

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Hatchgate End, Hatchgate Lane, Cockpole Green, Wargrave, Berkshire RG10 8NE

Client:

Nicholas Hart

Survey date:

4th June 2024

Project:

This report is prepared to inform a planning application with the Wokingham Borough Council. The proposal is described as:
Demolition of existing dwelling and construction of replacement dwelling

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 site survey was undertaken by James Fielding PhD BA (Hons) PGcert (merit) (Natural England Bat Licence Number 2022-10412-CL17-BAT)					
Consultant Ecologist					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
04/06/2024	17	71	100	0	1mm

Ecological Survey Factor	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.
Conclusion, Impact or Recommendations	
Prior Reports	
<i>Summary of Prior Survey Findings</i>	A large body of prior ecology reports have been produced for the site in support of several planning applications. The broad recommendations of these reports still apply and have been factored into this report, with some updates due to the wider scope of this report and the changing of wildlife legislation and guidance, where appropriate. <u>A summary of ecological survey information to date:</u> · September 2017: a preliminary roost assessment (PRA) was conducted of the site, and one brown long-eared bat was seen within the loft, as well as fresh bat droppings (Windrush Ecology, 2017). · May/June 2018: 3 bat activity surveys conducted at dusk and dawn. One brown long-eared bat was seen within the loft and one brown long-eared bat (likely the same bat) was seen to emerge at dusk 6th June 2018 (Windrush Ecology, 2018) · August 2020: One bat emergence survey undertaken with an internal inspection. No bats were seen within the loft, but small numbers of bat droppings were noted. No emergences were noted (Windrush Ecology, 2020). · A Bat Licence application was made to cover the period November 2020 to January 2021. This has now expired. · One dusk and one dawn emergence survey was undertaken for the site in 2022 by Arbtech. No emergences were seen (Arbtech, 2022). · A great crested newt non-licenced mitigation plan was produced for the site in by Arbtech (13/01/2023) Based on the recommendations of this report, an addition dusk emergence survey is being conducted by Arbtech in summer 2024, and a Biodiversity Net Gain report is being produced by Arbtech. Data from these will be presented in separate reports.

Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4). 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> (UKHab codes used)	Site Context The site is located at National Grid Reference SU 79989 81075 and has an area of approximately 0.01ha comprising of a residential dwelling (B1), a carport (B2) and a garden with scattered trees, grassland and hedgerow boundaries. It is located on a rural residential lane with arable fields in the surrounding landscape. There are small wooded copses and mature hedgerows scattered throughout this primarily residential and arable landscape. Four ponds are present within the surrounding 1km radius, with one pond located 400m to the south-west. Habitats within the site are common and widespread and have relatively low ecological value, although areas of mature hedgerows and neutral grassland of good quality are present to the west of the site, outside of the main garden area. The site also contains shrubs and trees which are of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). The remaining habitats are common and widespread. No protected or notable plant species were recorded during the survey. On-site habitat descriptions <u>u1b5 – Buildings</u> <u>u1 – urban garden</u> <u>u1b - Developed land/sealed surface</u> <u>u1c - Artificial unvegetated, unsealed surface</u> <u>g3c – Other neutral grassland</u> <u>h2b –species-poor hedgerow</u> <u>Developed land/sealed surface (u1b)</u> There are small areas of paving adjacent to B1. Condition assessment N/A. <u>Artificial unvegetated, unsealed surface (u1c)</u> The site's garden contains gravel paths and small areas of ornamental gravel. The site also features a gravel drive. Some areas of gravel are partially vegetated (<5% cover) by emergent pioneer vegetation. Condition assessment N/A. <u>Buildings (u1b5)</u> There is one dwelling (B1) and a carport within the development area. Small sheds are also present in the wider site. A more detailed description of these structures can be found in the section on bats of this report. Condition assessment N/A. <u>Built-up areas and gardens [u1 – vegetated garden (828), scattered trees (32) tree saplings (202), bare ground (510), introduced shrub (1160),</u>

