2.1 Peach Ecology was commissioned in April 2024 carry out an Ecological Assessment of the proposed development at Longacre, Walberton, BN18 0BA (central Grid Reference: SU 5275 0741) (Appendix A), laid out as shown in Appendix B. This report will be submitted to Arun District Council for permission to create 6 new dwellings (Appendix C)**.**

2.2 This report describes the existing ecology on site based on the findings of: an initial site visit; protected species and habitats data searches; a review of local and national policies; and a reptile survey.

Description of site and surrounding area

2.3 The site is comprised of 2 large back gardens. The west garden is closely managed with regular mowing, pruning and weeding. The east garden has a less strict mowing regime but is used by free-roaming chickens creating rough grassland with low plant diversity. The north and east sides of the site are bounded by a species rich native hedgerow with senior Oak, Ash and Sweet Chestnut trees. Beyond the hedge was cropland but this is currently a site for a residential development. To the south and east is the suburban housing estates that make up Walberton.

Brief

2.4 To carry out an Ecological Assessment of the site and inform the clients of any ecological implications associated with the current proposals.

3.0 Methodology

Desk Study

3.1 This involved gathering ecological data relating to statutory nature conservation sites from within 2km, the results of which are shown in **Appendix D**. A search was undertaken using Multi-Agency Geographic Information for the Countryside (MAGIC), a DEFRA run website, to check for European Protected Species licences nearby. Ordnance Survey maps and aerial images were assessed to check for other relevant data on notable habitats and species nearby including ponds and wildlife corridors where the site connects into the surrounding area.

Site Assessment

3.2 The site was originally assessed on the 1st of May 2024. The initial survey employed techniques based on standard Phase I Habitat Survey (JNCC) methodology and the CIEEM Guidelines for Ecological Impact Assessment (ECIA: CIEEM, 2016). Habitat types on and adjacent to the site were identified according to standard habitat definitions (UKHabs). The collection of botanical information focused on the dominant and key indicator species for each habitat type. The site survey included an assessment of the habitats immediately adjacent to the site, where possible, to look at the value of the site within the local landscape and to see whether these sites supported protected species. Indicative methodologies for the most likely protected and notable species that could occur on site and be impacted by the proposals are set out below.

Bats

3.3 Buildings and trees within the footprint of the site and any areas potentially impacted by the proposals were inspected in accordance with current survey guidance (BCT, 2016) for potential access points and roosting features which could support bats. Trees were checked for ivy cover, crevices and rotten sections from ground level and using a ladder and binoculars where necessary. Buildings were checked internally and externally for any signs of roosting bats or bat activity including droppings, insect feeding remains, worn entrances and staining.

Birds

3.4 Any habitat features, for example, scrub, trees, hedgerows and buildings which could potentially be used by nesting birds, were surveyed and any nesting activity was noted.

Great Crested Newts

3.5 Any ponds on site and within the vicinity of the site were noted and the potential of the land to act as a commuting route, shelter, or foraging resource for great crested newts (GCN) was assessed.

Reptiles

3.6 Habitat features suitable as hibernacula, foraging or basking areas were noted, extant refugia were all carefully examined to look for reptiles or for evidence of reptiles, including shed skins during the initial survey. A series of presence/absence surveys were the conducted within the site boundaries, targeting areas of habitat highlighted by the initial ecological survey as having potential to support reptiles. 13 Artificial refugia were laid out on the 1st of May 2024 within the site and left for at least two weeks to settle and bed in before any surveys were carried out. A total of seven separate survey visits were then conducted under good weather conditions. All field surveys were undertaken by an experienced reptile surveyor, Aidan Bird.

3.7 The surveys consisted of the following three methods, in accordance with current guidance (Griffiths and Inns, 1998; Froglife, 1999):

- Visual Search – The site was searched visually during each visit. Details of reptiles encountered basking in the open were recorded. Recorded data included; species, sex, age and location.
- Extant Refugia – Any existing potential refugia present within the site boundaries were carefully searched by hand for reptiles, these included piles of grass cuttings.
- Artificial Refugia – 13 artificial refugia, consisting of thirty 500mmX500mm squares of bitumen roofing felt were sited in areas of reptile habitat as shown in Plan 1 below. All refugia were lifted during each survey visit and all reptiles present on, under or next to each refugia were recorded.

Hedgehogs and stag beetles

3.8 The site was searched for signs of hedgehogs including looking for areas of suitable habitat, searching for mammal tracks and droppings and deep piles of leaves. Habitat for stag beetle larvae was searched for including wood piles or rotting tree stumps.

4.0 Results and Discussion

Desk study

4.1 There is one statuary designated site within 2km:

- **South Downs National Park** (0.65km N) - The South Downs are a range of chalk hills in the south-eastern coastal counties of England that extends for about 670 km2 across the south-eastern coastal counties of England from the Itchen valley of Hampshire in the west to Beachy Head, in the Eastbourne Downland Estate, East Sussex, in the east.

4.2 Due to the relatively small scale and extent of the proposals it is unlikely that the development will impact upon any site of importance to nature conservation. It is important however that the proposals follow appropriate pollution prevention and drainage guidelines. The habitats and flora associated with waterways and ground water are sensitive to changes cumulatively from different impacts locally so every development should consider and mitigate for their own impact with regards drainage and pollution.

Site Assessment

Habitats

4.3 Habitats recorded within the site boundary comprised of:

- Vegetated garden
- Developed land sealed surface
- Species Rich Native hedgerow with trees
- Ornamental Hedgerow

4.4 The site is made up of two large gardens. The garden to the west is mostly laid to lawn with ornamental hedgerow and planting around the boundary (Photo 1). In the southeast corner is a small shed on hard standing (Photo 2). Along the northern boundary is an area around 6m wide set aside for growing vegetables (Photo 3). There is the remains of an old tree stump and one piece of standing deadwood, providing notable ecological features. Shrubs and trees separating the garden from the garden to the east include: Hawthorn, Bay, Norway Maple, Lawson Cypress, Magnolia, Beech, Pear and Tulip Tree.

