

Preliminary Ecological Appraisal



Amethyst Lane

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

Revision History

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Summary

RSK ADAS Ltd were instructed to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Appraisal (PRA) of the site on Amethyst Lane, Reading, Berkshire (OS Grid Ref. SU 69488 72676) for Reading Borough Council. The survey is required to allow the architect to fully understand all site constraints and to help with design development for the construction of 2 to 3 bed homes to the north of the site. The number of homes is dependent on outcome and constraints of this report. The southern part of the site being a respite centre (adult care) with associated garden, amenity space, visitor access and parking. The current works are in RIBA Stage 1-2.

The site is approximately 0.48 ha in size a contained 3 buildings and 3 outbuildings within the site boundary. The dominate habitat was bare ground in the form of hardstanding. Other habitats on site include, broadleaved plantation woodland, improved grassland, amenity grassland, ephemeral/short perennial vegetation, introduced shrub, species-poor hedge with trees and scrub.

The buildings on site offered opportunities for roosting bats and nesting birds, with missing tiles, holes in wooden soffits and facias and gaps in the mortar, which provided potential access points into the interior of the building. Bats were confirmed within Building 3 with bat droppings found on the exterior and within the interior of the building. No evidence of bats was found within the other buildings on site, however, Building 1 was deemed 'highly' suitable for bats and Building 2 as 'moderate' suitability for bats. Three bat surveys will be needed for Building 1 and 3 and two surveys will be needed for Building 2.

Evidence of Badger was found within the north of the site with one Badger sett located in the north-east of the site and latrines found within the north-east and north-west of the site. Evidenced found during the survey suggests that the sett is not currently active, however, pre-works Badger checks would need to be completed before work commence.

A mammal den/burrow was identified under Building 2 during the phase 1 survey. Evidence of feeding signs were found adjacent to the burrow; no other signs of activity were found during the survey. It is recommended that monitoring be completed of the mammal den to understand activity levels. The use of camera traps to monitor the area over 1 month has been recommended with a weekly check of the camera checks. The den should be closed before work commence.

There is scope to enhance the site for protected / notable species through the measures included within this report, such as the provision of bat boxes and bird boxes, refugia creation, and native planting to promote biodiversity.

Based on the baseline ecological features of the site and the proposed avoidance, mitigation and enhancement measures set out within this report, it is considered that the proposed development will be in-line with the National Planning Policy Framework (NPPF, 2018) and The Reading Borough Local Plan, the site would be expected to achieve biodiversity net gain.

Summary of Further Survey or Actions

The table below provides information on further surveys, mitigation measures and enhancement measures to be undertaken on-site.

Survey/Action	Rationale	When
Emergence/re-entry bat surveys	Building 3 has a confirmed bat presence and Building 1 and 2 have a 'high' and 'moderate' suitability for bats.	Pre-construction: Surveys will need to be between May and September. With three surveys on Building 1 and 3 and two surveys on Building 2.
Pre works Badger check and Sett closure	A Badger sett is located in the north of the site. During the time of the survey, there were no signs of current activity. Before work commences sett will need to be checked for activity and then closed before work can begin. If the sett is active a licence will need to be applied for from Natural England	Pre-construction: Sett check can take place at any time of year. Closure of an active sett can only take place from July to November as the breeding season runs from December to June
Nesting bird check	The site contains suitable habitat for common nesting birds.	Pre-construction: Checks are required for any vegetation removal undertaken between March and August inclusive, no more than 24 hours in advance.
Mammal monitoring and closure of den/burrow	A mammal den/burrow was found during phase 1 under Building 2. Monitoring of the den is required to understand if the den is active. The den will need to be closed before works begin	Pre-construction: Monitoring needs to happen over 1 month with weekly checking of camera traps.
Sensitive lighting scheme	The site is likely to support commuting and foraging bats therefore, a sensitive lighting strategy should be designed to avoid light spilling onto key areas of habitat, within and adjacent to the site.	Design and Construction Phase.