	The development area centred around B1 features a vegetated garden with scattered trees, tree saplings, large bushes and introduced shrubs. A large trench is present in the northern part of the site. Small gravel paths are present throughout the garden. The garden is centred around a large western lawn, which features a typical amenity grassland mix dominated by perennial ryegrass (D), with occasional yorkshire fog, daisy, white clover, broadleaf plantain, willowherb and dandelion. Ornamental and garden shrubs are present along the boundaries, including a small fig, a single buddleia, small amounts of bamboo, lime, hazel and hawthorn. An understory is present along the margins including common ivy, roses, foxglove, hibiscus, common nettle and fern spp. Small trees and saplings are present, including a small Indian bean tree in the western garden. This habitat is in good (3) condition. <u>Neutral grassland (g3c)</u> The site features two large fields located outside of the development area, which could be used for offsetting. Both fields are dominated by grasses including false oat grass (A), perennial ryegrass (A), cocksfoot (A) and a range of meadow grasses. Other species present include multiple recently planted liquid amber saplings and small trees are present along the southern boundary of the westernmost field and in the easternmost boundary of the middle field. Other species present include daisy, buttercup, hairy hawkbit, creeping thistle and common ragwort. Both fields are managed through once yearly hay bailing. Areas of bare ground and piles of earth are present from recent works and agricultural works. Both fields are in moderate (2) condition. <u>Species poor hedgerow (h2b)</u> Multiple broadleaf-dominated hedgerows are present on the site, within the development area and at the boundaries of the western and middle fields. The hedgerow on the eastern boundary of the site features hawthorn, common ivy and cherry laurel, among other species. The hedgerow dividing the garden area from the middle field consists of abundant beech and small amounts of hawthorn and yew. The hedgerows are all in moderate (2) condition. <u>Scattered trees (u1 - 32)</u> There are multiple scattered trees throughout the site, both within the development area and in the wider site. All the trees on site appear to be in moderate condition. A large mature ash tree is present at the eastern boundary of the site. A medium early-mature false acacia is present within the hedge dividing the garden from the middle field. A medium indian bean tree is present in the rear garden. Multiple liquid amber tree standards have been planted along the middle and central field, and a mature beech spp is present in the southern area of the site.
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	Local notable habitats Patches of lowland mixed deciduous woodland (LMDW) are present in close proximity to the site. The closest is located immediately along the southern border of the westernmost field within the site. The trees and hedgerows on site will have functional connectivity to these patches of woodland, given their proximity to the site and the presence of numerous trees throughout the garden landscape. LMDW is classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Further priority habitats are present within 2km of the site, including ancient woodland, woodpasture and parkland, lowland calcareous grassland, coastal and floodplain grazing meadows, and traditional orchards.
<i>Foreseen Impacts</i>	On-site habitats The habitats on-site are widespread and not notable, however the proposed development will result in the loss of small areas of vegetated garden habitat (this will be further specified once updated plans are available, but is anticipated to be roughly the same footprint size as the current house. This will be partially offset by the demolition of the pre-existing house and the creation of garden habitat covering its footprint. As such, the development is likely to have minimal impact on biodiversity considering the small area of commonplace habitat (vegetated garden) being lost. Notable habitats 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 LMDW (immediately adjacent to the southern boundary of the western field outside the development area, ~20m south-west from the development area), indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.
<i>Recommendations</i>	On-site habitats Retained trees 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). A biodiversity net gain (BNG) report will be required for the proposal, as more than 25m² of habitat is affected by the proposal. The southern eastern grassland and garden areas are unlikely to be impacted by the works directly, and will be retained. These areas could be of use for offsetting to compensate for the proposed habitat losses at the site. The following habitat creation measures could be incorporated: • Creation of areas of wildflower grassland and enhancement of existing grassland and garden areas to a higher condition • Planting of small trees
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	On-site designations The site is not subject to any designation.