Photo 1: The west garden looking east showing the small shed, lawn, ornamental planting, and standing deadwood

Photo 2: A view of the west garden looking north along the overgrown ornamental hedgerow. The extent of the lawn is evident

Photo 3: The northern boundary showing the area set aside for the growing of vegetables

4.5 The garden in the east (Photo 4) is made up of lawn with a variety of fruit trees (Photo 5), sheds, vegetable beds and chicken coops (Photo 6). The garden provides potential habitat for reptiles although the free roaming chickens provide pressure from predation, limiting the value of the land to reptiles. Bordering the site to the east and north is a native hedgerow with trees, made up of ash and sweet chestnut with a large oak in the northeast corner. The ash trees are in poor health and the damage provides nesting opportunities for birds and roosting opportunities for bats.

Photo 4: Looking east along the southern boundary of the garden. The rough grassland is evident, with a small mound of spoil on the left providing desirable features for reptiles. A large, sweet chestnut punctuating the eastern hedgerow can be seen in the background

Photo 5: A southeastern aspect, showing the fruit trees in the foreground and the buildings in the southeastern corner

Photo 6: Looking south down the garden with a chicken coup in the foreground

Bats

4.6 Three protected species licences have been granted within 2km (Table 1):

Case reference of granted application	Species on the licence	Licence Start Date	Licence End Date	Breeding site	Resting place
2016-24108-EPS-MIT	C-PIP	01/07/2016	30/06/2021	N	N
2016-24108-EPS-MIT-1	C-PIP	20/10/2016	30/11/2021	N	N
2020-48640-EPS-MIT	BLE	25/10/2020	21/10/2030	Y	N

Table 1: Bat roosting records within 1km

4.7 The local area is known to have a rich bat assemblage, so it is likely that bats use the site to some degree to navigate, commute through and forage around – the boundary trees and hedgerows make a valuable contribution to these processes. The boundaries, all need to be protected from light spillage associated with any external lighting on buildings or roads as these areas have high value for commuting and foraging bats. It is important that the development submits a lighting plan in line with the guidance note *Bats and Artificial Lighting at Night* (GN08/23) https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released to mitigate against the impacts to bats.

4.8 There are three outbuildings in the south of the site. The outbuildings are single story. constructed of timber with timber cladding and metal roofs (Photo 7 & 8).

Photo 7: A view of the middle shed showing the wood panelling and metal roofs.

Photo 8: Looking along the front of the sheds showing the similar construction and their regular use.

4.9 They are in daily use with a variety of garden machinery causing a high level of disturbance. Metal roofs create unstable temperature conditions that are prone to large fluctuations. During an internal inspection there were no visible signs of staining, droppings, or feeding remains. These factors make the buildings largely unsuitable for roosting bats.

4.10 Externally gaps were noted at the joins of the corrugated metal on the roofs, due to the materials these gaps are too exposed and temperature-variable for crevice dwelling species. Gaps were also observed on the doors and wood panelling, but on closer inspection these did not lead to deep, sheltered crevices.

4.11 Given the absence of roosting features, lack of evidence of bat presence, and unfavourable environmental conditions these sheds have been classified as having negligible potential and no further surveys are required.

4.12 Three of the Ash trees (T24, T27 and G20-1 in the Tree report) in the surrounding hedgerow are showing symptoms of Ash dieback and if left would provide a significant safety risk. T24 was noted at the time of the survey to have a single PRF-M (Photo 9). To retain this feature and the ecological value these trees provide, T24 will be retained as a 'conservation pollard' at a height of 3.5m above ground level, retaining the feature. If the works to this tree occur inside the maternity season it is important that this feature is inspected by an ecologist ahead of the works.

Photo 9: T24 roosting feature to be retained

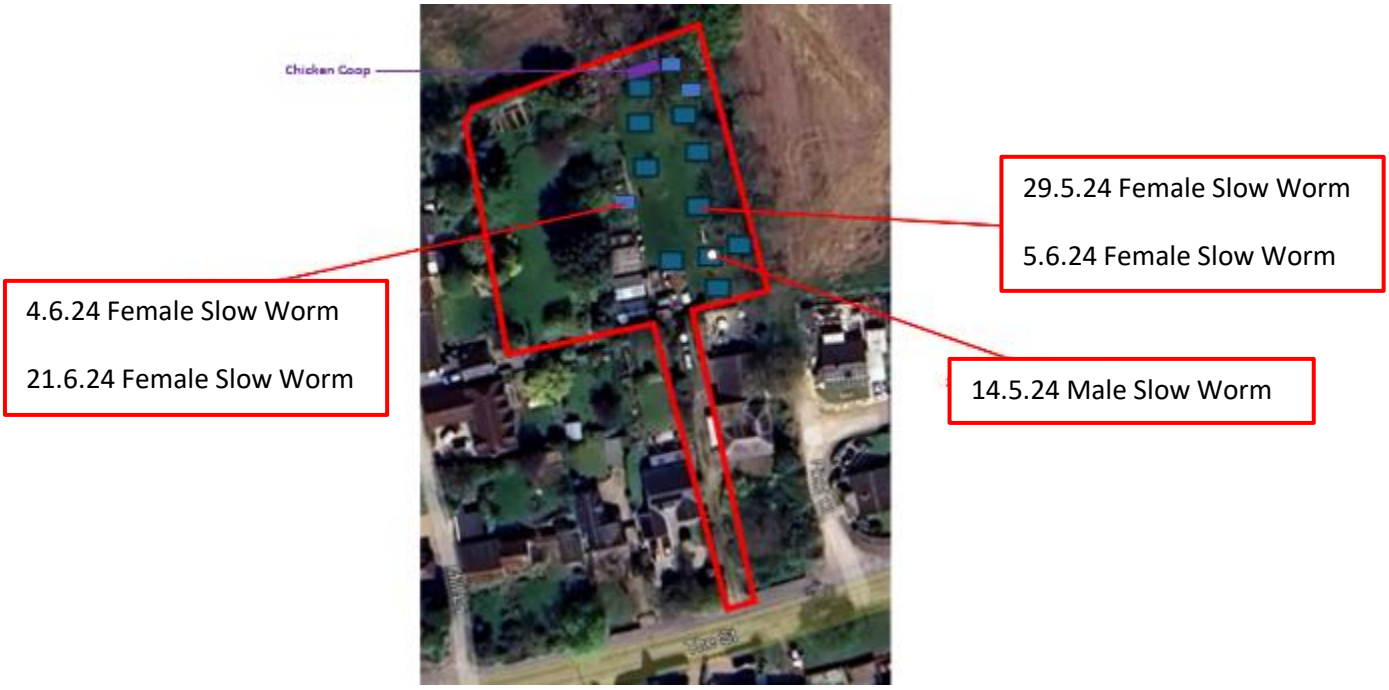
4.13 A row of shrubs and trees will be removed between the two gardens. These are unsuitable for roosting bats and the loss of the trees is unlikely to have a significant impact on commuting bats.

