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Preliminary Ecological Appraisal

Survey site:
Land adjoining Liberty House, Strand Way, Lower Earley, Wokingham RG6 4EA

Client:
Reading Almshouse Charity

Survey date:
10th December 2024

Project:
This report is prepared to inform a planning application with Wokingham Borough Council. The proposal is described as:

- The erection of three blocks of housing, each comprising of six apartments with associated ancillary development, hardstanding, landscaping and footpaths.

PEA survey methodology and legislation can be found in the Arbtech Supplement: **PEA 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.

The site survey was undertaken by Katie Belbin BA (Hons), Graduate Ecologist and by Leah Cook Consultant Ecologist (Accredited Agent on Natural England Bat Licence Number: 2018-37888- CLS-CLS).					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
10/12/2024	10	85	100	4	None

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 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).**	
Summary of Survey Findings **(***UKHab codes used)* Modified grassland, frequently mown - [g4,108] Modified grassland, sward type mosaic - [g4,127] Spices-rich, native hedgerow – [h2a5] Non-native and ornamental hedgerow – [h2b]	**Site Context** The survey site is centred on National Grid Reference SU 75137 70182 and has an area of approximately 0.217ha. The site is characterised by a frequently mown grassland field. The site is dominated by modified grassland, along the northeastern boundary lies a species rich, native hedgerow, stretching along with southeastern boundary is a line of trees with a small area of bramble scrub and on the southwestern boundary comprises of a non – native hedgerow. The site is located within a urban context, ~5km southeast of Reading city centre. Aerial imagery shows the local landscape surrounding the site is a mosaic of residential properties and a few recreation grounds and parks to the west, north and east of the site and arable land to the south of the site. Parcels of deciduous woodland and coastal and floodplain grazing marsh are located in close proximity to the site, such features likely enhance the area for a variety of species, including bats, amphibians and reptiles. A location plan is provided in appendix 1. **On-site habitat descriptions**

Bramble scrub – [h3d] Scattered trees – [32] Built Linear Features, Fence - [u1e, 612]	Modified grassland, frequently mown - **[g4,108]** Modified grassland, sward type mosaic - **[g4,127]** Spices-rich, native hedgerow – **[h2a5]** Non-native and ornamental hedgerow – **[h2b]** Bramble scrub – **[h3d]** Scattered trees – **[32]** Built Linear Features, Fence - **[u1e, 612]** Modified grassland, frequently mown - [g4,108] – Figure 1-2 The majority of the grassland onsite comprises perennial ryegrass [D] (*Lolium perenne*), cock's foot [R] (*Dactylis glomerata*), cow parsley [F] (*Anthriscus sylvestris*), yarrow [F] (*Achillea millefolium*) and creeping buttercup [D] (*Ranunculus repens*).The height of the grass was extremely short (5cm-7cm) due to frequent mowing and land management. No scrub or bracken is present within the grassland and there is an absence of invasive species. Physical damage to the grassland is estimated at over 5% due to area of green waste made up of dead leaves and grass cuttings on the southern corner of the site. **Condition Assessment – Poor (See condition assessment results in Appendix 5).** Dead leaves and green waste Piles – Figure 11 On the southern corner of the site is an area of dead leaves and green waste, this provides a good refused and hibernation place for hedgehogs and reptiles. **Condition assessment – N/A.** Modified grassland, sward type mosaic - [g4,127] – Figure 3-4