	Statutory designated sites (within 2km) There are no known statutory sites nearby. No national network sites (SAC, SPA, Ramsar) are located within 2.5km. Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without data from Thames Valley Environmental Records Centre.
<i>Foreseen Impacts</i>	On-site designations No impacts foreseen. Statutory and non-statutory designated sites 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 residential location of the site with surrounding physical barriers.
<i>Recommendations</i>	On-site designations None required. Statutory and non-statutory designated sites None required.
Invasive / Non-native species	
<i>Summary of Survey Findings</i>	No problematic invasive and non-native species recorded on site.
<i>Foreseen Impacts</i>	N/A
<i>Recommendations</i>	No further surveys but remain vigilant.
Invertebrates	
<i>Summary of Survey Findings</i>	The habitats present on-site, including neutral grassland, hedgerows, lawns, ornamental shrubs and 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>	Small areas of garden will be removed during construction and/or impacted by the demolition of B1. 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.

Recommendations	No further surveys.																				
Bats																					
Summary of Survey Findings	EPSL data A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. There are 4 EPSLs within a 2km radius of site as detailed below:																				
	<table><tr><th>EPSL reference</th><th>Bat species affected</th><th>Distance from site</th><th>Impacts allowed by licence</th></tr><tr><td>EPSM2013-6116</td><td>Brown long-eared bat</td><td>~600m south</td><td>Destruction of a resting place</td></tr><tr><td>2019-41331-EPS-MIT</td><td>Common pipistrelle, soprano pipistrelle</td><td>~850m south-east</td><td>Destruction of a resting place</td></tr><tr><td>2014-2875-EPS-MIT</td><td>Brown long-eared bat</td><td>~1150m south-east</td><td>Destruction of a resting place</td></tr><tr><td>2015-7300-EPS-MIT</td><td>Brown long-eared bat, common pipistrelle, soprano pipistrelle.</td><td>~1200m south-west</td><td>Destruction of a resting place</td></tr></table>	EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	EPSM2013-6116	Brown long-eared bat	~600m south	Destruction of a resting place	2019-41331-EPS-MIT	Common pipistrelle, soprano pipistrelle	~850m south-east	Destruction of a resting place	2014-2875-EPS-MIT	Brown long-eared bat	~1150m south-east	Destruction of a resting place	2015-7300-EPS-MIT	Brown long-eared bat, common pipistrelle, soprano pipistrelle.	~1200m south-west	Destruction of a resting place
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Foraging and commuting habitat Habitats recorded on site and adjacent to it are assessed to provide foraging and commuting opportunities for bats in the form of neutral grassland, arable land, amenity garden with ornamental shrubs, and species-rich hedgerow with trees. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.																					
Roosting habitat Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. Small sheds are present in the wider site, but will not be directly impacted by the proposals and were therefore not directly assessed for bat potential. A roosting brown long-eared bat was visually identified in the south-eastern loft space of B1 (Loft 2) on the 19 th September 2017 and the 6 th June 2018 (Windrush Ecology, 2018).																					
<i>Building B1 (Figure 1-11)</i> B1 is a two-storey, brick-built building (Figure 1-11) built in 1930. It has a hipped roof clad in modern clay tiles. It has a cross-gable end extending from its south-eastern elevation, with a pitched-roof dormer window on this south-eastern side. A second dormer																					