Survey/Action	Rationale	When
Installation of eight bird boxes	The works are likely to impact the amount of available nesting bird habitat on site to compensate for these eight bird boxes should be installed around the site	Post-construction.
Creation of artificial hibernacula	The site is likely to support common invertebrates, hedgehogs (and other small mammals), reptiles, and amphibians, the addition of these features will provide enhancements in line with the NPPF and the Local Plan.	Construction Phase.
Native species planting scheme	It is recommended that all areas of soft landscaping incorporate native and diverse species of grass, tree and shrub. Such as meadow seed mixes and fruit/seeds and nectar/pollen bearing plants. This will increase the available foraging habitat for invertebrates, birds and other species. Any Butterfly bush (<i>Buddleia davidii</i>) on-site should be left in situ where possible.	Design, Construction and Operational Phase.
Biodiversity Impact Calculations	In order to comply with The Reading Borough Council Local Plan, evidence will need to be provided to show that the development will achieve a net gain in biodiversity on site. Therefore, it is recommended that Biodiversity Impact Calculations are carried out in order to demonstrate this.	Design Phase.

1 Introduction

1.1 Background and Survey Objectives

ADAS was commissioned by Richard Deacon of Gleeds Cost Management Ltd on behalf of Reading Borough Council to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of land and three buildings located near Amethyst Lane, Reading RG30 2EZ (central OS grid reference: SU 69488 72676). The current works are in RIBA Stage 1-2 and the PEA is required to allow the Architect to fully understand all site constraints to help with design development.

The aim of the PEA is to identify ecological constraints to the proposed works and make recommendations for mitigation or opportunities for enhancement that can be incorporated into the design. The PEA also makes recommendations for further surveys, as required.

The report has been prepared in accordance with guidance produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) and the British Standard 42020:2013.

The objectives of this report are:

- *To identify designated nature conservation sites within the vicinity of the site;*
- *To identify any records and/or populations of protected, notable or scarce species in the vicinity of the site;*
- *To record habitats or features of ecological interest within or in immediate proximity to the site;*
- *To record the presence of, or potential for, protected or notable species;*
- *To make an ecological assessment and highlight potential ecological constraints;*
- *To outline any further survey work and potential protected species requirements if relevant; and*
- *To make suggestions for avoidance, mitigation compensation and enhancements in line with planning policies where appropriate.*

1.2 Site Description

The site is located within West Reading, Berkshire and was approximately 0.48 ha (central grid reference SU 69488 72676). The site consisted of one red brick, two-storey building in poor condition (Building 1) and two larger brick and mortar, one-storey buildings in good condition (Buildings 2 and 3) with accompanying car parking. Around the borders of the site were areas of amenity grassland and scrub. The wider landscape consisted of a residential area on all sides and a large area of parkland to the west.



Figure 1. Site location and wider landscape (site indicated by red line boundary)

Imagery taken from ADAS Mapping Tool. October 2022.

1.3 Description of the Proposed Development

As the proposed works are currently at RIBA stage 1-2, the full scale of the proposed works is as yet unknown. However, the current understanding is that the proposed works will include the construction of 2-3 bed homes to the north of the site with the southern part of the site being a respite centre (adult care) with associated garden, amenity space, visitor access and parking. As the full design plans are incomplete at this time the number of homes planned are not know at this time.

The current plans will involve the demolition of all existing buildings on site and will require clearance of the overgrown vegetation on site. The current works are anticipated to begin in August 2023.

2 Methods

2.1 Desk Study

A desk study was carried out on 06 October 2022 to identify statutory designated sites within a 5 km radius and non-statutory designated sites of nature conservation importance, together with known records of protected and other notable species, within a 2 km radius of the proposed development. A 10 km search for Special Areas of Conservation (SACs) designated for bats was also completed as part of the desk study.

Multi-Agency Geographic Information for the Countryside (MAGIC) was used to derive information relating to the location of statutory designated sites and priority habitats.

Thames Valley Environmental Records Centre (TVERC) provided details of non-statutory designated sites of nature conservation importance and records of protected and other notable species.

It is important to note that most species are greatly under-recorded and therefore a lack of records for a location should not be taken as an absence of the species concerned. Furthermore, a record for a particular habitat or species does not necessarily confirm its current presence.

2.2 Field Survey

2.2.1 Extended Phase 1 Habitat Survey

A Phase 1 Habitat Survey was conducted on 08 October 2022 by Assistant Ecological Consultant Rachel Richards BSc (Hons) based on the techniques and methodologies described in the Handbook for Phase 1 Habitat Survey (JNCC, 2010) and using standard nomenclature (Stace, 2019). The habitats present were recorded on a field map with written target notes providing supplementary information on, for example, species composition structure and management where relevant.

This was extended to include notes on fauna and habitats which could potentially support protected species, an approach commonly referred to as an Extended Phase 1 Habitat Survey. The presence of, or potential for, protected species was noted on the field map during the survey.