	An area of grassland along the southeastern and northeastern boundary of the site is left unmanaged and features additional species of perennial ryegrass [D] (*Lolium perenne*), cock's foot [R] (*Dactylis glomerata*), cow parsley [F] (*Anthriscus sylvestris*), creeping buttercup [F] (*Ranunculus repens*), common ragwort [R] (*Jacobaea vulgaris*), common dandelion [O] (*Taraxacum officinale),* Spear thistle [O] (*Cirsium vulgare*), Yorkshire fog [A] (Holcus lanatus), common nettle [D] (*Urtica dioica*), cleavers [F] (*Galium aparine*), purple dead nettle [R] (*Lamium purpureum*), bitter dock [O] (*Rumex obtusifolius*). This area features a varied sward height and greater species diversity, also with no invasive species recorded. No bare ground or damage was present within this section of the grassland. **Condition Assessment – Moderate (See condition assessment results in Appendix 5).** <u>Spices-rich, native hedgerow – [h2a5] – Figure 5-6</u> A species-rich hedgerow is present on the northeastern boundary of the site. Species comprise European beech [D] (*Fagus sylvatica),* common hawthorn [F] *(Crataegus monogyna),* blackthorn [O] *(Prunus spinosa),* European horse-chestnut [R] *(Aesculus hippocastanum),* common hazel [F] (*Corylus avellana*), bramble [R] (Rubus fruticosus) and field maple [R] (*Acer campestre*). **Condition Assessment – Good (See condition assessments results in Appendix 5).** <u>Non-native and ornamental hedgerow – [h2b] – Figure 7-8</u> A hedgerow is present on the modified grassland on the southwestern boundary of the site. The hedgerow comprises entirely of laurel [D] (*Laurus nobilis*). **Condition Assessment - Poor (No assessment required; condition fixed at poor).** <u>Bramble scrub – [h3d] – Figure – 9</u>

In the understory of the line of trees on site, lies a small parcel of bramble scrub (Rubus fruticosus), located in the centre on the southeastern boundary of the site. It is predominantly surrounded by modified grassland towards the northwest and a public footpath on the southeast. The other woody species are listed below (line of trees) that are in and adjacent to this area of bramble, the scrub is mixed with a low number of grass species, including perennial ryegrass [D] (*Lolium perenne*), cock's foot [R] (*Dactylis glomerata*), cow parsley [F] (*Anthriscus sylvestris*) and yarrow [F] (*Achillea millefolium*).

Condition Assessment - Poor (No assessment required; condition fixed at poor).

Scattered Trees – [32] – Figure 10

Present on the southeastern boundary of the site are seven scattered trees, these consist of;

Table 1 – Trees within the redline boundary - Good (See condition assessments results in Appendix 5).

Tree Reference	Species	Height	DBH (Diameter at breast hight)	BNG Size	Condition Assessment
T1	European ash (*Fraxinus excelsior)*	5m	250mm in diameter	Small	Moderate
T2	European ash (*Fraxinus excelsior)*	6m	150mm in diameter	Small	Moderate
T3	Silver Birch (Betula pendula)	4m	7mm in diameter	Small	Moderate
T4	Field maple (*Acer campestre*)	9m	270cm in diameter	Small	Good
T5	Field maple (*Acer campestre*)	9m	200mm in diameter	Small	Good

T6	Field maple (*Acer campestre*)	9m	250mm in diameter	Small	Good
T7	Field maple (*Acer campestre*)	9m	150mm in diameter	Small	Good
T8	Field maple (*Acer campestre*)	6m	150mm in diameter	Small	Good

Built Linear Features, Fence - [u1e, 612] – Figure 12

A 2.5m metal chain link and concrete post fence runs along the northern boundary of the site.

Condition assessment – N/A.

Local notable habitats

There are no priority habitats within or immediately adjacent to the site. The closest priority habitats are parcels of deciduous woodland that are present approximately 380m towards the northwest of the site boundary as detailed in table 2 below. This habitat is disconnected by areas of urban dwellings and roads.

Table 2 – Priority habitats within 2km of site	
Priority Habitat	**Distance from Site (approx.)**
Deciduous woodland	Parcels located in all directions, the closest being ~380m west of the site.
Coastal and floodplain grazing marsh	Large parcels located towards the south and northeast, the closest being ~530m south of the site.
Traditional Orchards	Parcels located in all directions, the closest being ~650m east of the site.
Woodpasture and Parkland	Parcels located in towards the north and northwest, the closest being ~700m north of the site.
Ancient and Semi-natural Woodland	Parcels located in towards the north, northwest and the south, the closest being ~1km northwest of the site.

	Good quality semi-improved grassland	Single parcel located towards the southeast of the site the being ~1.1km.
Foreseen Impacts	**On-site habitats** The habitats on-site are widespread and not notable. The proposed development will result in the loss of modified grassland. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitat. All trees along the southern boundary of the site are owned by the council and are to be retained. **Notable habitats** No direct impacts to any notable habitats will occur as a result of the proposed development.	
Recommendations	**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). **Notable habitats** Best practice measures to minimise the possibility of pollution affecting the nearby woodland and orchard must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. **Biodiversity net gain** The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. Therefore, the planning application must be accompanied by a landscaping/habitat creation and enhancement strategy, biodiversity net gain calculations and a habitat management and monitoring plan to ensure the proposed development delivers a 10% net gain.	
Locality and Designated Sites		

Summary of Survey Findings

On-site designations

None required.

