

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Pinkhurst, Pinkhurst Lane, Slinfold, Horsham, West Sussex, RH13 0QR

Client:

Mr Rob Watson

Survey date:

2nd December 2025

Project:

This report is prepared to inform a planning application with the Horsham District Council. The proposal is described as: Removal of existing barn / stable structures and erection of a barn for the mixed use of stabling of private horses and the storage of hay / plant and machinery. Creation of a sand school with associated works.

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2024.](#)

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2024.](#)

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

Site Location and Context					
The survey site is centred on National Grid Reference TQ 13132 30702 and has an area of approximately 2.14ha. The site is characterised by five buildings, sealed/unsealed surfaces, vegetated gardens, ponds, hedgerows and scattered trees. The site is surrounded by pockets of deciduous woodland, large fields and scattered trees. The wider landscape comprises a mix of rural and urban areas, such as pockets of deciduous woodland and arable fields with small towns and villages scattered throughout. For example, Broadbridge Heath village is located 1000m to the east, while Theale Copse is located 1070m northwest. Water bodies can be found nearby, such as River Arun located 800m to the north. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles. The underlying geology comprises Mudstone of the Weald Clay Formation. The overlying soils comprise slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils, suited to lowland seasonally wet pastures and woodlands. The site has not been subject to previous surveys.					
Survey Details					
The site survey was undertaken by Harry Switala BSc (Hons), MSc, Consultant Ecologist [Accredited Agent on Natural England Bat Licence Number: 2024-12552-CL18-BAT].					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (mph)	Rain
02/12/2025	10	82	75	12	Intermittent rain
Executive Summary					
❖ One bat emergence/re-entry surveys is required on B4 and B5 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. These survey visits should be completed during the optimal survey period mid-May to August inclusive. ❖ Precautionary working methods have been recommended for remaining protected species.					
Survey limitations					
It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability					

of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

The survey was completed during the sub-optimal survey period limiting the identification of ground flora species. As the grassland is an amenity grassland and fits the criteria for a modified grassland, this is not considered a major limitation.

Ecological Survey Factor Conclusion, Impact or Recommendations	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
Habitats and plants (see location map in appendix 1, habitat map in appendix 2, BERS plan in appendix 3, ponds map in appendix 4, proposal plan in appendix 5 and photos in appendix 6). Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).	
<i>Summary of Survey Findings</i> <i>(UKHab codes used)</i>	<u>Urban: Developed Land, Sealed Surface (Residential Building) [u1b5 818] – Figures 1-3</u> There are five buildings on site. B1 is the main residential dwelling, B2 is the cottage located to the south of B1. B3, B4 and B5 are outbuildings. <u>Urban: Developed Land, Sealed Surface [u1b6] – Figure 4</u> Sealed surfaces are present acting as driveways and patios. Sealed surfaces are not subject to condition assessments.

Urban: Artificial Unvegetated, Unsealed Surfaces [u1c] – Figure 5

Artificial unvegetated, unsealed surfaces are present as parking spaces. Artificial unvegetated, unsealed surfaces are not subject to condition assessments.

Urban: Built-up Areas and Garden – Vegetated Garden with Scattered Trees and Lines of Trees and [u1 828 32 33] – Figures 6-26

The majority of the site is dominated by modified grasslands, acting as the amenity garden to the residential dwelling. The grassland exhibits a uniform sward height (average ~ 10cm). Large areas of bare ground and physical damage exist within the garden. The total area of this habitat measures at 19411m². Several apple trees are present within the garden resembling an intensive orchard. Due to the small size of the trees and the privately managed nature of the garden, the orchard has been blanketed as vegetated garden. Vegetated gardens are not subject to condition assessments. A full species list is provided in the table below.

Group	Common Name	Scientific Name	DAFOR
Grasses	Oat sp.,	<i>Avena spp.</i>	Occasional
	Perennial ryegrass	<i>Lolium perenne</i>	
	Common bent	<i>Agrostis capillaris</i>	
Other	Bramble	<i>Rubus fruticosus agg.</i>	
	Southern cleavers	<i>Galium australe</i>	
	Bristly oxtongue	<i>Helminthotheca echinoides</i>	
	Field thistle	<i>Cirsium arvense</i>	
Other	Common nettle	<i>Urtica dioica</i>	Occasional
	English cinquefoil	<i>Potentilla anglica</i>	
	Geranium sp.,	<i>Geranium spp.</i>	
	Dock sp.,	<i>Rumex spp.</i>	Rare
	Pendulous sedge	<i>Carex pendula</i>	

		Large yellow loosestrife	<i>Lysimachia vulgaris</i>	
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There are 47 trees located within the red line boundary. A full species list is provided in the table below.

Tree Number	Species	DBH (mm)
T1	Ash	285
T2	Field maple	315
T3	Oak	350
T4	Ash	520
T5	Oak	270
T6	Oak	350
T7	Hazel	100
T8	Ash	145
T9	Plum	245
T10	Oak	1000
T11	Apple	240
T12	Oak	90
T13	Oak	465
T14	Oak	390
T15	Apple	320
T16	Basket willow	150
T17	Common birch	250
T18	Beech	360
T19	Indian maple	200
T20	Unidentified	610

		G1	1 ash, 1 beech, 2 oak, 1 pear, and 3 birch	300 max	
		G2	19 apple	300 max	

Condition Assessment (assessed using the 'Individual Trees' habitat type condition assessment sheet) (please note that small sized trees have not been condition assessed due to their location within a privately managed garden):

- A. The tree is a native species (or at least 70% within the block are native species).
- B. The tree canopy is predominantly continuous (individual trees automatically pass this criterion).
- C. The tree is mature (or more than 50% within the block are mature).
- D. There is little or no evidence of an adverse impact on tree health by human activities.
- E. Natural ecological niches for vertebrates and invertebrates are present.
- F. More than 20% of the tree canopy area is oversailing vegetation beneath.