Reptiles

4.14 The grassland in the garden to the east provides suitable habitat for slow worms. The site is surrounded by residential houses with lawns, hedges and flower borders to the west and south and by an arable field to the north and east that is currently being developed. Any reptile population on site is likely to be part of a small population in the wider area. A reptile survey was completed between May and June 2024 to confirm their presence or absence, the details and results of each visit is outlined below in Table 2 and Plan 1.

Date	Start	End		Start – Weather Conditions	End – Weather Conditions	Reptiles Present
14/05/2024	10:00	10:15		16.6°C, WF3, 8 Oktas, RH80%	17.0°C, WF2, 7 Oktas, RH78%	1 Adult Male Slowworm
19/05/2024	09:30	09:45		13.9°C, WF2, 0 Oktas, RH65%	14.2°C, WF2, 0 Oktas, RH60%	No Reptiles Observed
24/05/2024	09:00	09:15		18.8°C, WF1, 3 Oktas, RH64%	19.5°C, WF2, 4 Oktas, RH55%	No Reptiles Observed
29/05/2024	09:45	10:00		23.9°C, WF3, 5 Oktas, RH43%	28.8°C, WF2, 2 Oktas, RH36%	1 Adult Female Slowworm
05/06/2024	09:30	09:50		16.2°C, WF4, 3 Oktas, RH52%	19.2°C, WF4, 2 Oktas, RH40%	2 Adult Female Slowworm
13/06/2024	07:45	08:00		17.4°C, WF1, 2 Oktas, RH74%	19.1°C, WF1, 1 Oktas, RH61%	No Reptiles Observed
23/06/2024	08:30	08:45		19.0°C, WF2, 2 Oktas, RH65%	19.8°C, WF1, 0 Oktas, RH48%	1 Adult Male Slowworm

Table 2: Summarising the conditions and results of each survey visit



Plan 1: Shows the placement of each reptile mat and summarises the results of the survey

4.15 The results of the survey suggest a 'low' population of slowworms are present on site at the edges where they can hide from chickens. Peak adult counts were recorded on the 5th June with 2 adults recorded. No juveniles were recorded during any of the surveys indicating that a breeding population is not present on site, potentially due to the chickens. A high density of refugia were laid out than would typically be required to estimate the reptile population meaning that the peak adult count of 2 adult slow worms recorded could represent between 10-20% of the total population for the site, therefore a population of between 10-20 may be present on site (although it would seem likely that it is the lower end of this) and any mitigation scheme should accommodate this. Reptiles from the neighbouring land are likely to be part of a meta-population from the local area and it is possible to retain the reptiles on site in the local area as there is optimal habitat surrounding the site. A receptor area for reptiles, outside of the construction area, can be retained on site to the south-east – this area can be enhanced for reptiles before construction and any translocation with new log piles and suitable habitat. The retained land at the boundaries, especially to the east of the proposed access road, could also be enhanced with new hedgerow planting to increase the holding capacity of the area.

4.16 In the absence of mitigation, the impact on reptiles present on site is considered to be 'medium - high' at the site scale due to the risk of direct harm or injury to reptiles during the construction phase of the development, the risk would be higher if the site is cleared during winter when reptiles are present and potentially hibernating. The site is not isolated currently from neighbouring areas and it is adjacent to areas with optimal habitat, grassland and residential properties with gardens.

4.17 A reptile fence will be needed as part of the mitigation plan and reptiles will need to be translocated to the receptor area to the south-east. The existing boundary hedgerow and shrubs will need to be retained and protected during construction and a reptile fence will supply extra protection for this. The lawn will need to be maintained short up until the development commences. The reptile translocation will require approximately 15-20 translocation visits to move reptiles to the agreed receptor area, during the active

reptile season from March – October inclusive. Once the translocation is complete and the site destructively searched, the construction work can commence. Post construction landscape enhancements will then take place, including the hedgerow planting, as well the construction of reptile hibernacula.

4.18 A Construction Environmental Management Plan (CEMP) will need to be prepared to ensure structures are demolished in a manner to prevent harm to reptiles and to ensure materials are kept in appropriate locations on site.

Great Crested Newts

4.19 There is one area of standing/slow moving water within 250m of the site. 150m to the southwest (SU 96573 06066) is a large pond. A HSI assessment was undertaken on the pond, this is shown in Table 3 and this gave a score of 0.63 which is considered 'average' for Great Crested Newts.

Factor	Score
1	1
2	0.8
3	0.9
4	0.33
5	1
6	0.67
7	0.33
8	1
9	0.67
10	0.3

Table 3: HSI Pond Assessment

4.20 Between the site and the pond are two busy roads and a number of properties, their gardens and fences restricting dispersal of amphibians. It is unlikely that GCN are present within the Zone of Influence and it is unlikely in the rare even that GCN are present that they will be impacted by the proposals. An offence was deemed 'highly unlikely' using the GCN Impact Assessment (Figure 1).

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Figure 1 Habitat Suitability Index for impacts to land within 100m-250m of pond

Dormice

4.21 Dormice are known to be present locally with 4 EPSML granted within 2km of the site (Table 4).

Case reference of granted application	Species on the licence	Licence Start Date	Licence End Date	Breeding site	Resting place
2019-43286-EPS-MIT	Hazel or common dormouse	05/12/2019	30/09/2024	Y	N
2019-44261-EPS-MIT	Hazel or common dormouse	10/02/2020	28/02/2030	Y	Y
2020-49477-EPS-MIT	Hazel or common dormouse	18/12/2020	31/12/2029	Y	Y

Table 4: Dormice records within 2km

4.22 During the initial survey of the site no signs of dormice were recorded, such as nests, feeding remains (gnawed hazelnuts), or droppings. The absence of field evidence suggests that dormice are not actively using the site.