Statutory designated sites (within 2km)

There are no known statutory sites nearby. No national network sites (SAC, SPA, Ramsar, SSSI) are located within 2km however, the site lies within the impact risk zones for Lodge Wood & Sandford Mill (SSSI), Longmoor Bog (SSSI), Stanford End Mill and River Loddon (SSSI), Lodge Wood and Sandford Mill (SSSI) and Bramshill (SSSI). Proposed development type is not listed as a possible high risk with regard to this designation.

Statutory designated sites (within 10km)

There are thirteen national network sites (SAC, SPA, Ramsar, SSSI) located within 10km, as detailed in the table 3 below:

Table 3 – Statutory designated sites (within 10km)

Designated Site Name	Distance from Site (approx.)	Reason for Notification
Lodge Wood & Sandford Mill (SSSI)	~3.9km towards the northeast of the site.	This site consists of two small wet woodlands bordering the River Loddon, notable for large populations of the rare Loddon Lily. Although Lodge Wood is shown on Rocque's map of Berkshire in 1761 and may be an ancient woodland site, management has modified its original composition and structure. Both woodlands are dominated by alder and crack willow Salix fragilis, together with some ash. There is a relatively poorly developed understorey which includes hazel, dogwood, elder, blackthorn and red currant.

	Longmoor Bog (SSSI)	~5.5km towards the southwest of the site.	Longmoor Bog is a 14-hectare biological Site of Special Scientific Interest north of Finchampstead in Berkshire. This is mainly carr woodland, together with areas of wet heath and secondary mixed woodland. A small stream runs through the carr woodland, which has peat to a depth of more than a metre and the ground is covered by mosses. The wet heath is important for insects, such as the bog bush cricket, silver-studded blue butterfly, emperor dragonfly, waved black moth and wood ant.
	Stanford End Mill and River Loddon (SSSI)	~5.7km towards the southeast of the site.	The site comprises Stanford End Mill meadows, a series of traditionally-managed seasonally waterlogged hay meadows, and a 4km stretch of the River Loddon, a tributary of the River Thames. The site is of interest particularly for nationally important populations of two rare plants: the fritillary, a native bulb of unimproved damp meadows now mainly confined to scattered localities in southern Britain, and the Loddon pondweed, a very rare aquatic species for which this length of the River Loddon is the national stronghold.
	Bramshill (SSSI)	~6.9km towards the south of the site.	This site is notified for a series of shallow acid ponds and associated mire, which support a rich assemblage of dragonfly and damselfly, and rotationally felled conifer plantation, which provides habitat for internationally important populations of nightjar, woodlark and Dartford warbler.
	Chilterns -National Landscape	~7.8km towards the northwest of the site.	The Chilterns form the northwestern edge of the chalk aquifer that underlies the London basin. These soft rocks form a steep, northwest facing escarpment and a more gentle ‘dip slope’ to the southeast. Small streams flow

			through larger valleys on the dip slope and from the foot of the escarpment. The upper reaches of these streams are often dry. The River Thames cuts through the escarpment at the Goring Gap in the south.
	Heath Lake (SSSI)	~9km towards the southeast of the site.	The site consists of a small, shallow lake, surrounded by birch and pine woodland with areas of relict heathland. Heath Lake is a long-established open water habitat supporting specialist communities of native plants and animals. Of particular interest are populations of some uncommon and rare aquatic plant species.
	Wykery Copse (SSSI)	~9.9km towards the southeast of the site.	Wykery Copse is a fragment of ancient broadleaved woodland of a kind now drastically reduced in Berkshire, situated on London Clay on the fringe of Bracknell. It is exceptionally diverse for its size, in terms of both woodland stand-types and herbaceous flora, and it contains several rarities. Its interest is enhanced still further by the small stream which flows through it.
	Harsden Wood (SSSI)	~9.9km towards the north of the site.	Harpsden Wood supports a range of woodland stand types reflecting the underlying geology and has a rich flora with over 40 species associated with a long continuity of woodland cover. It also contains populations of plant species with a restricted distribution in the Oxfordshire Chilterns.
	North Wessex Downs - National Landscape	~10km towards the southwest of the site.	The AONB was created to give a protective coherence to one of the largest tracts of chalk downland in southern England and perhaps one of the least affected by development. The importance of the surviving downland habitat and ancient woodland is matched in this AONB by its huge archaeological significance.