2.2.2 Preliminary Roost Assessment

A PRA was carried out by Assistant Ecological Consultant Rachel Richards BSc (Hons) and Assistant Ecological Consultant Amelia McCormack MSc, on all buildings considered to be directly or indirectly impacted by the proposed development. This involved systematically checking the exterior, and the interior of buildings where access was granted, identifying and classifying any features or structures suitable for bat roosts, entry/exit points, including evidence of bats such as droppings or feeding remains.

Each building was assessed for suitability to support roosting bats and categorised as negligible, low, moderate or high, based on the Bat Conservation Trust (BCT) guidelines (Collins, 2016, see Table 1 below).

Equipment used during the building inspection included binoculars and a handheld LED torch.

Table 1: BCT guidelines for assessing the potential suitability of structures for roosting bats, based on features present and using professional judgement

Suitability	Description of Roosting Habitats
Negligible	While presence cannot be absolutely discounted there are no suitable features likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, they do not provide enough space, shelter, protection, appropriate conditions and / or suitable surrounding habitat to be used on a regular basis by a large number of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.3 Assessment and Evaluation

The importance of the features on site were assessed and defined in a geographical context (see Appendix 1). The frame of reference for the habitat features in terms of their geographical importance is in line with the guidance set out in CIEEM, 2018.

Species are assessed, where appropriate, against best practice guidelines.

As part of the evaluation further surveys may be recommended based on the suitability of habitats to support protected species, the habitats themselves and potential impacts posed by the proposed development and the legal protection afforded to both habitats and species.

2.4 Zone of Influence

The assessment conducted for this report has considered the area in which ecological features could be subject to significant effects from the proposed development. The area of the potential effects is often wider than the actual perimeter of the development site and is known as the Zone of Influence.

The Zone of Influence varies for different ecological features and each designated site, habitat and species has been considered in relation to their sensitivity to the proposed development.

- *Statutory designated sites – 5 km and 10 km for SAC for bats*
- *Non-statutory designated sites – 2 km*

- *Badgers (Meles meles) – 50 m*
- *Birds (nests) – 5 m*
- *Reptiles – site*

2.5 Mitigation Hierarchy

The main aim of the PEA is to inform the client of the potential impacts on ecological features and what next steps are needed to manage these. In order to achieve this, aim the mitigation hierarchy should be adopted so that the following applies:

- **Avoidance** - *Ecological features of importance should be avoided in the first instance through the design process by either designing around them, alternative design or even an alternative location.*
- **Mitigation** – *Adverse impacts that cannot be avoided should be adequately mitigated for to minimise negative impacts on the ecological features. Mitigation measures can either be implemented during the design process or construction phase.*
- **Compensation** – *This should only be used in exceptional circumstances or as a last resort, after all options for avoidance and mitigation have been fully considered. Compensation therefore can be applied to any residual impacts that cannot be avoided or mitigated.*
- **Enhancements** - *Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.*

2.6 Limitations

The site has had no management for a number of years, so in many places the vegetation has become very overgrown and dense, making some sections of the search difficult to survey. However, this did not impact the overall results of the survey as most of the site was full assessable.

Due to the condition of the building, no internal access was possible for Building 1. Within Building 2 access was possible to the internal however, to access to the roof void was not possible.

A small section of grassland behind Building 3 could not be accessed at the time of the survey however, the habitat could be view over a fence, so observations were taken this way.

3 Baseline Ecological Conditions

3.1 Desk Study

Six statutory sites were located within 5 km of the site including two Areas of Outstanding Natural Beauty (AONB) and four Local Nature Reserves (LNR) and nine non-statutory sites were located within 2 km of the site. All nine of the non-statutory sites were Local Wildlife Sites (LWS). See Table 2 below and Appendix 3 for further details.

Table 2: Statutory and non-statutory designated sites within 5 km and 2 km of the survey site