4.23 While some boundary hedgerows to the north and east offer small lengths of suitable habitat for dormice, the overall site lacks high-quality habitat necessary to sustain a dormouse population. The site does not have extensive areas of species-rich hedgerow, scrub, or connected woodland, which are essential for dormouse occupancy.

4.24 Dormouse populations are highly sensitive to habitat fragmentation. The site is relatively isolated, with surrounding developments, gardens, and roads limiting connectivity to known dormouse habitats (diagram 1 & 2). While dormice have been recorded within 2 km of the site, there is no evidence that the site provides a functional corridor for dormouse movement.

Diagram 1: Shows that the suitable hedge on site is not arboreally connected to other dormice habitat.

Diagram 2: Shows the lack of connectivity through the site to other suitable habitat.

4.25 The proposed development plans include retaining and enhancing the existing boundary hedgerows, which offer limited dormouse habitat. The removal of less suitable ornamental trees and shrubs will be conducted under ecological supervision, minimizing any potential impact. The planting of additional native hedgerows and trees will enhance the site's suitability for arboreal species in the long term.

4.26 As a precautionary measure, the project will adhere to a method statement to ensure that all woody hedgerow habitats are protected and retained. This approach aligns with

best practices in mitigating potential impacts on dormice without requiring further Phase 2 surveys.

Birds

4.27 There were signs no signs of any nesting bird on site at the time of survey however Robin, Rook, Dunnock, Wood Pigeon, Blackbird and Blue Tit were all recorded on site or nearby and it is possible that all these species could use the site to some degree to nest. The trees and shrubs in the garden were checked for nests and none were recorded. Some trees and shrubs with bird nesting potential will be removed as part of the proposals and these will require new tree/hedgerow planting to compensate the loss. Clearance of any vegetation or removal of the building will need to be timed and/or undertaken with care to avoid disturbing nesting birds if present. Shrubs/trees and the structures to be removed will be undertaken under ecological supervision.

4.28 Incorporating nest boxes for birds into the proposals will be a simple enhancement in line with local and national planning policy guidance. The trees along the northern, western and eastern boundary will be retained and new features for nesting House Sparrow and Swift will be included in the fabric of the new houses.

Hedgehogs

4.29 Hedgehogs hibernate and build their nests in areas of denser scrub and vegetation, at the bases of shrubs, which are present adjacent to the site. It is advised that the site is cleared under ecological supervision to ensure no animals are harmed. Any new fencing on site should allow passage of hedgehogs into and out of the garden areas and into and out of the site by avoiding gravel boards or creating gaps at suitable locations in each new garden.

Stag Beetle

4.30 In both gardens, the stumps of a felled tree remains and in the west garden is a piece of standing deadwood. Although not ideal, they do offer potential habitat to the grubs of stag beetles. The tree stumps where trees are removed could be suitable habitat for stag beetles. Stag beetles are legally protected from sale in the UK. They are also classed as a 'priority species', listed on Schedule 5 of the Wildlife and Countryside Act 1981. The tree stumps should be retained and incorporated into the landscaping on site, however if this is not possible then these will be dug out as part of the reptile translocation and any stag beetles will be moved to new log pile ‘stumperys’ suitable for the species on site – these will be built under ecological supervision.

Badgers

There were no signs of badgers on site or nearby at the time of survey and it is unlikely they will be impacted by the proposals.

5.0 Requirements and Recommendations

Reptiles

5.1 The creation of three reptile hibernacula as shown in Appendix E.

5.2 Improvements to the hedge bordering the north and east. To include planting a second row of native woody species, fencing between the hedge and new gardens and reseeding the area under the hedge with a suitable shade tolerant seed mix.

5.3 An outline reptile translocation plan is set out below:

I. A suitable receptor site is present at the site boundary to the south-east to move reptiles to.
II. Reptile fencing will be erected around the development site, excluding any retained trees and hedgerow. Erection of the reptile fence will be done under ecological supervision to ensure reptiles are not harmed and no avoid significant harm to tree roots. Additional shrub and tree removal may need to take place under ecological supervision to aid fence erection.
III. The grassland in the construction area will be maintained short with regular grass cuts up until the development and until the reptile fence is erected – this can be done with a strimmer/brushcutter.
IV. The reptile fencing will be constructed from polythene or similar suitable material dug 150mm into the ground and extending at least 600mm above ground, and supported by posts on the interior. No gaps will be present that would allow the movement of reptiles through it.
V. The reptile fence will be folded over away from the development site and stapled to hold the fold in place as a further measure to restrict reptile passage into the site.
VI. The fence is to remain in place during the entire construction period.
VII. 50 refugia will be laid out over the site within the reptile fence to assist in the reptile translocation and the translocation trapping exercise will take place over 15-20 days until there are at least 5 consecutive days with no trapping results or until the numbers are sufficiently low to indicate that the majority of animals have been moved. All reptiles will be moved to the receptor site.
VIII. Any species of note can be moved to the exterior of the reptile fence where a new hibernaculum will be constructed under ecological supervision.
IX. The reptile translocation can only take place in March – October/early November in suitable weather.
X. After the translocation is complete a ‘destructive search’ will take place using a digger to check through all remaining vegetation and material on site, including the removal of paving slabs and the compost heaps, areas where reptiles may be concealed. Grass, shrubs and other vegetation may need to be cut to manageable levels prior to the destructive search (a finger tip search where necessary) to make finding reptiles easier – the ecologist will decide on when this can take place and the removal will be done over different phases (cut to approximately 100mm on the first cut then to ground level after where necessary). The digger driver will be under close supervision and guidance by the ecologist. Results of the reptile translocation will be sent to the local authority.
XI. Fencing between gardens will not exclude movement of reptiles and amphibians at ground level so gravel boards will be removed, avoided of adapted to allow movement of small animals at ground level.

Bats

5.4 One integrated bat box will be included in each new building.

5.5 Three bat boxes will be placed on retained trees before construction begins.

5.6 The pollarding of the three Ash trees in the hedgerow will be done under ecological supervision with any PRF's being endoscoped ahead of the works.