	There are no SACs relating to bats within 10km of the site. **Non-statutory designated sites** The presence of non-statutory designated sites within 2km cannot be established without biological records data from The Royal Berkshire Archives (RBA).
Foreseen Impacts	**On-site designations** No impacts foreseen. **Statutory and non-statutory designated sites** The proposed development will not have any direct impacts to designated sites given the distance from statutory designated sites and the small-scale of the proposals and the physical barriers (e.g. rail lines and residential dwellings) between these. However, indirect effects such as pollution, increased dust levels and damage to trees could occur during construction.
Recommendations	**On-site designations** None required. **Statutory and non-statutory designated sites** Best practice measures to minimise the possibility of pollution affecting the nearby designated sites must be implemented during construction. The Local Planning Authority (LPA) will likely not be required to consult with Natural England regarding potential impacts to Sulham and Tidmarsh Woods and Meadows Site of Scientific Interest (SSSI) due to the proposed development not being listed as a possible high risk to these designated sites.

Invasive / Non-native species	
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.
Foreseen Impacts	None foreseen.
Recommendations	No further surveys but remain vigilant.
Invertebrates	
Summary of Survey Findings	The habitats present on-site, including modified grassland, bramble shrubs, hedgerows and line of 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.
Foreseen Impacts	Modified grassland 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.
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 five EPSL within a 2km radius of site as detailed below in table 4 –

Table 4 – Bat granted EPSLs

EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence
2020-49081-EPS-NSIP1	Soprano pipistrelle and Daubenton's bat	~0.85km southeast of the site.	Damage to a breeding and resting place
EPSM2011-3341	Common pipistrelle and brown long-eared bats	~1km southwest of the site.	Destruction of a resting place
EPSM2012-4390	Brown long-eared bats	~1.5km northeast of the site.	Destruction to a breeding and resting place

	EPSM2013-6069	Common pipistrelle, Soprano pipistrelle and Brown long-eared bats	~1.8km southwest of the site.	Destruction of a resting place
	2014-535-EPS-MIT 1 - 3	Common pipistrelle, soprano pipistrelle and brown long-eared Bats	~1.8km southwest of the site.	Damage and destruction to a resting place

Foraging and commuting habitat

Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of unmanaged margins modified grassland and scattered 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 tree line adjacent to the 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 [Trees]
The line of trees on the southeastern boundary are not currently due to be impacted with the proposed development however, they were still assessed for their suitability to support roosting bats due to the close proximity to the site. No evidence of roosting bats was identified on any of the surveyed trees on-site. No bat roosting features were identified on any of the remining trees surveyed. These trees have **negligible** suitability for roosting bats (Collins, 2023).

Foreseen Impacts	**Roosting habitat [Trees]** No impacts foreseen. **Foraging and commuting habitat**

	The proposed development will result in the loss of areas of modified grassland and a small area of scrub 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 may lead to an increase in the amount of current lighting of surrounding habitats or the without mitigation. This may disturb commuting bats.
Recommendations	**Foraging and commuting habitat** The proposed development will result in the loss of small areas of modified grassland but given its 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** 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** The installation of a single integrated bat box /brick, or bat tile will need to be incorporated into each new building during the works. The installation of one bat box at the site will provide additional roosting habitat for bats. • The bat box will be a specification suitable crevice dwelling due to the activity on site, such as the “Vivara Pro WoodStone Bat Box”, or a similar alternative brand. Bat boxes need to be positioned 3-5m above ground level, facing in a south or south-westerly direction, with a clear flight path to and from the entrance, and away from artificial light.