	window is present on the north-western aspect. The dormers have wooden frontings and clay hanging tiles at the side, and they appear to be in generally good condition, although there are small gaps at the joins with the main roof and the overhanging clay hanging tiles on the sides could offer small roosting spaces for crevice dwelling bats. The brickwork on the building is in generally good condition, with no significant gaps or cracks. Climbing vegetation is present on several areas on the western and eastern aspects. There are a handful of gaps present in raised lead flashing between the main building structure and the eastern ground floor window (Figure 3) and the southern porch (Figure 4). Roof tile gaps are present along the ridge tiles on the north of the building, and a narrow gap is also present at the main ridge of the hipped section's north-western aspect. In 2018, a brown long-eared bat was observed to emerge from one of the gaps on the ridgeline, near the chimney, on the south-eastern aspect of the building (likely representing the access point to loft 2). There are two separate loft spaces within the interior of B1, divided by an interior brick wall and brick chimney. <i>Loft Space 1 - L1, northern loft space (Figure 10)</i> It is constructed from modern timber beams, including the ridge beam, rafters and purlins. The beams may provide roosting sites for void-dwelling bats. The loft has a square shape, and is approximately 2m in height. The space is lined with bitumen felt and hessian, and there is mineral wool lining the floor. Small amounts of daylight enter the space from gaps in the bitumen felt lining. Approximately 100 bat droppings were noted throughout the space, of a size and shape indicative of a brown long-eared bat. Also present were low numbers of mouse and rat droppings, and a single dead rat was noted in the space. <i>Loft Space 2 – L2, southern loft space (Figure 11)</i> It is constructed from modern timber beams, including the ridge beam, rafters and purlins. The beams may provide roosting sites for void-dwelling bats. The loft is approximately 2m in height and has a “t” shape, covering the southern area of B1 and the cross-gable. The space is lined with bitumen felt and hessian, and there is mineral wool lining the floor. Two large accumulations of ~200 bat droppings were noted within the space, deposited beneath the ridgeline. Small numbers of bat droppings were scattered at a low density between these accumulations. The size and shape of the droppings suggests they were deposited by brown long-eared bats. These droppings were noted to be fresh in 2016/2017/2018 (Windrush Ecology, 2018), although slightly higher numbers are assessed to be present since those surveys (~200 vs 150 droppings) which may indicate a low level of usage since 2017/2018. Previous observations have noted a single brown long-eared bat to be present in this space in 2017 and 2018, however none were observed during this survey. <i>B1 Suitability Assessment</i>
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	B1 is a confirmed roost of a low number (1 or more) of brown long-eared bats, although this roost is possibly historic given the lack of emergences or bat sightings in the extensive survey work since the confirmed sightings in 2017 and 2018. Given the previous confirmed presence of bats, and the number of features identified on the property and the presence of good bat habitat around the site (i.e. trees and woodland), it is assessed that B1 provides good habitat value for roosting bats. <i>Building B2 (Figure 11-14)</i> B2 is a single-story car port/garage with a hipped roof clad in clay tiles. The clay roof tiles are in generally good condition; however one tile is missing on the western elevation (Figure 12). This could offer limited roosting space to a crevice dwelling bat. There is one internal space within B2, which is used for car parking. The wooden frame and cladding of the structure is loose in places, which could provide access spaces for bats. The interior space is relatively exposed, however, with a large open side which will provide plentiful illumination into the interior and high levels of exposure to wind. This wind and daylight exposure will lower the suitability of the interior for use by bats. <i>B2 Suitability Assessment</i> Given the low number of features identified on the building, and its high level of exposure to the elements, it is assessed that B2 provides low habitat value for roosting bats.
<i>Foreseen Impacts</i>	Roosting habitat [Buildings, B1] The proposed development will result in the demolition of this building. This could result in the destruction of the bat roost present and could cause disturbance, death or injury to bats. Roosting habitat [Buildings, B2] The proposed development will not involve any significant impacts to B2. Roosting habitat [Trees] No roosting habitat was identified as being present in trees on site, and therefore no significant impacts are anticipated to bats. Foraging and commuting habitat The proposed development will result in the loss of small areas of amenity garden 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. Artificial lighting The proposed development will involve the construction of a new dwelling, which will have its own lighting. However as this is replacing an existing dwelling, there is unlikely to be a significant net increase in the amount of current lighting of surrounding habitats or the retained

	building. This is therefore unlikely to disturb bats. However it is recommended that this risk is further minimised by adhering to a precautionary working method.
<i>Recommendations</i>	Roosting habitat [B1] A large number (>6) of previous bat surveys have been conducted at the site, providing a large body of data on the status of the bat roost present within B1 which is referenced above. As such, it is recommended that one further bat emergence/re-entry surveys is required on B1 during the active bat season (May – September) to update the prior survey effort to 2024. These survey visits should be completed during the optimal survey period mid-May to August inclusive. The survey visits should be at least three weeks apart. Sub-optimal: early May and September. Would require greater justification of timing e.g., weather conditions, known local bat activity. One of the surveys could be a dawn re-entry survey, or all three can be at dusk if supported by night vision aids (NVA). Two surveyors are required to provide full coverage of the building's elevations to look for emerging/re-entering bats. An infrared camera should also be employed as part of the survey to see where any specific roost locations are located. Lighting mitigation may be required based on the outcome of the night bat survey(s). If any bat roosts are confirmed from this survey schedule, a bat licence 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. An EPSL application to Natural England will be required. The EPSL application requires that all surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission. Roosting habitat [B2] No further surveys are recommended for B2. Foraging and commuting habitat No further surveys are required. Artificial lighting 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 Suggested biodiversity enhancements Enhancements are dependent on the outcome of further surveys.
Birds	