5.7 A lighting plan will be submitted and reviewed by an ecologist. The lighting plan will follow the guidance provided by the bat conservation in *Bats and Artificial Lighting at Night* (GN08/23)

Birds

5.8 In each new building, one integrated house sparrow style nest box will be included.

5.9 In each new building, one integrated swift nest box will be included.

5.10 Clearence of any building or vegetation on site will occur outside of the bird nesting season March to September inclusive. If clearance is required in bird nesting season, then the area must be cleared by an ecologist first and clearance completed under ecological supervision.

Hedgehogs

5.11 Any new garden or boundary fencing will need to allow the movement of hedgehogs and reptiles at ground level by leaving out barge boards or leaving gaps at least 100mm wide by 100mm high between any neighbouring gardens and between each garden and the outside of the site– See Appendix E for details on how access can be achieved.

Biodiversity Net Gain

5.12 A biodiversity net gain assessment has been carried out using the governments statuary metric. The proposed plans provide a 31.98% uplift in habitat units as well as 13.68% uplift in hedgerow units.

5.13 Although not counted in the statuary metric each garden plot will include the planting of one native fruit tree.

5.14 To ensure the target habitats and their condition scores are achieved and maintained, a Habitat Management and Monitoring Plan will need to be in place as a condition of planning.

Pollution prevention and drainage

5.15 It is important that the proposals follow appropriate pollution prevention guidelines (PPG 6) and drainage guidelines (Defra guidelines for Sustainable Urban Drainage) to protect habitats connected hydrologically.

5.16 A Construction Environmental Management Plan is required to address how potentially adverse impacts associated with development and construction sites will be managed.

Landscaping

5.17 The hedgerows and trees at the boundaries will be retained and protected during construction.

5.18 At least 20 new trees will be planted on site in gardens and areas of open space.

5.19 An indicative mitigation plan is set out in Appendix E and this is linked to the BNG Assessment. Any new trees planted will be native or wildlife beneficial species, including fruit bearing (apple, plum and cherry). A landscaping plan will be reviewed by an ecologist.

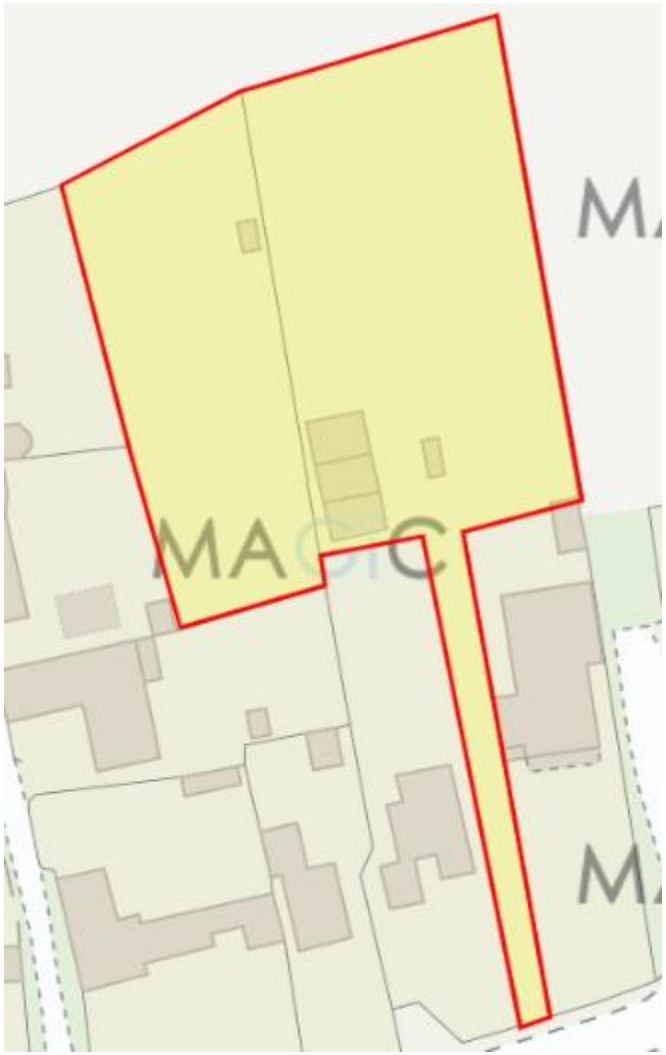
5.20 Appropriate tree fencing will need to be erected prior to construction to protect any retained trees. All construction works taking place in the vicinity of retained vegetation, and particularly those close to existing buildings, should conform to British Standards.

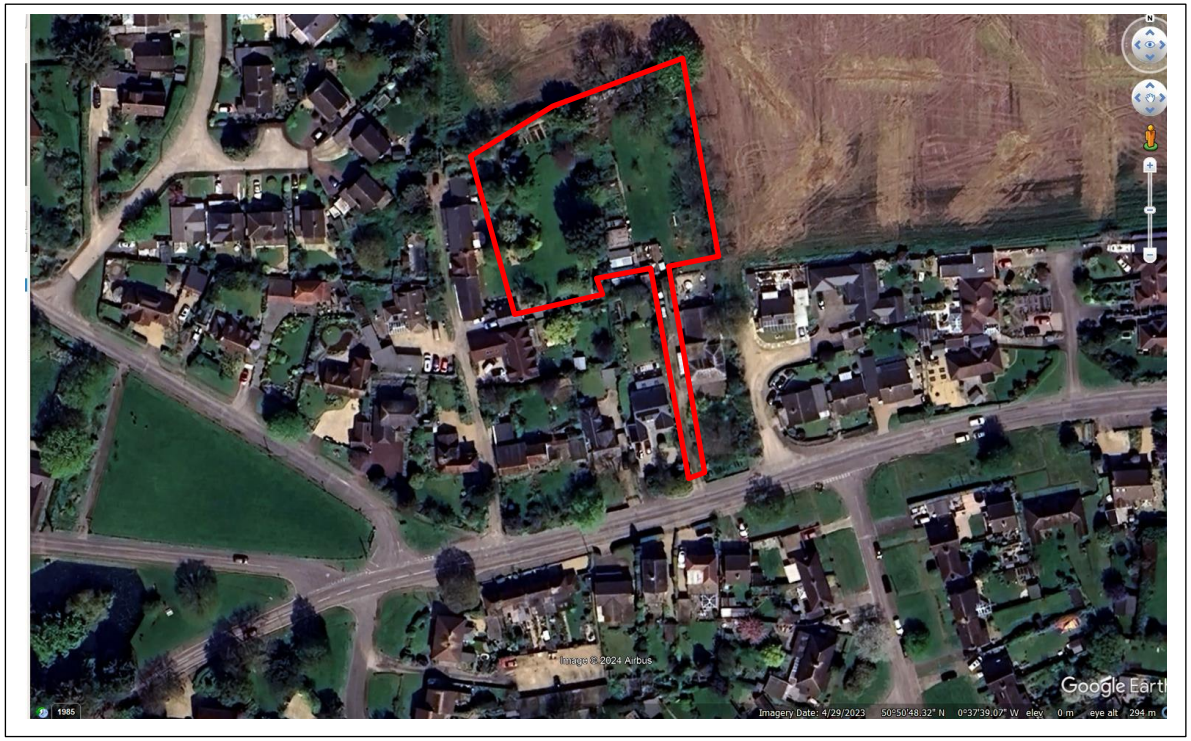
5.21 Create three stag beetle habitat piles (suitable for reptiles and amphibians also) in the northern boundary of the site away from any residential curtilage - https://ptes.org/wp-content/uploads/2016/11/Build-a-log-pile-for-stag-beetles.pdf