Criterion	T2 M	T3 M	T4 M	T6 M	T10 VL	T13 M	T14 M	T15 M	T18 M	T20 L
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
D										
E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Condition	Good: 5/6									

There are two lines of trees located within the red line boundary. LT1 is located along the southern periphery of the site and comprises three field maple, two hawthorn, one plum, two ash, one cherry and one unidentified tree. LT1 measures 74m long. LT2 is located along the northern periphery of the site and comprises four beech, three blackthorn, two hawthorn and three ash trees. LT2 measures 43m long.

Condition Assessment (assessed using the 'Lines of Trees' habitat type condition assessment sheet):

- A. At least 70% of trees are native species.
- B. The tree canopy is predominantly continuous.
- C. One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates.
- D. There is undisturbed naturally vegetated strip of at least 6m on both sides to protect the line of trees.
- E. At least 95% of the trees are in a healthy condition.

Criterion	LT1	LT2
A	✓	✓
B		✓
C		
D		
E		
Condition	POOR	

Freshwater: Non-Priority Pond [r1 41] – Figure 30

There is one non-priority pond located within the garden. P1 is located to the north of B1 and covers an area of approximately 166m². P1 does not have semi natural habitat surrounding the entirety of the pond. No duckweed or filamentous algae was observed within the pond. P1 is further described in the amphibian section below.

Condition Assessment (assessed using the 'Ponds' habitat type condition assessment sheet):

	A. The pond is of good water quality, with clear water (low turbidity), indicating no obvious signs of pollution. PASS B. There is semi-natural habitat completely surrounding the pond. FAIL C. Less than 10% of the water surface is covered with duckweed or filamentous algae. PASS D. The pond is not artificially connected to other waterbodies. PASS E. Pond water levels can fluctuate naturally throughout the year. PASS F. There is an absence of listed non-native plant and animal species. PASS G. The pond is not artificially stocked with fish. PASS H. Emergent, submerged or floating plants cover at least 50% of the pond area which is less than 3m deep. FAIL I. The pond surface is no more than 50% shaded by adjacent trees and shrub. PASS Passes 7 criteria, therefore achieves MODERATE condition. <u>Native Hedgerow: Other Native Hedgerow with Trees [h2a6 11] – Figures 27-28</u> There are two native hedgerows located within the red line boundary. H1 is located along the southern periphery of the site and comprises OCCASIONAL oak, hawthorn and cherry laurel. H1 measures 6m tall, 3m wide and 48m long. There is no gap between the base of the hedgerow and the ground, however gaps make up more than 10% of the total length. T1 and T2 are located within H1 and therefore H1 is a hedgerow with trees. H2 is located along the eastern periphery of the site and comprises DOMINANT beech. H2 measures 3m tall, 1m wide and 12m long. There is no gap between the base of the hedgerow and the ground, however gaps make up more than 10% of the total length. Condition Assessment (assessed using the 'Hedgerow' habitat type condition assessment sheet): A. 1. Average height is more than 1.5m along length. 2. Average width is more than 1.5m along length. B. 1. Gap between ground and base of canopy is less than 0.5m for more than 90% of the length.
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2. Gaps make up less than 10% of the total length and no canopy gaps are larger than 5m.

C.

1. More than 1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length.
2. Species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground.

D.

1. More than 90% of the hedgerow is free of invasive non-native plant species.
2. More than 90% of the hedgerow is free of damage caused by human activities.

E.

1. There is more than one age class of tree present.
2. At least 95% of hedgerow trees are in a healthy condition.

Criterion	H1	H2
A1	✓	✓
A2	✓	✓
B1	✓	✓
B2		
C1	✓	✓
C2	✓	✓
D1	✓	✓
D2		
E1		n/a
E2		n/a

	Condition MODERATE <u>Non-Native & Ornamental Hedgerow [h2b] – Figure 29</u> There is one non-native and ornamental hedgerow located within the red line boundary. H3 is located along the southern periphery of the site and comprises DOMINANT cherry laurel and RARE Portuguese laurel. H3 measures 5m tall, 3m wide and 13m long. There is no gap between the base of the hedgerow and the ground, however gaps make up more than 10% of the total length. Habitat condition pre-determined as 'Poor' as detailed within the Statutory Biodiversity Metric Condition Assessment Supplement. <u>Local Notable Habitats</u> The site contains native hedgerows which are listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). The site also contains scattered trees and lines of trees which could be of value to local wildlife populations (as detailed in subsequent sections of this table). Other habitats within the site are common and widespread and have low ecological value. Four priority habitats are present within 2km of the site, the closest deciduous woodland located immediately north. Traditional orchards (260m north), ancient woodland (380m south) and woodpasture/parkland (1340m northeast) are also located within 2km of the site.
<i>Foreseen Impacts</i>	<u>On-site Habitats</u> The proposed development will result in the loss of approximately 1105m² of vegetated garden. This could result in a net loss in biodiversity at the site. <u>Notable Habitats</u> No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to deciduous woodland, indirect effects such as pollution or tree damage could occur during construction.
<i>Recommendations</i>	<u>On-site Habitats</u>

	Retained trees and hedgerows should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). The development will be required to demonstrate a minimum 10% biodiversity net gain through the use of the latest Defra Biodiversity Metric as to comply with legislation (Environment Act 2021). It is noted that the development is not exempt from demonstrating a compliant biodiversity net gain, as per current Natural England Guidance: https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments. <u>Compensation/Enhancements:</u> The following habitat creation/enhancement measures should be incorporated: ❖ Planting of flowering/fruiting native trees, shrubs, and hedgerows. <u>Notable Habitats</u> Best practice measures to minimise the possibility of pollution affecting the nearby deciduous woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	<u>On-site Designations</u> The site is not subject to any designation. <u>Statutory and Non-Statutory Designated Sites (within 2km/1km)</u> Details of statutory sites within a 2km radius retrieved from the MAGIC database are detailed in the table below. The presence of non-statutory designated sites within a 2km radius of the site cannot be determined without biological records data from Sussex Biodiversity Record Centre.