<i>Summary of Survey Findings</i>	Buildings No evidence of nesting birds was identified on or within B1 or B2. B1 is deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points. Although no evidence of nesting birds was noted within B2, the structure has open sides, a relatively sheltered interior and crossbeams which could provide good nesting and perching spaces for birds, and therefore birds could nest there in future. Trees and vegetation No bird nests were identified within the vegetation on-site, however they all offer nesting opportunities and nest-building resources for birds. Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
<i>Foreseen Impacts</i>	Buildings/trees No impacts are anticipated on nesting birds as a result of the proposed development. Barn owls None foreseen. Overwintering birds None foreseen.
<i>Recommendations</i>	Buildings/trees Any building or vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests 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. Barn owls None required.

	Overwintering birds None required. Suggested biodiversity enhancements The installation of a minimum of two bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability Habitats recorded on site are assessed to provide suitable foraging, commuting, and refuge opportunities for reptiles in the form of scattered scrub, neutral grassland and the species-rich hedgerows with trees. It is noted that due to recent management of the eastern grassland on site which retained a short sward length at the time of survey, the grassland is currently suboptimal for reptiles due to an absence of refuge opportunities. Moreover, this grassland area will not be directly impacted by the works. The area impacted by the demolition works (e.g. the garden and immediate vicinity of B1) contains lower value habitats and the garden grassland is kept regularly mown to a short sward, which will severely limit its value for reptiles. Moreover, the site is also enclosed by intensely managed agricultural land in addition to hardstanding roads. These landscape features are likely to significantly limit dispersal opportunities onto the site for reptiles from the wider landscape. However, although the majority of enclosing agricultural fields are subject to intense management including grazing and regular ploughing, the fields are likely to retain narrow unmanaged field margins interconnected by hedgerows that may provide foraging and commuting opportunities for a limited number of reptiles.

	Although potential connectivity to the site for reptiles is limited in extent, the presence of a small population of common reptiles cannot be fully discounted, albeit limited to peripheral vegetation.
<i>Foreseen Impacts</i>	Although a small area of suitable habitat is being removed as part of the development, there is a low risk that a low number of reptiles could be present in the vicinity of the works. These could be injured or killed without mitigation.
<i>Recommendations</i>	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward (5cm) to discourage reptiles. • 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 advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.
Amphibians	
<i>Summary of Survey Findings</i>	EPSL and survey data A review of the MAGIC database returned no granted EPSL records or licence returns for great crested newts within 2km of the site. Great crested newts 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). A review of aerial imagery indicates the presence of four ponds within 1000m of the site, of which only one is within 500m: a pond 400m to the south west. All four ponds are separated from the site by human infrastructure including tarmac roads, buildings and managed garden grassland, which is either grazed or regularly mown resulting in a short sward length. These landscape features are suboptimal for great crested newts due to a lack of refuge from predation. As a result, and given the distance of these ponds from the site, these landscape features are likely to represent a significant barrier to dispersal: eliminating connectivity to the site for great crested newts. Habitat suitability A review of the MAGIC database returned no granted EPSL records or licence returns for great crested newts within 2km of the site. Great crested newts 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). A review of aerial imagery indicates the presence of four pond within 1km of the site, including one situated within 500m of the site: a pond 400m to the