Birds	
Summary of Survey Findings	No evidence of nesting birds was found on site during the surveys; however, birds could use the line of trees and small parcel of bramble scrub on site for nesting. No habitat for schedule 1 birds was observed.
Foreseen Impacts	The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests, due to the small, scattered trees on site.
Recommendations	Any 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. **Suggested biodiversity enhancements** The installation of three swift bricks on the proposed building this will provide additional nesting habitat for birds. The installation of two integrated swift bricks on the proposed building (e.g Ibstock Swift Eco Habitat or similar alternative brand) at the site will replace nesting habitat for birds in line with the measures outlines in the British Standard "Integral next boxes. Selection and installation for new developments. Specification" (BS 42021:2023)_Swift bricks should be integrated into the fabric of the building during conversion. Boxes should be positioned close together (0.6-1.0m between bricks) as swifts prefer to nest gregariously. The boxes should be places at least 5m above ground level under the eaves of a building, on a north or east elevation, where they will be sheltered from prevailing wind, rain and strong sunlight. To be suitable for swifts, the bricks require an open aspect with no trees or large shrubs potentially obstructing the birds flight path up to 5m from the brick. Swift bricks are a "universal nest brick" for small bird species, including red-listed species such as common swift, house sparrow, house martin and starling.
Reptiles	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site.

	Habitat suitability The site predominantly comprises modified grassland that is subject to regular mowing, maintaining a short sward height (5cm-7cm). This intensive management regime significantly reduces habitat suitability for reptiles by limiting structural diversity. Essential features such as taller vegetation for shelter, and sufficient foraging resources are largely absent. Additionally, the site's urban context presents substantial barriers to reptile dispersal and connectivity. Surrounding habitats primarily consist of residential developments, roads, and fenced gardens, which, while providing some habitat value, are fragmented by urban infrastructure. This isolation restricts the movement of reptiles between patches of suitable habitat. While the site's unmanaged margins or localized features (e.g., deadwood or waste piles) may offer limited refugia or basking opportunities (Figure 11), the overall habitat quality and landscape connectivity are suboptimal for reptiles. As a result, the managed grassland is unlikely to support reptiles beyond occasional transient individuals.
Foreseen Impacts	Suboptimal grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value. 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 (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 advise 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	
Summary of Survey Findings	**EPSL and survey data** A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. Further, no positive class survey licence return or DLL historic survey data (2017 – 2019) were present within 2km of the site. **Aquatic habitat suitability (including ponds within 500m)** 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). No ponds are present on site or within 500m of the site, according to aerial imagery and the MAGIC database. **Terrestrial habitat suitability** Areas of scrub and grassland may provide foraging and sheltering opportunities for amphibians. No hibernation opportunities were identified on-site.
Foreseen Impacts	Given the lack of suitably connected breeding ponds within 500m of the site, the presence of GCN on-site is considered unlikely and therefore impacts to amphibians as a result of the proposed development are deemed to be acceptably low However, while unlikely, common amphibian species may still be present on-site during works which could be injured or killed without mitigation.
Recommendations	None required. **Suggested biodiversity enhancements**