	Designated Site Name		Distance From Site	Reasons for Notification from Natural England/GiGL
	Statutory Designated Site	Slinfold Stream and Quarry Site of Special Scientific Interest (SSSI)	680m northwest	Slinfold Stream and Quarry supports a mosaic of semi-natural habitats around its stream corridor, including wet woodland, shaded banks and pockets of damp grassland that provide refuge for invertebrates, amphibians and riparian plants. The clean, freely flowing watercourse and its varied micro-habitats help sustain good ecological connectivity through the landscape, offering shelter, foraging areas and movement routes for wildlife. Although the SSSI is formally designated for its geological importance, the surrounding stream environment contributes valuable local biodiversity and ecological function within the wider Slinfold countryside.
	The site lies within the impact risk zone for the Slinfold Stream and Quarry Site of Special Scientific Interest (SSSI). The proposed development type is not listed as a possible high risk with regards to this designation. This development site is within the Sussex North Water Supply Zone. Within this zone, proposals that would lead to an increase in water demand may have a likely significant effect on the qualifying features of the Arun Valley Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site through reduced water levels. <u>National Network Sites (within 5km)</u> No national network sites (SAC, SPA, Ramsar) are located within 5km.			
<i>Foreseen Impacts</i>	<u>On-site designations</u> No impacts foreseen. <u>Statutory and Non-statutory Designated Sites</u> No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the location of the site with surrounding physical barriers.			
<i>Recommendations</i>	<u>On-site Designations</u> None required. <u>Statutory and Non-statutory Designated Sites</u>			

	The Local Planning Authority (LPA) may be required to undertake a Habitat Regulations Assessment (HRA) to determine whether there could be any effect on nearby European sites as a result of the proposed development.																										
Invasive / Non-native Species																											
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.																										
Foreseen Impacts	N/A																										
Recommendations	No further surveys but remain vigilant.																										
Bats																											
Summary of Survey Findings	<u>EPSL Data and Local Records</u> Details of granted European Protected Species Licenses (EPSLs) for bats within a 2km radius retrieved from the MAGIC database are detailed in the table below. <table><tr><th>EPSL Reference</th><th>Species Affected</th><th>Distance From Site</th><th>Impacts Allowed by Licence</th></tr><tr><td>EPSM2013-6030</td><td>Common pipistrelle and soprano pipistrelle</td><td>945m east</td><td>Destruction of a resting place</td></tr><tr><td>EPSM2011-3356</td><td>Common pipistrelle, soprano pipistrelle, brown long eared bat and natterers</td><td>1160m east</td><td>Destruction of a resting place</td></tr><tr><td>2020-47254-EPS-MIT</td><td>Common pipistrelle, soprano pipistrelle, brown long eared bat and natterers</td><td>1160m east</td><td>Destruction of a resting place</td></tr><tr><td>2017-29072-EPS-MIT</td><td>Brown long eared bat</td><td>1400m west</td><td>Destruction of a resting place</td></tr><tr><td>2019-43782-EPS-MIT-1</td><td>Common pipistrelle, soprano pipistrelle, Nathusius pipistrelle and brown long eared bat</td><td>1570m north</td><td>Destruction of a resting place</td></tr></table> There are no Special Areas of Conservation designated for bats within 10km of the site. <u>Foraging and Commuting Habitat</u>			EPSL Reference	Species Affected	Distance From Site	Impacts Allowed by Licence	EPSM2013-6030	Common pipistrelle and soprano pipistrelle	945m east	Destruction of a resting place	EPSM2011-3356	Common pipistrelle, soprano pipistrelle, brown long eared bat and natterers	1160m east	Destruction of a resting place	2020-47254-EPS-MIT	Common pipistrelle, soprano pipistrelle, brown long eared bat and natterers	1160m east	Destruction of a resting place	2017-29072-EPS-MIT	Brown long eared bat	1400m west	Destruction of a resting place	2019-43782-EPS-MIT-1	Common pipistrelle, soprano pipistrelle, Nathusius pipistrelle and brown long eared bat	1570m north	Destruction of a resting place
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	Modified grasslands, scattered trees and the linear hedges/treelines on site provide suitable albeit limited habitats for foraging and commuting bats. These could also be used by bats dispersing from nearby roosts outside of the site and commuting around the area. However, the site is unlikely to represent a significant foraging or commuting resource for bats in the context of the wider landscape. Habitats in the wider landscape, such as woodland copses, hedge-lined parks, and the River Arun provide more ideal habitats for foraging and commuting bats. <u>Roosting Habitat</u> Buildings to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There are a total of five buildings on site; the main dwelling (B1), the cottage (B2) and three outbuildings (B3, B4 and B5). Only B4 and B5 were surveyed as these will be impacted by the proposed development. No trees will be impacted by the proposed development. No evidence of roosting bats was identified on or within B4 or B5.
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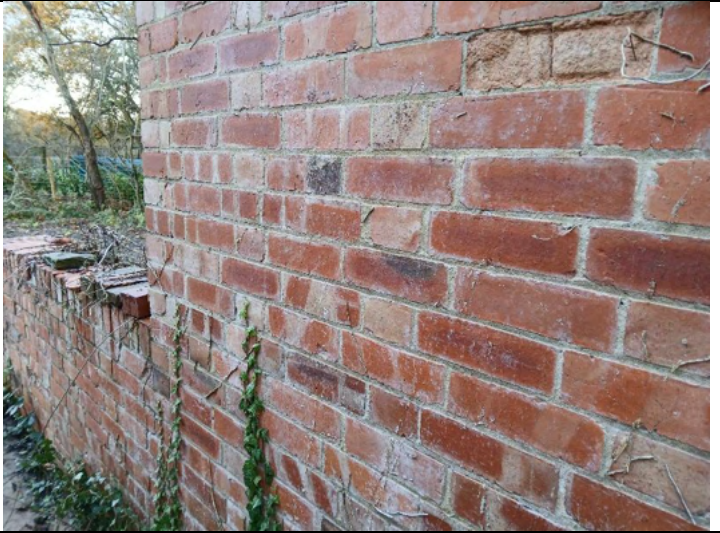
B4 Building Description		Photographs
<i>Summary</i> B4 is a single storey timber built outbuilding. The walls are timber clad along all elevations. The windows and doors are timber framed. There are timber bargeboards along all elevations. The roof is gable ended with clay tiles. There is one internal void within B4 (see below). No evidence of bats was found on or within B4. The building has low habitat value.		
Feature	Condition/Description/Suitability	