	south west. All four ponds are separated from the site by human infrastructure including tarmac roads, buildings and managed grassland, which is either grazed or regularly mown resulting in a short sward length. These landscape features are suboptimal for great crested newts due to a lack of refuge from predation. These landscape features combined are assessed to represent a significant barrier to dispersal: eliminating connectivity to the site for great crested newts from ponds within 500m. As such, it is considered highly unlikely that great crested newts would be present on site during their terrestrial phase.
<i>Foreseen Impacts</i>	Given these three factors discussed above (lack of connectivity to nearby ponds, low suitability of habitat on site and the low amount of habitat removed in the development) it is assessed that the development is highly unlikely to cause impacts to great crested newts. Despite this low risk, to further demonstrate that this development will safeguard great crested newts a precautionary working method is proposed below.
<i>Recommendations</i>	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 to safeguard great crested newts and other amphibians during construction. This PWM has been set out in a previous great crested newt method statement for the site (Great crested newt method statement, Arbtech, 2023) which has been reviewed and updated by the author of this report (GCN method statement, Arbtech, 2024). This includes the following measures: • A toolbox talk will be given to contractors regarding the possible presence of amphibians, including great crested newt, at the site. • A pre-commencement inspection of the site will be undertaken for amphibians. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. 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. • Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians 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 common amphibians are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats 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. Suggested biodiversity enhancements 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. Further, no evidence of foraging badgers was noted within the development area. However, the site was is considered suitable for badger sett excavation and foraging habitat due to the presence of scattered trees, grassland and amenity garden, and ornamental shrubs. Badgers could be present on site either through foraging and transient commuting through the area, or future sett construction. If any future sett construction does occur, it is likely to be in the wilder area of the site on the eastern side (primarily the grassland fields and adjacent hedgerows), which will be retained and/or enhanced during the development.
<i>Foreseen Impacts</i>	No works will be undertaken within 30m of a badger sett. Small areas of garden grassland 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 bat roosts, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • 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. Suggested biodiversity enhancements Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
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. There are also no riparian habitats present on site or within an influencing distance.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.
<i>Recommendations</i>	None required.