Site Name	Description	Designations	Distance and direction from the site
Statutory Designated Sites			
Lousehill Copse	A remnant of ancient woodland, in the residential area of Tilehurst, is dominated by a broadleaf canopy and mixed shrub layer. The Semi-ancient woodland is surrounded by housing.	LNR	1.5 km NW
Round Copse	Adjacent to and joining McIlroy Park, Round Copse is a dense woodland of approximately 1.7 ha.	LNR	2.2 km NW
Blundell's Copse	Blundell's Copse is a Wildlife Heritage Site and Local Nature Reserve comprising 13 acres of close-growing, ancient woodland	LNR	2.3 km W
McIlroy Park	An extensive natural park and woodland situated in a dense housing area. Its composition is mainly grassland with a mature woodland border.	LNR	2.8 km NW
North Wessex Downs	A nationally significant area of chalk grassland including rare flora, with substantial areas of broadleaved woodland and wood pasture	AONB	3.1 km N
Chilterns	The Chilterns contain an important diversity of habitats ranging from chalk grassland to the country's most extensive areas of beech woodland.	AONB	4.9 km W
Non-statutory Designated Sites			
Prospect park (includes The Rookery)	Prospect Park is a historic parkland site in the heart of Reading mainly consisting of closely mown amenity grassland and associated public amenities. The Rookery is a small area of lowland mixed deciduous woodland sitting on a small plateau raised above the surrounding Prospect Park to the south.	LWS	0.68 km W

Site Name	Description	Designations	Distance and direction from the site
Holy brook	This site was originally designated as a number of separate sites which have now been combined. The Holy Brook is a stream that carries water from and empties back into the River Kennet, a chalk river.	LWS	1.20 km SE
Fobney & Kennet valley meadows complex	This site is comprised of a series of meadows within the Fobney & Kennet valley floodplain. Habitats range from mesic grassland through wetter grasslands to swamps and are dissected by drainage ditches variously associated with hedgerows and trees.	LWS	1.24 km S
Meadway fringe	Consists of broad-leaved woodland and species-rich unimproved grassland located within a residential area.	LWS	1.28 km W
Cow Lane Depot	A small isolated, triangular site bounded by a railway track, situated towards the centre of Reading. The site forms a mosaic of habitats ranging from scrub with mature trees, to open standing water with the swamp to ruderal and tall herb grassland	LWS	1.53 km NE
Lousehill copse	The site consists of three parcels of lowland mixed deciduous woodland within the urban area of Reading. An area of grassland and scattered scrub to the east of the woodland was added as an extension to the site in 2022	LWS	1.56 km NW
Fobney island	The habitats on the island comprise created standing water bodies bounded by grassland and tall ruderal-based habitats and a wetland mosaic dedicated to wildlife	LWS	1.68 km SE
River kennet / kennet & Avon canal	This stretch of the River Kennet and the Kennet and Avon Canal runs from Southcote Lock, south-east of Reading, to Waterloo Meadows (adjacent to Edgar Road), near the centre of Reading. The River Kennet has a whole contains sections of high-quality chalk rivers. Marginal vegetation is variable along the length of the site, with some sections being more diverse than others. The area south of Fobney Island nature reserve is particularly diverse	LWS	2.01 km S
Burghfield gravel pits	An extensive area of gravel pits with well-developed wooded areas, islands and marginal vegetation. This area attracts a good variety of wildfowl and other birds including Wildlife and Countryside Act Schedule 1 species as well as uncommon passage migrants	LWS	2.48 km SW

Table 3 presents the results of the biological records search.

Table 3: Records of selected protected or notable species within 2 km of the site

Species	Designation	Date	Distance from site (km)	Approx. location
Barn Owl (<i>Tyto alba</i>)	WCA1	26/09/2017	1.74	Fobney Meadow, Reading
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	BOCC Amber	30/12/2020	1.44	Caversham
Black Redstart (<i>Phoenicurus ochruros</i>)	WCA1, BOCC amber	04/05/2014	1.57	Friar Street, Reading
Bullfinch (<i>Pyrrhula pyrrhula</i>)	NercS41, BOCC amber	12/12/2017	1.74	Fobney Meadow, Reading
Cetti's Warbler (<i>Cettia cetti</i>)	WCA1	15/01/2020	1.74	Fobney Island
Cuckoo (<i>Cuculus canorus</i>)	NercS41, BOCC amber	13/04/2017	1.73	Southcote Meadows
Dartford Warbler (<i>Curruca undata</i>)	EPS, WCA1, BOCC amber	02/11/2015	1.74	Fobney Island
Dunnoek (<i>Prunella modularis</i>)	NercS41, BOCC amber	11/03/2020	1.65	Lousehill Copse
Fieldfare (<i>Turdus pilaris</i>)	WCA1, BOCC red	01/03/2018	1.51	Reading
Hobby (<i>Falco subbuteo</i>)	WCA1	20/07/2017	1.74	Fobney Meadow, Reading
House Martin (<i>Delichon urbicum</i>)	BOCC red	23/05/2018	1.44	Reading
House Sparrow (<i>Passer domesticus</i>)	NercS41, BOCC red	03/06/2017	1.68	Fobney Island
Kestrel (<i>Falco tinnunculus</i>)	BOCC amber	25/05/2017	1.73	Southcote Meadows
Kingfisher (<i>Alcedo atthis</i>)	EPS, WCA1	10/11/2017	1.74	Fobney Lock, K&A Canal, Reading
Lapwing (<i>Vanellus vanellus</i>)	NercS41, BOCC red	30/08/2017	1.74	Fobney Meadow, Reading
Lesser Spotted Woodpecker (<i>Dryobates minor</i>)	NercS41, BOCC red	07/04/2017	1.74	Fobney Meadow, Reading