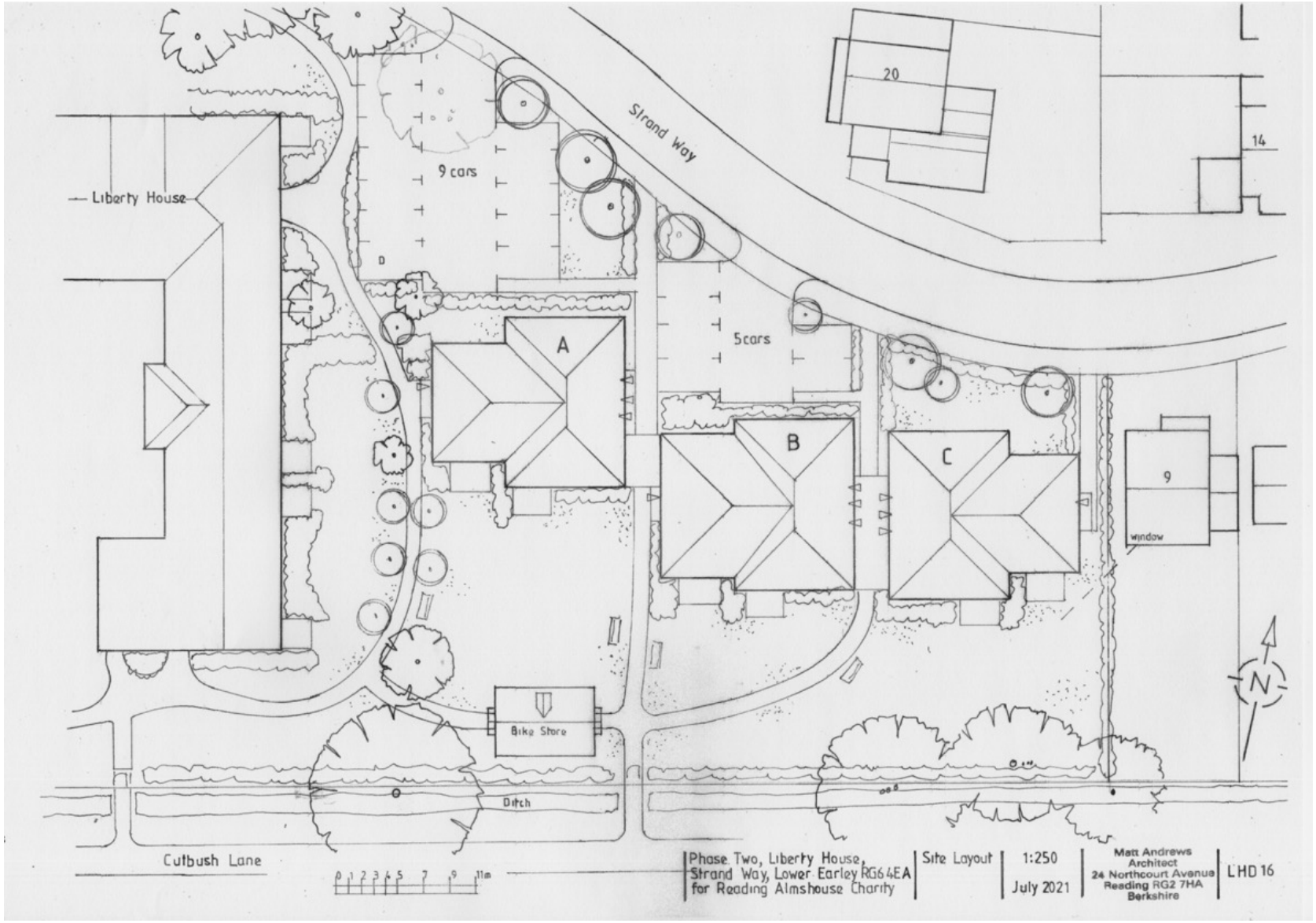
	The site could be enhanced for amphibians' post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
Summary of Survey Findings	No badger setts were noted on site or within a 30m radius of the site. The site is considered unsuitable for badgers given the lack of suitable sett excavation areas/ground. Further, there is limited suitable badger foraging habitat on site given the lack of fruiting trees/scrub and the topography of the site is broadly level. The site is also surrounding by urban development (i.e. roads and buildings), which is sub-optimal habitat therefore reducing the likelihood of badgers being present within the surrounding area of the site.
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Modified 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.
Recommendations	None required. **Suggested biodiversity enhancements** Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
Riparian animals	
Summary of Survey Findings	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.
Foreseen Impacts	No impacts are anticipated on riparian animals as a result of the proposed development.
Recommendations	None required.
Hazel dormouse	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site.

	Habitat suitability The site lies outside of the know current range for hazel dormice and there are no suitable habitats within the development area. As such it is considered likely that hazel dormice are absent from site. Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. As such habitats on site are considered unsuitable for hazel dormice and therefore the likelihood of this species being present on site is considered acceptably low. There are no dormouse European Protected Species License (EPSL) within 4km.
Foreseen Impacts	No impacts are anticipated on hazel dormice as a result of the proposed development.
Recommendations	None foreseen.
Other e.g. hedgehog	
Summary of Survey Findings	The ruderal herb onsite provides limited foraging and commuting opportunities for hedgehogs, with woodland habitat nearby. On the southern corner of the site lies a small area of dead leaves and green waste this provides a good refused and hibernation place for hedgehogs (Figure 11)
Foreseen Impacts	No impacts are anticipated on hedgehogs as a result of the proposed development.
Recommendations	None required. **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 1: Survey/Habitat map

Appendix 2: Location map

Appendix 3: Proposed plan



Appendix 4: Photos

Photograph	Description
	**Figure 1 – View of the site the from the southern corner, comprising of modified mowed grassland.**
Photograph	**Description**
	**Figure 2 - View of the site the from the southern corner, comprising of mowed modified grassland.**