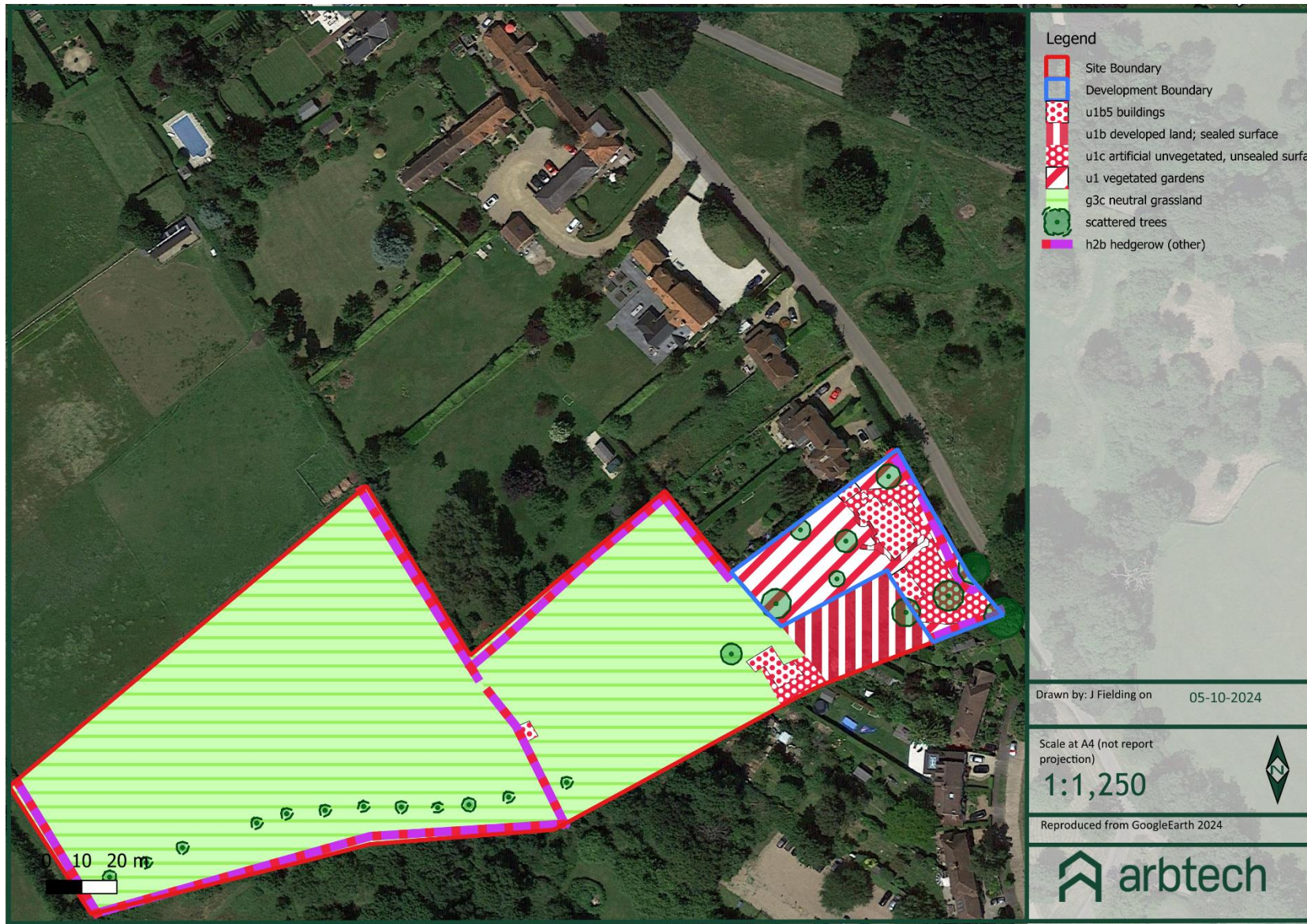
Hazel dormouse	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. The boundary hedgerows on site could provide this complex 3-dimensional habitat. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright <i>et al.</i> 1994). Although 20ha of woodland is not present on or directly adjacent to the sites, the hedgerows present are connected to an extensive hedgerow network within the wider landscape, which in turn, are connected to multiple woodland pockets. However, the area directly impacted by the works is primarily composed of amenity garden and ornamental shrubs, which are unlikely to support hazel dormice. Therefore impacts to this area are considered unlikely to impact dormice, other than the low risk of impacting transient individuals commuting through the site.
<i>Foreseen Impacts</i>	The hedgerows on site will not be directly impacted by the works. No significant impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to dormice, further dormouse surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the dormouse hibernation season (November to March) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of dormice at the site. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where dormice could be present. • A pre-commencement inspection of the site will be undertaken for dormice. In the unlikely event that a dormouse or evidence of dormouse is identified, works must cease and advice must be sought from a suitably qualified ecologist.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	The site contains hedgerows, ornamental shrubs and areas of neutral grassland and amenity grassland. These habitats will provide good foraging and shelter to hedgehogs, which are considered likely to be present within, and foraging/commuting through, the site.