Species	Designation	Date	Distance from site (km)	Approx. location
Mistle Thrush (<i>Turdus viscivorus</i>)	BOCC red	26/09/2017	1.61	Prospect Park, Reading
Nightingale (<i>Luscinia megarhynchos</i>)	BOCC red	23/05/2018	1.44	Reading
Peregrine (<i>Falco peregrinus</i>)	EPS, WCA1	09/11/2017	1.74	Fobney Meadow, Reading
Red Kite (<i>Milvus milvus</i>)	ESP, WCA1	29/03/2018	1.56	Lousehill Copse
Redwing (<i>Turdus iliacus</i>)	WCA1, BOCC amber	15/10/2017	1.73	Southcote Meadows
Rook (<i>Corvus frugilegus</i>)	BOCC amber	29/03/2013	1.74	Fobney Lock, K&A Canal, Reading
Short-eared Owl (<i>Asio flammeus</i>)	BOCC Amber	04/11/2015	1.74	Fobney Island
Skylark (<i>Alauda arvensis</i>)	NercS41, BOCC red	08/10/2016	1.74	Reading
Sparrowhawk (<i>Accipiter nisus</i>)	BOCC amber	11/03/2020	1.65	Lousehill Copse
Spotted Flycatcher (<i>Muscicapa striata</i>)	NercS41, BOCC red	26/09/2017	1.61	Prospect Park, Reading
Tawny Owl (<i>Strix aluco</i>)	BOCC amber	15/10/2017	1.73	Southcote Meadows
Yellow Wagtail (<i>Motacilla flava</i>)	NercS41, BOCC red	24/04/2017	1.74	Fobney Meadow, Reading
Brown Long-eared Bat (<i>Plecotus auratus</i>)	EPS, WCA5, NercS41	12/02/2020	1.92	8 Riley Road, Tilehurst: roof void, beneath ridge beam S facing wall
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	EPS, WCA5	05/08/2020	0.17	Dellwood Hospital, Liebenrood Rd, Tilehurst: Roof tile, western elevation, north aspect
Daubenton's Bat (<i>Myotis daubentonii</i>)	EPS, WCA5	12/07/2018	1.65	Lousehill Copse
Leisler's bat (<i>Nyctalus leisleri</i>)	EPS, WCA5	03/09/2020	0.08	Dellwood Hospital, Liebenrood Rd, Tilehurst

Species	Designation	Date	Distance from site (km)	Approx. location
Noctule (<i>Nyctalus noctule</i>)	EPS, WCA5, NercS41	23/07/2020	1.93	45 Caversham Rd, Reading: Over Building 2
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	EPS, WCA5, NercS41	26/08/2019	0.49	114 Southcote Lane, Reading
Eurasian Badger (<i>Meles meles</i>)	BPA	16/04/2021	1.66	Lousehill Copse
Eurasian Otter (<i>Lutra lutra</i>)	EPS, WCA5, NercS41	13/12/2020	1.95	Kennet & Avon Canal, Reading
European Water Vole (<i>Arvicola amphibius</i>)	WCA5, NercS41	15/06/2020	1.84	River Kennet and The Kennet & Avon Canal
Harvest Mouse (<i>Micromys minutus</i>)	NercS41	18/10/2017	1.80	Fobney Island
West European Hedgehog (<i>Erinaceus europaeus</i>)	NercS41	21/03/2020	0.76	Wilson Road
Common Lizard (<i>Zootoca vivipara</i>)	WCA5, NercS41	10/05/2013	1.47	Reading
Grass Snake (<i>Natrix helvetica</i>)	WCA5, NercS41	15/06/2020	1.43	River Kennet and The Kennet & Avon Canal
Slow worm (<i>Anguis fragilis</i>)	WCA5, NercS41	12/09/2019	1.74	Lousehill Copse
Common Frog (<i>Rana temporaria</i>)	WCA5	18/03/2020	1.68	Fobney Island
Common Toad (<i>Bufo bufo</i>)	WCA5, NercS41	28/02/2019	1.90	Reading, Fobney Island
Palmate Newt (<i>Lissotriton helveticus</i>)	WCA5	03/08/2019	1.40	Tilehurst, Lousehill Copse, pond
Smooth Newt (<i>Lissotriton vulgaris</i>)	WCA5	31/05/2021	1.39	Lousehill Copse
Barbel (<i>Barbus barbus</i>)	EPS	28/10/2018	1.95	River Kennet, Fobney - Foudry Brook
Bullhead (<i>Cottus gobio</i>)	EPS	20/09/2019	1.68	Southcote Linear Park Holy Brook