Timber clad walls	Condition/Description Generally in good condition with tightly sealed timber boards. Suitability/Access/Evidence of Bats N/A	
Clay tiles	Condition/Description Multiple slipped and broken tiles. Suitability/Access/Evidence of Bats Provides opportunities for crevice dwelling species.	

Timber bargeboards	Condition/Description Linear bargeboard gap along the eastern and western elevations. Suitability/Access/Evidence of Bats Provides opportunities for crevice dwelling species.	
Timber framed window/doors	Condition/Description Tightly sealed. Suitability/Access/Evidence of Bats N/A	

Internal voids	Condition/Description There is an internal void within B4. The void is used for the storage of garden equipment. Its roof is unlined. The building is supported by timber beams. Suitability/Access/Evidence of Bats No evidence of bats was found within B4. There are several ingress points into the void via slipped tiles, however no suitable roosting features were identified within B4. The ingress of large volumes of light further limits the suitability for roosting bats.	
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<i>B5 Building Description</i>	<i>Photographs</i>
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<i>Summary</i> B5 is a single storey brick built outbuilding. The walls are unrendered along all elevations. The roof is gable ended with clay tiles. There is one internal void within B5 (see below). No evidence of bats was found on or within B5. The building has low habitat value.		
Feature	Condition/Description/Suitability	
Brick built walls	Condition/Description No cracks or gaps. Suitability/Access/Evidence of Bats N/A	

Clay tiles	Condition/Description Multiple slipped and broken tiles. Suitability/Access/Evidence of Bats Provides opportunities for crevice dwelling species.	 A photograph showing the exterior of a brick building with a gabled roof covered in clay tiles. Some tiles are missing or broken, and the brickwork is weathered and partially covered in ivy.
Internal voids	Condition/Description There is an internal void within B5. The void acts as an inactive stable building. The roof is unlined and is supported with timber beams. Suitability/Access/Evidence of Bats No evidence of bats was found within B5. There are several ingress points into the void via slipped tiles and open doors however no suitable roosting features were identified within B5. The ingress of large volumes of light further limits the suitability for roosting bats.	 A photograph showing the interior of a void space. The ceiling is supported by a network of wooden timber beams. The walls are made of brick and have peeling white paint. There is some debris and a yellow bag on the floor.

<i>Foreseen Impacts</i>	<u>Roosting Habitat [Buildings]</u> The proposed development will result in the demolition of B4 and B5. This could result in the destruction of any bat roosts present and could cause disturbance, death or injury to bats. <u>Roosting Habitat [Trees]</u> No trees are being felled. All trees will be retained and therefore no impacts to roosting bats are anticipated. <u>Foraging and Commuting Habitat</u> The proposed development will result in the loss of small areas of approximately 1105m² but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. <u>Artificial Lighting</u> The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.
<i>Recommendations</i>	<u>Roosting Habitat [Buildings]</u> One bat emergence/re-entry surveys is required on B4 and B5 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. These survey visits should be completed during the optimal survey period mid-May to August inclusive. Three surveyors are required to provide full coverage of the building's elevations to look for emerging/re-entering bats. Surveyors will be equipped with infrared cameras to see where any specific roost locations are located. If a bat is seen emerging from the building on the survey visit, an additional two bat emergence/re-entry surveys will be required. If any bat roosts are confirmed from this survey schedule, a bat license would be required to demolish the buildings as it would involve the destruction

	of roosts. This is applied for with the help of a class 2 licensed bat ecologist after planning permission is granted, but before commencement of works. Lighting mitigation may be required based on the outcome of the night bat survey(s). No works to the property that may block or remove potential roosting features should be carried out until the required surveys have been completed. Undertaking such work beforehand could unlawfully affect bats if present and may compromise the validity of the surveys and hinder the planning application process. <u>Foraging and Commuting Habitat</u> No further surveys are required. <u>Artificial Lighting</u> A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting-2 <u>Suggested Biodiversity Enhancements</u> ❖ To be confirmed upon the completion of the bat emergence surveys.
Birds	
<i>Summary of Survey Findings</i>	<u>Buildings/Vegetation</u> No evidence of nesting birds was found on site during the surveys; however, birds could use the trees and hedgerows for nesting purposes. No habitat for schedule 1 birds was observed. No deep perches were present within the outbuildings that could be used by barn owls.
<i>Foreseen Impacts</i>	<u>Buildings/Vegetation</u> The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.
<i>Recommendations</i>	<u>Buildings/Vegetation</u>