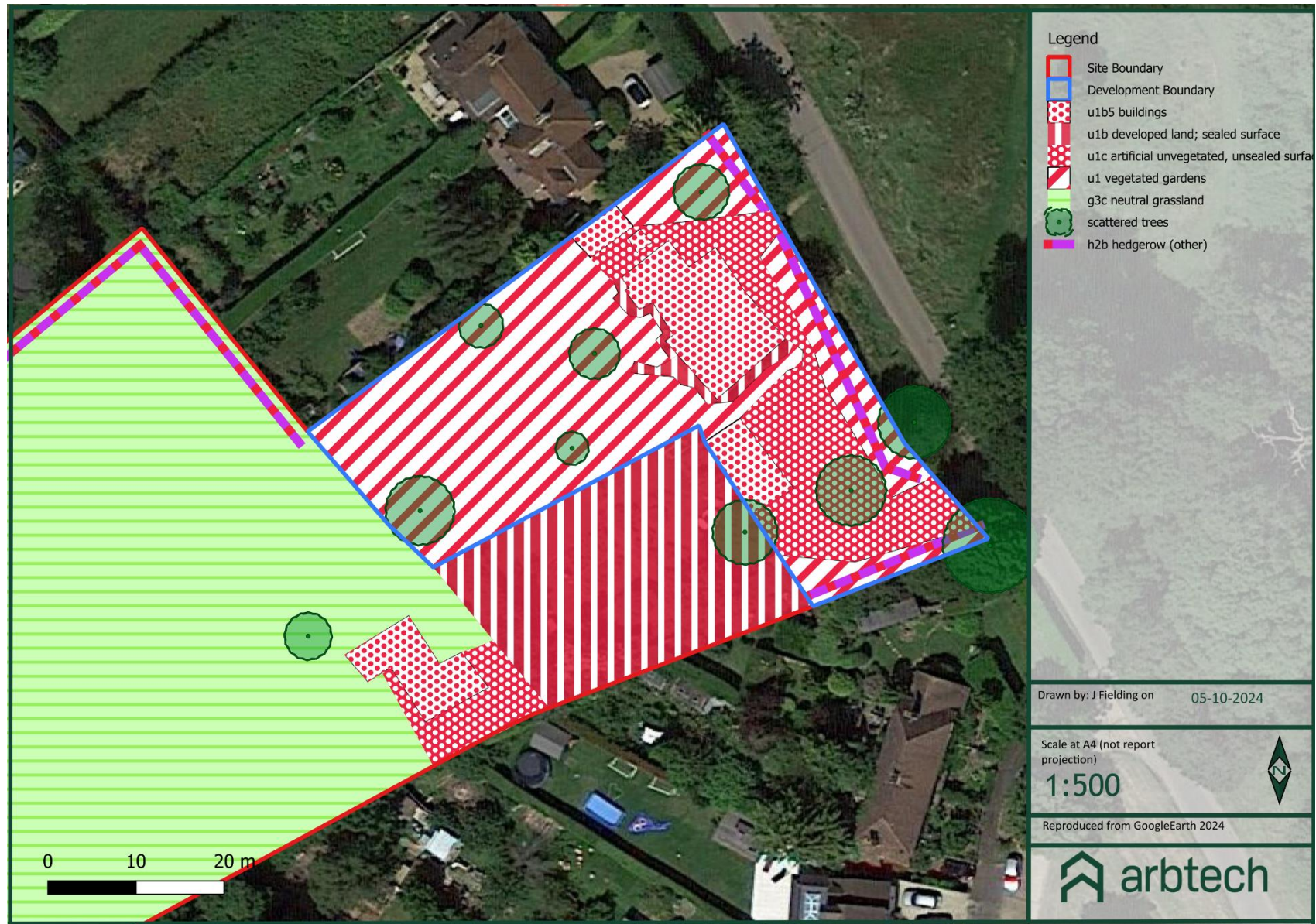
<i>Foreseen Impacts</i>	Small areas of garden will be impacted during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: • 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. Suggested biodiversity enhancements 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.

Appendix 1a: Bat survey map



Appendix 1b: Habitat maps





Appendix 2: Location map



Appendix 3: Proposed plan

To be updated.

Appendix 4: Photos

Figure 1: B1 western elevation



Figure 2: B1 western elevation



Figure 3: B1 western elevation, bay windows with raised lead flashing



Figure 4: B1 southern elevation with porch. Raised lead flashing circled in red



Figure 5: B1 south-eastern corner



Figure 6: B1 eastern elevation, southern corner



Figure 7: B1 eastern elevation, dormer window



Figure 8: B1 eastern elevation, cross-gable



Figure 9: B1 – B1 – northern loft space



Figure 10: B1 – southern loft space



Figure 11: B2 – western elevation



Circled in red – missing and raised tiles

Figure 12: B2 – northern elevation



Figure 13: B2 interior 	Figure 14: B2 interior 
Figure 15: Site rear garden 	Figure 16: Site rear garden 

Figure 17: Site southern garden area 	Figure 18: Site rear garden 
Figure 19: Site western garden 	Figure 20: Boundary hedgerow in site rear garden 

Figure 21: southern boundary hedgerow, grasses and small saplings in eastern field	Figure 22: eastern boundary hedgerow in western field
	
Figure 23: far western field	Figure 24: grasses in far western field
	

Figure 25: dug earth in western field



Figure 28: small sheds in wider site and areas of unsealed gravel



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