Species	Designation	Date	Distance from site (km)	Approx. location
European Eel (<i>Anguilla Anguilla</i>)	NercS41	08/11/2013	1.95	River Kennet, Fobney - Foudry Brook
Stag Beetle (<i>Lucanus cervus</i>)	EPS, WCA5, NercS41	26/05/2020	0.67	Glenbeigh terrace, reading
Small Heath (<i>Coenonympha pamphilus</i>)	NercS41	25/07/2018	1.39	Reading Berkshire
White-letter Hairstreak (<i>Satyrus w-album</i>)	WCA5, NercS41	23/07/2019	1.71	Horncastle, Tilehurst
Blood-vein (<i>Timandra comae</i>)	NercS41	02/07/2015	1.74	Fobney
Cinnabar (<i>Tyria jacobaeae</i>)	NercS41	06/06/2019	1.74	Lousehill Copse
Grey Dagger (<i>Acronicta psi</i>)	NercS41	08/09/2016	1.13	Lorne Street, Reading
Shaded Broad-bar (<i>Scotopteryx chenopodiata</i>)	NercS41	09/07/2018	1.78	Fobney, South Shore
White Ermine (<i>Spilosoma lubricipeda</i>)	NercS41	14/08/2013	1.63	Fobney Island
Bluebell (<i>Hyacinthoides non-scripta</i>)	WCA8	19/05/2021	1.56	Lousehill Copse
Himalayan Balsam (<i>Impatiens glandulifera</i>)	WCA9	22/07/2020	1.55	River Kennet and The Kennet & Avon Canal
Japanese Knotweed (<i>Fallopia japonica</i>)	WCA9	16/10/2017	1.03	Reading West Station
American Mink (<i>Neovison vison</i>)	WCA9	15/06/2012	1.77	River Kennet/Kennet and Avon Canal, Fobney

EPS=European Protected Species (Habitats Directive/Birds Directive)

WCA1 = Wildlife and Countryside Act 1981 Schedule 1

WCA5 = Wildlife and Countryside Act 1981 Schedule 5

WCA8 = Wildlife and Countryside Act 1981 Schedule 8

WCA9 = Wildlife and Countryside Act 1981 Schedule 9

NercS41 = Natural Environment and Rural Communities Act Section 41 species

PBA = Protection of Badger Act 1992

BOCC red/amber = Birds of Conservation Concern Red/Amber

3.2 Field Survey

The habitats identified within the Extended Phase 1 Habitat Survey are listed and described below. All habitats are marked on the Phase 1 Habitat map in Appendix 2, marked out Target Notes in Appendix 3 and each habitat type is illustrated with a photograph in Appendix 4.

On site:

- *Broadleaved plantation woodland*
- *Scrub*
- *Scattered broadleaved trees*
- *Improved grassland*
- *Amenity grassland*
- *Ephemeral/short perennial*
- *Introduced shrub*
- *Species-poor hedge with trees*
- *Fence*
- *Building*
- *Bare ground*

3.2.1 Habitats

3.2.1.1 *Broadleaved plantation woodland*

Within the northeast corner of the site was a small section of broadleaved plantation woodland (0.001 ha). The mature trees were part of ornamental planting however, with the lack of management on the site, younger trees have self-sown and the canopy area has become very dense cutting off light to the ground flora. The dominant tree species was Norway Maple (*Acer platanoides*) with occasional Field Elm (*Ulmus minor*). The ground flora was dominated by Common Ivy (*Hedera helix*) with Sweet Violet (*Viola odorata*) appearing frequently (Photograph 1 in Appendix 5).

3.2.1.2 *Scrub*

There were 3 small areas of scrub on site with the total area of scrub approximately >0.01 ha. The larger of the scrub areas (0.003 ha) was a section of bramble (*Rubus fruticosus* agg.) located on the northwest boundary of the site (Photograph 2) which was encroaching onto an amenity grassland.