	Precautions should be taken with machinery and noise levels when working close to any retained trees and hedgerows so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. <u>Suggested Biodiversity Enhancements</u> Installation of two bird boxes at the site – preferably two integrated swift bricks (considered to be universal nest bricks for small bird species) within the fabric of the building during construction. To be suitable for swifts, they will need to be placed at least 5m above ground level under the eaves of a building. Integrated nesting bricks are preferable to bird boxes; even if it cannot fulfil the height requirement for swifts, it will still be suitable for other passerine species. If the building material does not allow for integrated nesting bricks, two nest boxes mounted on the exterior of the building or on retained trees will also be acceptable. Nest bricks/boxes should be sheltered from prevailing wind, rain, and strong sunlight, and should be placed on an open aspect with no trees or large shrubs potentially obstructing flight paths.
Reptiles	
<i>Summary of Survey Findings</i>	<u>EPSL Data and Local Records</u> A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. <u>Wider Landscape</u> The nearby fragments of the River Arun and woodland are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These habitats provide optimal foraging, commuting, and refuge opportunities for reptiles in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted. <u>Habitat Suitability</u> Vegetated gardens and hedgerows on site provide suitable albeit limited habitats for foraging and sheltering reptiles. The site is well connected to suitable habitats within the wider vicinity such as woodland and fields. Habitats on site are sub-optimal however are capable of supporting widespread reptiles in low numbers only. As such, whilst suboptimal, the presence of reptiles during vegetation clearance could not be discounted.

Foreseen Impacts	Approximately 1105m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.										
Recommendations	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage reptiles. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist. <u>Suggested Biodiversity Enhancements</u> Grasslands of longer sward height, compost heaps, or log piles will provide additional suitable habitats for reptiles.										
Amphibians											
Summary of Survey Findings	<u>EPSL Data and Local Records</u> Details of granted European Protected Species Licenses (EPSLs) for amphibians within a 2km radius retrieved from the MAGIC database are detailed in the table below. There is no connectivity for great crested newts between the known EPSL and the site as they are separated by various urban infrastructure. <table><tr><th>EPSL Reference</th><th>Species Affected</th><th>Distance From Site</th><th>Impacts Allowed by Licence</th></tr><tr><td>2015-11069-EPS-MIT</td><td>Great crested newt</td><td>1220m north</td><td>Destruction of a resting place</td></tr></table>			EPSL Reference	Species Affected	Distance From Site	Impacts Allowed by Licence	2015-11069-EPS-MIT	Great crested newt	1220m north	Destruction of a resting place
EPSL Reference	Species Affected	Distance From Site	Impacts Allowed by Licence								
2015-11069-EPS-MIT	Great crested newt	1220m north	Destruction of a resting place								

EPSM2011-2967	Great crested newt	1150m east	Destruction of a resting place
2015-9112-EPS-MIT	Great crested newt	1150m east	Destruction of a resting place
EPSM2011-3185	Great crested newt	1990m southeast	Destruction of a resting place
2020-47633-EPS-MIT	Great crested newt	1990m southeast	Destruction of a breeding and resting place

Aquatic Habitat Suitability

Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001).

There is one pond present on site (P1). P1 is a natural pond that covers an approximate area of 116m². A Habitat Suitability Index (HSI) score was calculated for P1. As a result of the HSI, P1 has been assessed to provide **Poor** suitability to support great crested newts. The scores for each HSI parameter can be viewed in the table below:

HSI Index	HSI Index Parameter	HSI Score
1 – Location	Zone A	1
2 – Pond Area	116m ²	0.2
3 – Pond Drying	Dries annually	0.1
4 – Water Quality	Poor	0.33
5 – Shade	0-60%	1.0
6 – Waterfowl	Absent	1.0
7 – Fish	Absent	1.0
8 – Pond Count / km ²	6.7 / km ²	1.0
9 – Terrestrial Habitat	Poor	0.33
10 – Macrophytes	0%	0.3
TOTAL	-	0.48
CATEGORY	-	Poor

A review of aerial imagery (MAGIC and OS Maps) indicates the presence of 19 ponds within 500m of the site, the closest of which (P2) is located 5m east of the site. P2, P3, P4, P5, P6, P7, P8, P14, P15, P16 and P19 have potential terrestrial connectivity to the site due to an absence of definitive barriers to dispersal. However, all other ponds are assessed to have limited connectivity due to separation by extensive areas of suboptimal habitat including roads and hard standing.

	Please note that although P2 and P14 are located within 100m of the red line boundary. The red line boundary currently includes the access road and entire site, when considering the precise location of the proposed development, these ponds are located further than 100m away. A pond map showing approximate pond locations, and the location of the proposed buildings is provided in Appendix 3. <u>Terrestrial Habitat Suitability</u> Areas of shrubbery may provide foraging and sheltering opportunities for amphibians. Hibernation opportunities were identified on-site among the roots of trees and hedgerows. Common amphibian species such as frogs, on the other hand, have a wider terrestrial range in terms of movements and dispersal and are not as bound to ponds or water courses as great crested newts. Hedgerows, modified grasslands, scattered trees and ponds on site provide suitable albeit limited habitats for foraging and sheltering amphibians. As such, the presence of common amphibians in low numbers could not be discounted.
<i>Foreseen Impacts</i>	When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the further loss or significant disturbance of 0.1105ha of suitable great crested newt habitat (i.e. vegetated garden). If great crested newts are present within P1, this will constitute a loss of 0.1105ha within 100m of a potential breeding pond. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces an Amber risk score, which states: Offence Likely. However, P1 has been observed by the landowners to dry out fully each summer, resulting in negligible suitability for breeding amphibians, as seen in photos 31-34.