- Log pyramids can be built at any time of year
- Use wood from any broadleaved tree
- The logs should be at least the thickness of an adults arm
- Site the logs in partial shade if possible to prevent them drying out
- Partially bury the logs in the soil so that they don't dry out
- Allow plants to grow over the log pyramid to retain moisture and provide shade

Appendix A: Site location

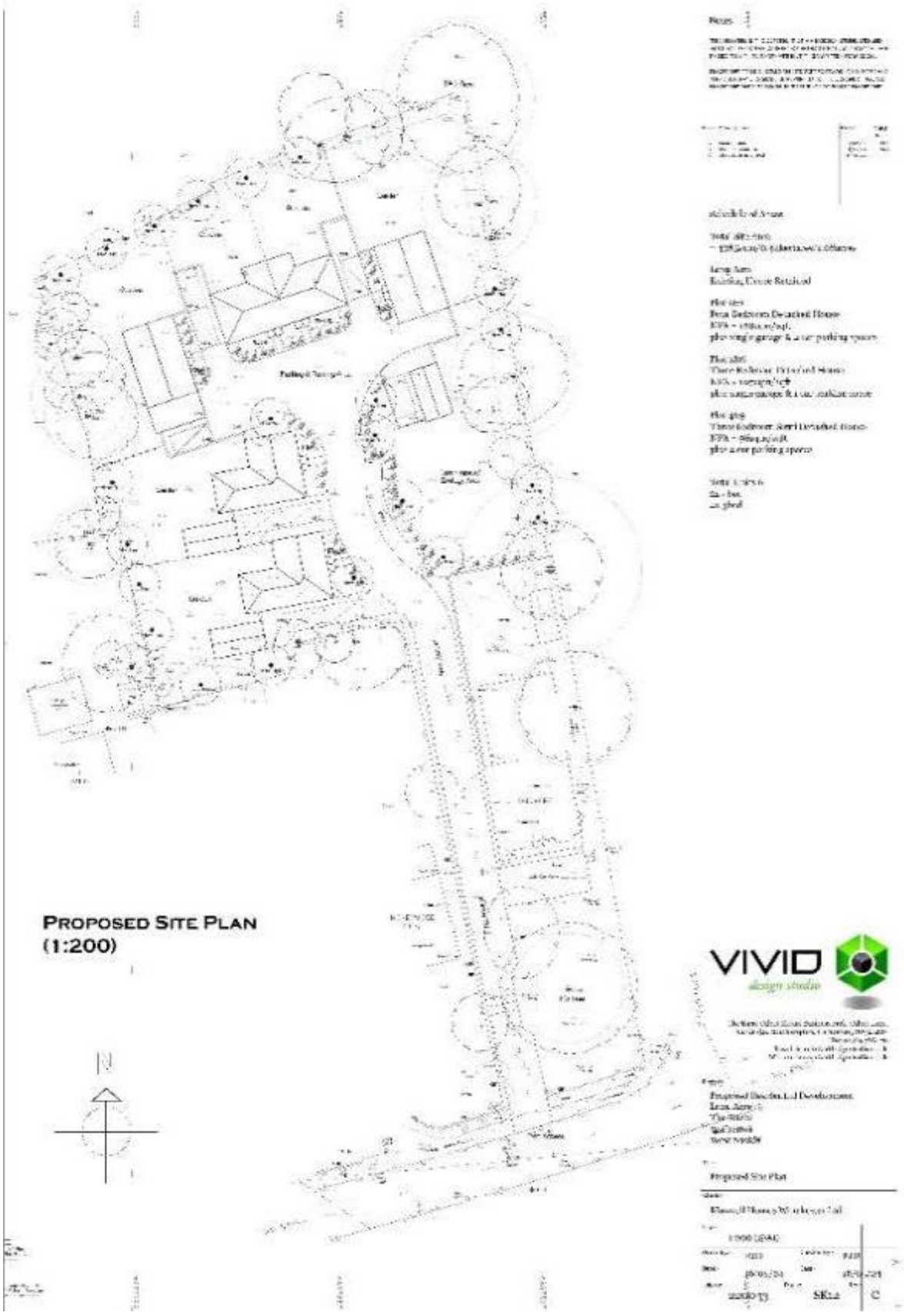
Appendix B: Existing site plan & habitat map