Along the northeast vegetative border of the site, this area of scrub was approximately 0.001 ha (Photograph 3). The dominant species in this section were Field Elm and Hawthorn (*Crataegus monogyna*). The ground flora consists of Yarrow (*Achillea millefolium*), Creeping Cinquefoil (*Potentilla reptans*), Ribwort Plantain (*Plantago lanceolata*) and Sweet Violet.

The third area of scrub was a small section of bramble scrub located to the south of Building 3 and was approximately 0.002 ha.

3.2.1.3 *Scattered broadleaved trees*

Across the site, there were 40 scattered broadleaved trees, which were predominantly mature trees with occasional semi-mature trees and seven saplings. The dominant species within the site was Norway Maple with frequent Sycamore (*Acer pseudoplatanus*), Hawthorn and Ash (*Fraxinus excelsior*). Found occasional throughout the site were Wild Cherry (*Prunus avium*), Pedunculate Oak (*Quercus robur*), Sweet Chestnut (*Castanea sativa*), Crab Apple (*Malus sylvestris*), Silver Birch (*Betula pendula*), willow (*Salix* sp.) and False Acacia (*Robinia pseudoacacia*).

3.2.1.4 *Improved grassland*

Within the northwest corner of the site was a section of improved grassland (0.01 ha). The dominant species included Perennial Rye-grass (*Lolium perenne*), Yorkshire Fog (*Holcus lanatus*) and False Oat-grass (*Arrhenatherum elatius*). Species like Common Mallow (*Malva sylvestris*), Sun Spurge (*Euphorbia helioscopia*), Yarrow (*Achillea millefolium*), Creeping Cinquefoil (*Potentilla reptans*) and Creeping Thistle (*Cirsium arvense*) were found frequently through this habitat. There were also patches of Common Ivy and Pedunculate Oak saplings along the north boundary of the site (Photograph 5).

3.2.1.5 *Amenity grassland*

There were six areas of amenity grassland across the site all associated with the building on site with a total area of 0.14 ha. All the area had been unmanaged for some time but had not transitioned into other habitats such as semi-improved grassland. All areas of amenity grassland had the same composition with Perennial Rye-grass as the dominant species (Photograph 6). Cow Parsley (*Anthriscus sylvestris*), Creeping Buttercup (*Ranunculus repens*), Yarrow, Ribwort Plantain (*Plantago lanceolata*) and dandelion (*Taraxacum* sp.) were also present within the area of amenity grassland.

3.2.1.6 *Ephemeral/short perennial*

To the south of the site in front of the main gate was a spoil heap (see Target Note 1 in Appendix 4), this was covered in ephemeral vegetation (>0.001 ha). The dominant species found within this habitat included Colt's-foot (*Tussilago farfara*), Greater Plantain (*Plantago major*) Mugwort (*Artemisia vulgaris*) and Dandelion. Creeping Buttercup, Green Alkanet (*Pentaglottis sempervirens*), Common Nettle (*Urtica dioica*) and Cleavers (*Galium aparine*) are found frequently throughout this habitat.

3.2.1.7 Introduced Shrub

The areas of introduced shrub on site were associated with the ornamental gardening around the buildings on site (0.03 ha). The 3 areas of shrub to the south of the site associated with Building 1 and 2 were dominated by Butterfly bush (*Buddleja davidii*), which have become overgrown due to lack of management on site (Photograph 7). Within the shrub running along the southeast wall of Building 2, species like Cherry Laurel (*Prunus laurocerasus*), Mexican Orange Blossom (*Choisya ternate*) and Japanese Honeysuckle (*Lonicera japonica*) were also present (Photograph 8).

The two small sections of shrub were located to the west of Building 3 (0.002 and 0.0006 ha). The smaller of the two areas contained bamboo (*Poaceae* sp.) and Hollyberry Cotoneaster (*Cotoneaster bullatus*) which were encroaching from neighbouring residential properties (Photograph 9). The larger section contained was dominated by Butterfly Bush and firethorn (*Pyracantha* sp.).

The largest area of shrub (0.01 ha) is part of the ornamental gardening along eastern wall of Building 3. This was dominated by Cherry Laurel and Mexican Orange Blossom.