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)	0.01 - 0.1 ha lost or damaged	0.3
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3
Rapid risk assessment result:	AMBER: OFFENCE LIKELY	
If great crested newts are present within all remaining ponds, this will constitute a loss of 0.1105ha further than 100m of a potential breeding pond. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Green risk score, which states: Offence Highly Unlikely.		
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	

	Approximately 1105m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of common amphibians, if present and crossing the construction zone.
<i>Recommendations</i>	Due to the result of the HSI assessment and the fact that P1 dries out every summer, P1 is deemed to provide negligible opportunities for great crested newts. Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage amphibians. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist. <u>Suggested Biodiversity Enhancements</u> The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	

<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. Although managed modified grasslands make for suitable foraging and commuting habitats, field signs typical of badger activity were absent from the site with no established mammal trails, evidence of latrines, badger hair or push throughs. The grassland on site is relatively flat and exposed, limiting sett excavation opportunities. However, woodland within the vicinity provides suitable habitat for badgers, therefore the presence of badgers crossing the construction zone could not be discounted.
<i>Foreseen Impacts</i>	No works will be undertaken within 30m of a badger sett. Approximately 1105m² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.
<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advice must be sought from a suitably qualified ecologist.
Riparian animals	
<i>Summary of Survey Findings</i>	A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. There are no water courses on or connected to the site. The river Arun is located 800m to the north, however there is limited connectivity to this river from the site due to the presence of heavily managed agricultural land and urban habitat such as buildings and roads.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.

<i>Recommendations</i>	None required.
Hazel dormouse	
<i>Summary of Survey Findings</i>	<u>EPSL Data and Local Records</u> A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. <u>Habitat Suitability</u> The site features no habitats which might provide opportunities for hazel dormouse, such as established woodland or mature, native hedgerows as it is based in an urban setting. Although parcels of woodland are located immediately north of the site, these do not support a three-dimensional habitat structure and are not connected to extensive networks of woodland, required by dormice (Bright et.al. 1994). Given the wider context of the surrounding habitats, hazel dormice are unlikely to be present on site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None foreseen.
Invertebrates	
<i>Summary of Survey Findings</i>	The habitats present on-site, including modified grasslands, hedgerows and scattered trees, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.
<i>Foreseen Impacts</i>	Approximately 1105m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.
<i>Recommendations</i>	No further surveys. <u>Suggested Biodiversity Enhancements</u> Enhancement opportunities for invertebrates include: ❖ Installation of insect hotels.

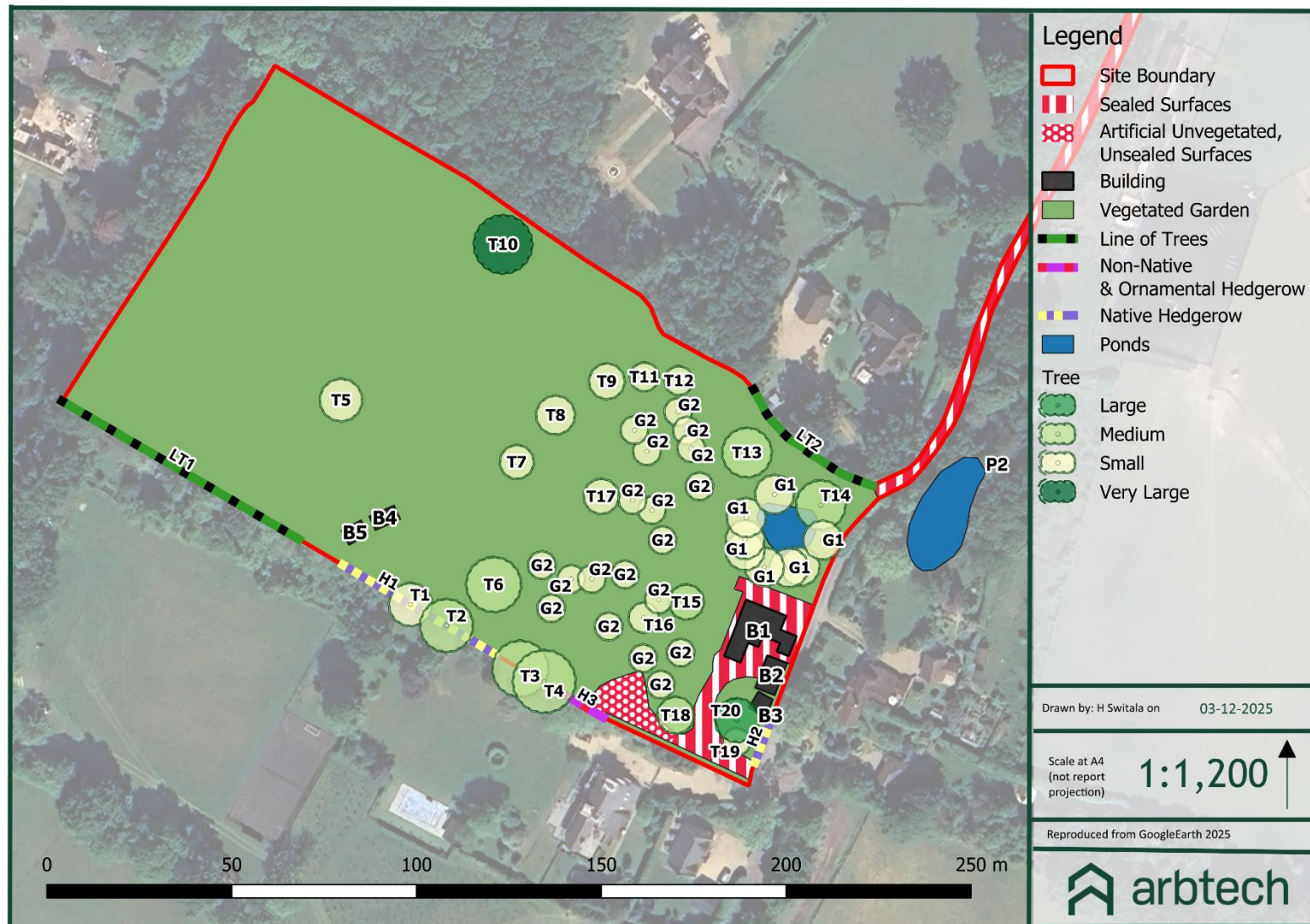
	❖ The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. ❖ Planting of native, pollinator-friendly (i.e. flowering and fruiting) species.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	Hedgehogs are extremely mobile and highly adapted to urban landscapes. There is limited suitability for foraging, commuting, and sheltering hedgehogs on site within the vegetated gardens and hedgerows and their presence during works cannot be discounted.
<i>Foreseen Impacts</i>	Approximately 1105m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	A precautionary working method will be implemented during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage hedgehogs. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter hedgehogs from the working area. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. <u>Suggested Biodiversity Enhancements</u> The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

	• Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
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Appendix 1: Location Map



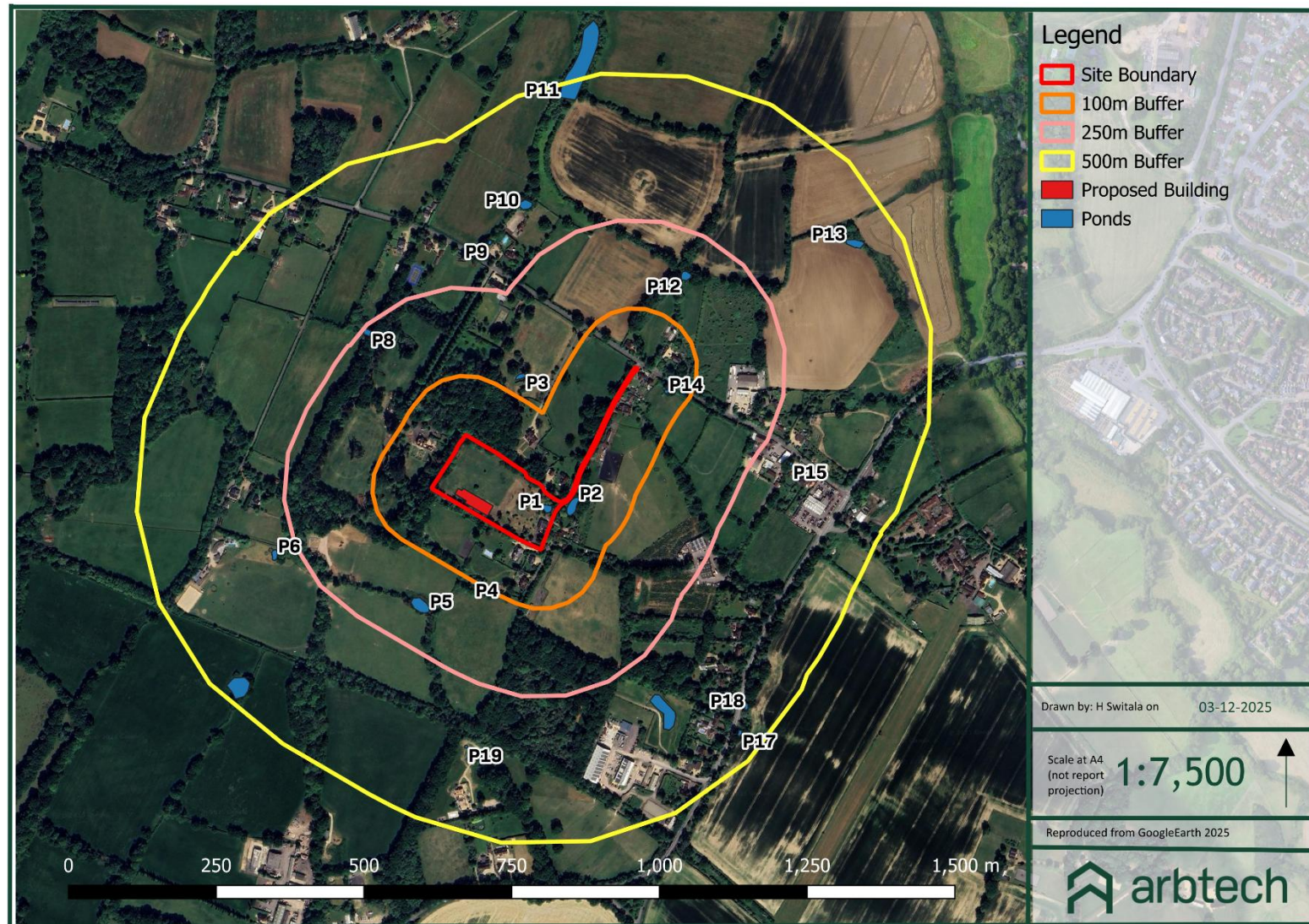
Appendix 2: Habitat Map



Appendix 3: BERS plan



Appendix 4: Ponds map



Appendix 5: Proposed plan



Figure 1. B1.



Figure 2. B2.



Figure 3. B3.



Figure 4. Sealed surfaces acting as the access road to the site.



Figure 5. Artificial unvegetated surfaces acting as parking spaces.



Figure 6. Vegetated garden.



Figure 7. T1 and T2.