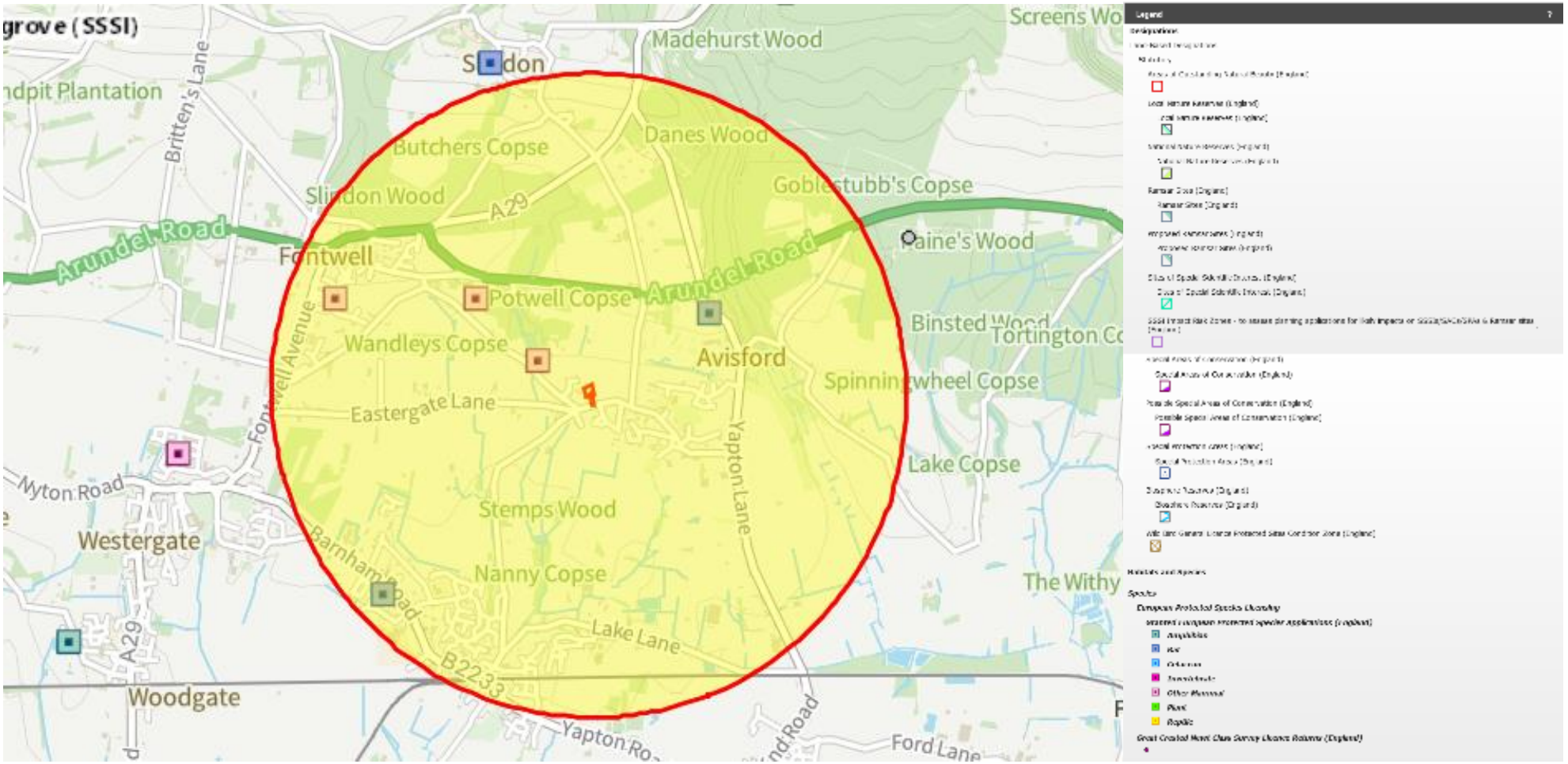



Key
Species-rich native hedgerow with trees
Non-native and ornamental hedgerow
Vegetated garden
Developed land, sealed surface
W Walberton
Field Cl
The St

Appendix C: Proposals



Appendix D: Protected sites, habitats and species data from MAGiC database



Appendix E: Mitigation and Enhancements

Species Rich Native Hedge planted with a second row of suitably sized native trees and sown with a shade loving native seed mix.

Lighting below 1lux within at least 2m from the site boundary.

Reptile receptor area

1 x Integrated bat brick per dwelling

Neutral grassland seeded with Emorsgate EM1 or equivalent seed mix

All fencing, between gardens and into and out of the site will contain specialised hedgehog gravel board or custom holes will be cut out measuring 13cm x 13cm

1 x integrated nest box per dwelling

1 x integrated swift box per dwelling

Three stag beetle habitat located in the northern boundary suitable as hibernacula for newts and

Appendix F: Protected species legislation

Amphibians

Natterjack toad, pool frog and great crested newt are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are also afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Natterjack toad, common toad, great crested newt and northern pool frog are also Species of Principal Importance (SPIs).

Reptiles

Smooth snake and sand lizard are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Adder, grass snake, common lizard and slow-worm are all protected from killing and injury under the Wildlife and Countryside Act 1981 (as amended). All UK reptile species are SPIs.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). This includes damage and destruction of their nests whilst in use, or construction. Species listed under Schedule 1 of the Act, such as barn owl, are afforded protection from disturbance during the nesting season.

The following 50 bird species are SPIs: lesser redpoll, aquatic warbler, marsh warbler, skylark, white-fronted goose, tree pipit, scaup, bittern, dark-bellied brent goose, stone-curlew, nightjar, hen harrier, northern harrier, hawfinch, corncrake, cuckoo, Bewick's swan, lesser spotted woodpecker, corn bunting, cirl bunting, yellowhammer, reed bunting, red grouse, herring gull, black-tailed godwit, linnet, twite, Savi's warbler, grasshopper warbler, woodlark, common scoter, yellow wagtail, spotted flycatcher, curlew, house sparrow, tree sparrow, grey partridge, wood warbler, willow tit, marsh tit, dunnock, Balearic shearwater, bullfinch, roseate tern, turtle dove, starling, black grouse, song thrush, ring ouzel and lapwing.

Birds are also categorised according to their level of conservation concern indicated by their population status and stability. These are known as the Birds of Conservation Concern (BoCC4), Red, Amber and Green lists (Eaton et al, 2015). Where red and amber species are present, their conservation status should be considered in determining the likely impacts of proposed projects and plans.

The conservation status of birds recorded during the survey was assessed against the following criteria:

- EC Birds Directive 2009 Annex 1,
- Wildlife and Countryside Act 1981 (As Amended) Schedule 1, (Table 1, WCA1)
- Natural Environment and rural communities (NERC) Act 2006 – Section 41
- Red and Amber lists of Birds of Conservation Concern in England (BoCC4)

Badger

Badger is protected under the Protection of Badgers Act 1992. Under this legislation it is an offence to kill or injure a badger; to damage, destroy or block access to a badger sett; or to disturb badger in its sett. The Act also states the conditions for the Protection of Badgers licence requirements.