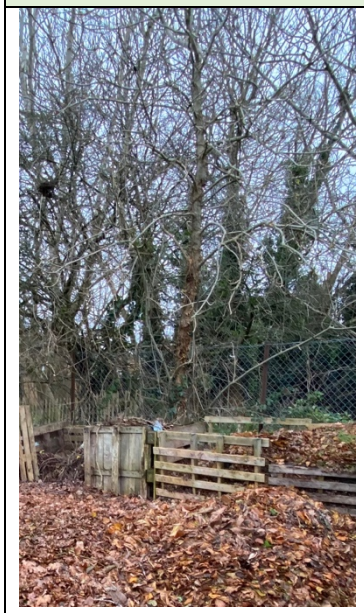
Photograph	Description
	**Figure 3 - View of the site the from the southeastern corner, comprising of unmanaged modified grassland and line of trees.**
Photograph	**Description**
	**Figure 4 - View of the site the from the southeastern corner, comprising of unmanaged modified grassland and native hedgerow.**

Photograph	Description
	**Figure 5 - View of the site the from the southeastern corner towards the west, comprising of unmanaged modified grassland and native hedgerow.**
Photograph	**Description**
	**Figure 6 - View of the site the from the northwestern corner towards the north, comprising of unmanaged modified grassland and native hedgerow.**

Photograph	Description
	**Figure 7 - View of the site the from the southern corner towards the west, comprising of mown modified grassland and non-native hedgerow.**
Photograph	**Description**
	**Figure 8 - View of the site the from the northeastern boundary towards the west, comprising of mown modified grassland and non-native hedgerow.**

Photograph	Description
	**Figure 9 – Bramble scrub located on the southeastern boundary of the site.**
Photograph	**Description**
	**Figure 10 – Scattered trees [32] located on the southeastern boundary of the site.**

Photograph	Description
	**Figure 11 – Dead leaves and green waste located on the southwestern corner of the site.**
Photograph	**Description**
	**Figure 12 - A 2.5m metal chain link and concrete post fence runs along the northern boundary of the site.**

Photograph	Description
 	**Figure 13 – T1 located on the southern boundary of the site.** **Figure 14 – T2 located on the southern boundary of the site.**
Photograph	**Description**
	**Figure 15 – T3 – T7 located on the southern boundary of the site.**

Appendix 5: Condition Assessments

Modified grassland, frequently mown - [g4,108]					
Condition Assessment Criteria		**Criterion passed (Yes or No)**	**Condition Assessment Result**	**Metric Score**	**Score Achieved ×/✓**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	N	**Good** Passes 6 or 7 criteria including passing essential criterion A	3	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	**Moderate** Passes 4 or 5 criteria including passing essential criterion A	2	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).	Y	**Poor** Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	1	✓
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	**Score achieved:**		POOR
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y			

Modified grassland, sward type mosaic - [g4,127]					
Condition Assessment Criteria		**Criterion passed (Yes or No)**	**Condition Assessment Result**	**Metric Score**	**Score Achieved ×/✓**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	Y	**Good** Passes 6 or 7 criteria including passing essential criterion A	3	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	**Moderate** Passes 4 or 5 criteria including passing essential criterion A	2	✓
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).	N	**Poor** Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	1	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	**Score achieved:**		MODERATE
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y			

Attributes and functional groupings (A, B, C, D and E)		Spices-rich, native hedgerow – [h2a5] Criteria - the minimum requirements for 'favourable condition'	Criterion passed (Yes or No)	Condition Assessment Result	Metric Score	Score Achieved ×/✓
Core groups - applicable to all hedgerow types						
A1.	Height	>1.5 m average along length	Y	Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	✓
A2.	Width	>1.5 m average along length	N	Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	Y	Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	N	Score Achieved:		**GOOD**
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Y			
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Y			
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Y			
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Y			

Condition Assessment Criteria – Individual Trees						Condition Assessment Result	Metric Score	Score Achieved ×/✓
		T1	**T2**	**T3**	**T4-T8**	Good Passes 5 or 6 criteria	3	✓
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	Y	Y			
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	N	N	N	Y	Moderate Passes 3 or 4 criteria	2	✓
						Poor Passes 2 or fewer criteria	1	✓
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	N	Y	**Score achieved:**		
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N	Y	Y	Y			
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N			
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y			
Number of criteria passed		3 - Mod	4 - Mod	3 - Mod	5 - Good			

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