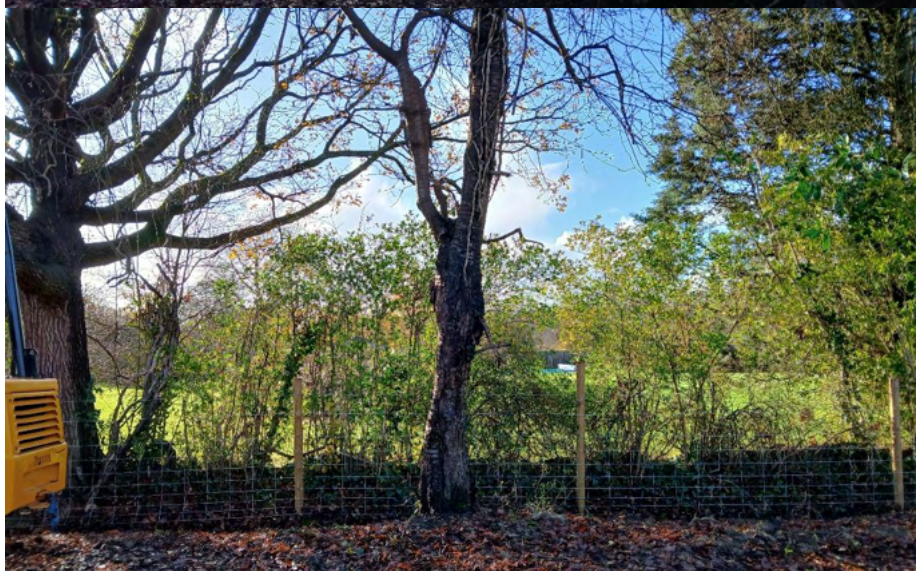


Figure 8. T3.

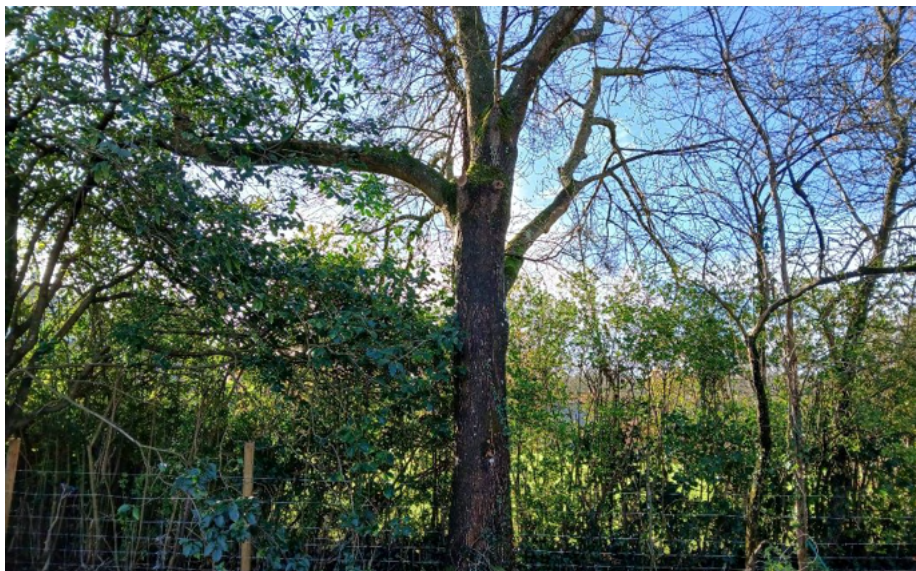


Figure 9. T4.



Figure 10. T5.



Figure 11. T6.



Figure 12. T7.



Figure 13. T8.



Figure 14. T9.



Figure 15. T10.



Figure 16. T11 and T12.



Figure 17. T13.



Figure 18. T14.



Figure 19. T15.



Figure 20. T17.



Figure 21. T19.



Figure 22. T20.



Figure 23. G1.



Figure 24. G2, an intensive orchard located within the privately managed garden.



Figure 25. LT1.



Figure 26. LT2.

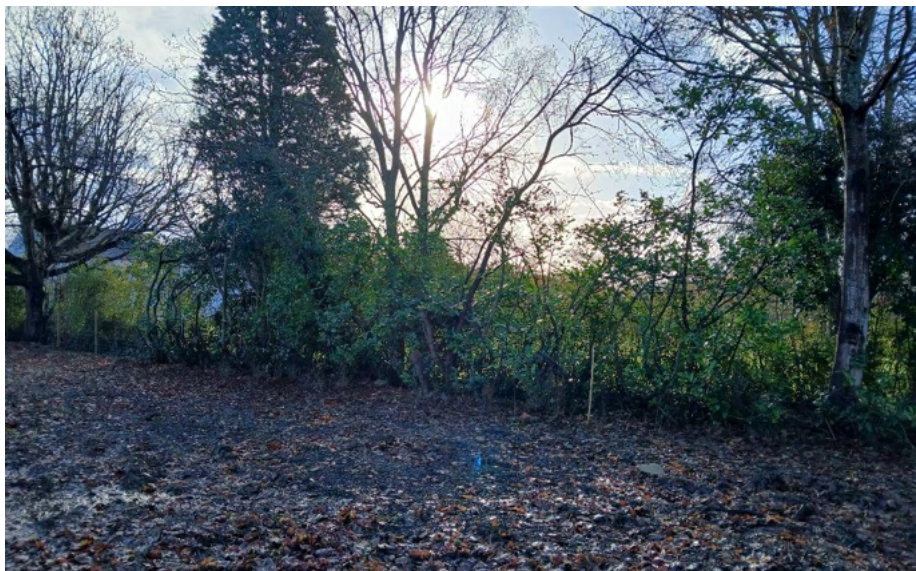


Figure 27. H1.



Figure 28. H2.



Figure 29. H3.



Figure 30. P1.



Figure 31. P1 dried out.

Figure 32. P1 dried out.



Figure 33. P1 dried out.



Figure 34. P1 dried out.

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