Bats

All bat species are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), as detailed above. Bats are further protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Deliberately or recklessly damage or destroy any structure or place which bat(s) use for shelter or protection.
- Disturb bat(s) while occupying a structure or place which it uses for shelter or protection.
- Obstruct access to any structure or place which they use for shelter or protection.

Furthermore, seven bat species are SPIs, covered under Section 41 of the NERC Act 2006. These include western barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, lesser horseshoe and greater horseshoe.

Hazel dormouse

Hazel dormouse is protected under the Conservation of Habitats and Species Regulations 2017 (as amended). It is afforded additional protection under the Wildlife and Countryside Act 1981 (as amended), including obstruction to a place of shelter or rest.

Hazel dormouse is also a SPI.

Hedgerow

Under the Hedgerows Regulations 1997 it is against the law to remove or destroy certain hedgerows without permission from the LPA, which are also the enforcement body for offences created by the Regulations. LPA permission is normally required before removing hedges that are at least 20 m in length, more than 30 years old and contain certain plant species. The authority will assess the importance of the hedgerow using criteria set out in the regulations. The regulations do not apply to hedgerows within the curtilage of, or marking a boundary of the curtilage of, a dwelling house.

Hedgerow is a Habitat of Principal Importance (HPI).

Other mammals

West European hedgehog, brown hare, mountain hare, pine marten, harvest mouse, polecat and red squirrel are all SPIs.

The following mammals are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended): wildcat, brown hare (Schedule 5A), mountain hare (Schedule 5A), pine marten and red squirrel.

Non-native invasive plant species

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is a list of non-native plant species for which Section 14 of the Act applies. It is an offence to plant, or otherwise cause to grow in the wild species listed under Schedule 9 of the act. These include, but are not limited to:

- Himalayan balsam
- Cotoneaster sp.
- Japanese knotweed
- Giant hogweed

Habitats of Principal Importance

Section 41 of the NERC Act 2006 details 56 HPIs, of which the following could be present in south-east England: Lowland calcareous grassland, Lowland dry acid grassland, Lowland meadows, Lowland Heathland, Open Mosaic Habitats on Previously Developed Land, Lowland fens, Lowland raised bog, Reedbeds, Lowland beech and yew woodland, Lowland mixed deciduous woodland and Wet woodland.

Impacts to HPI are of material planning consideration.

Ancient woodland and veteran trees

The NPPF 2021 states that 'Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss'. In addition, Natural England's standing advice for ancient woodland indicates that a 15 m buffer is retained between ancient woodland and any works or development. Ancient woodlands, and ancient and veteran trees, may also be protected by Tree Preservation Orders.

National Planning Policy Framework (2021)

Details the Government's planning policies for England and how these should be applied, particularly to contribute to the Government's commitment to halt the decline of biodiversity. When assessing planning applications, LPAs should have regard to conserving and enhancing biodiversity by applying a number of principals, including:

- Avoiding impacts to biodiversity through appropriate site selection.
- Mitigating residual impacts.
- Encouraging the preservation and enhancement of biodiversity.
- Preventing the development of protected sites, such as SSSIs.
- Refusing permission where habitats that cannot be recreated, such as ancient woodland, would be lost.
- Encouraging good design that limits light pollution.
- Relevant paragraphs in the NPPF (2021) are detailed below.

Paragraph Number	Detail
174	"Planning policies and decisions should contribute to and enhance the natural and local environment by…minimising impact on and providing net gains for biodiversity" Protection of sites of biological values Preventing new and existing development from adverse impacts to soil, air, water or noise Development should help improve local conditions
175	Maintenance and enhancement of networks of habitats and green infrastructure; plan for the enhancement of natural capital at a catchment or landscape scale
179	"To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."
180	"When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."
181	The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites64; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.
185	"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: … c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Environment Act (2021)

The Environment Act (2021) achieved Royal Assent in November 2021.

The Environment Act (2021) makes a provision for biodiversity net gain to be a condition of planning permission in England, however, it is not anticipated that a 10% biodiversity net gain will be mandatory until 2023. When it does become mandatory, planning applications will need to demonstrate a 10% biodiversity net gain can be met. A biodiversity net gain plan must be submitted and must include:

a) information about the steps taken or to be taken to minimise the adverse effect of the development on the biodiversity of the onsite habitat and any other habitat
b) the pre-development biodiversity value of the onsite habitat,
c) the post-development biodiversity value of the onsite habitat,
d) any registered offsite biodiversity gain allocated to the development and the biodiversity value of that gain in relation to the development,
e) any biodiversity credits purchased for the development.

It should be noted however, that the NPPF (2021) as set out below on does require a project to provide a measurable net gain for biodiversity.

Countryside and Right of Way Act 2000

Amends and strengthens the Wildlife and Countryside Act 1981 (as amended). It also details habitats and species for which conservation measures should be promoted.

Natural Environment and Rural Communities Act 2006

Section 40 of the Act places a duty on local planning authorities to conserve and enhance biodiversity in England whilst carrying out their normal functions. Section 41 comprises a list of Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) which should be considered.

The LPA will need to have particular regard to any relevant local nature recovery strategies, and any relevant species conservation strategy or protected site strategy prepared by Natural England.

Hedgerows Regulations 1997

Under these regulations it is an offence to intentionally or recklessly remove, or cause or permits another person to remove, a hedgerow. Important hedgerows are defined in Section 4 of the Regulations. This includes hedgerows that have existed for over 30 years or satisfies at least one criteria listed in Part II of Schedule 1.

Wild Mammals (Protection) Act 1996

Under this act wild mammals are protected from the intentional unnecessary suffering by crushing and asphyxiation.

ODPM Circular 06/05: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System (2005)

The Government's Office of the Deputy Prime Minister (ODPM) Circular 06/05 (ODPM 2005) presents the legal requirement for planning authorities with regard to statutory designated sites. Planning approval should not be granted where impacts to statutory designated sites that are not connected to the site maintenance for nature conservation, or will have a significant effect on the site's conservation objectives and/or affect the site's integrity. Permission may be granted if the proposed development overrides public interest.The presence of a protected species is a material planning consideration. The Circular clearly outlines that it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted. Otherwise, all relevant considerations may not have been addressed in making the decision.