3.2.1.8 Species-poor hedge with trees

There were two sections of species-poor hedge with trees, with one section along the north boundary (38 m) and the other running along part of the east boundary of the site (27 m). Both sections were overgrown due to a lack of management. The smaller of the two-section contained Ivy and Hawthorn as the dominant species with frequent appearances of Privet (*Ligustrum ovalifolium*). The trees within this section were Sycamore (Photograph 10).

Along the north boundary, the trees were Sycamore and Pedunculate Oak. The dominant species within the hedge was Ivy with frequent Common Holly (*Ilex aquifolium*) and Dog Rose (*Rosa canina*). There were also rare appearances of Hollyberry Cotoneaster (Photograph 11).

3.2.1.9 Fence

The site was enclosed on three sides by fencing totalling 259 m. The fencing across the site was wooden overlap fencing with a small section of metal bar fencing (7.5 m) where the main gate was located.

3.2.1.10 Building

There was three main buildings within the site boundary and three structures / outbuildings. Building 1 (73.5 m²) was a two-storey red brick building with a tile roof and wooden soffit, the building was in poor condition. All windows were boarded up with wooded boards. Common Ivy covered a large section of the west and southern aspect of this building (Photographs 12 & 14).

Building 2 was a single-storey building in good condition (376 m²). The roof on the main section of the building was slightly pitched with the abutments each having flat roofs. Both roof sections were covered

with bitumen (Photograph 14). There was a roof void between the roof and the panel ceiling tiles within the building which could be viewed due to damaged tiles inside however to access the roof void was possible.

Building 3 was a single-storey brick and mortar building in good condition with a tall, pitched roof within the central section of the building (1199 m²). The outer sections had a slight pitch to the roof and was covered in bitumen (Photograph 15). Internal access was granted to this building however, no access to the roof void was possible.

Outbuilding 1 was a small, corrugated shed with a wooden door which was 4.4m². This was located in the northwest of the site behind Building 3 (Photograph 16)

Outbuilding 2 was a large wooden shed (15.6 m²) that was in poor condition and had been predominantly covered with Common Ivy (Photograph 17).

Outbuilding 3 was a large metal shipping container (12 m²) placed within the woodland found in the northeast section of the site (Photograph 18).

3.2.1.11 Bare ground

Bare ground in the form of hardstanding made up a significant portion of the habitats on site with a total area of 0.12 ha.

3.2.2 Species

3.2.2.1 Birds

The records search returned a number of notable bird species including several Schedule 1 of the Wildlife and Countryside Act 1981.

During the survey, multiple Red Kites (*Milvus milvus*), which are a schedule 1 bird, were seen flying overhead. This species is common within the local area. Other species observed during the survey include Rooks (*Corvus frugilegus*), Magpies (*Pica pica*) and Common Pigeons (*Columba livia*).

Building 1 had a suitable feature for nesting birds and an old bird's nest was found on the floor by Building 3 (Photograph 19). The scattered trees, hedges with trees and introduced shrubs all provided additional suitable habitats for nesting birds.

3.2.2.2 Bats

TVERC recorded search found multiple records for bats within 2 km of the site and a search of MAGIC returned four previously granted EPS licences for bats within 2 km of the site. Species found in the records search included Common Pipistrelle, Soprano Pipistrelle, Daubenton's Bat, Noctule, and Brown Long-eared Bat (*Plecotus auritus*).

A PRA was carried out on all buildings and trees on site. All buildings on site are currently unused. Droppings were found in the interior and exterior of Building 3. Appendix 6 highlights key findings from the assessment.

Building 1 was a red brick two-storey building with tiled pitched roof that was in poor condition. The building had wooden soffit boxes on all aspects and wooden vents on the northern aspect of the building. All soffits, fascia and vent showed signs of damage. The southern and western aspects were partially obscured by Common Ivy. Due to the condition of the building, it was unsafe to access the internal section of the building. Building 1 had many features suitable to support roosting bats (see Table 4), most notable were gaps under missing or slipped roof tiles, gaps within the soffit boxes and gaps within the wooden fascia. A total of 46 potential roost features (PRFs) were observed on Building 1.

Building 2 was a single-storey brick-and-mortar building which was in good condition. The building had metal flashing around all windows and roof edges. The main section of the roof was slightly pitched with the abutments each having a flat roof. Access was granted to the interior of this building however, access to the roof void was not possible. Some sections of the roof void could be viewed through damaged ceiling tiles (Photograph 20). Building 2 had some external features suitable for bats, these included small gaps in the brickwork and gaps within the flashing around the windows. A total of 4 PRFs were observed on Building 2 with features only found on the north and south aspect.

Building 3 was a single-storey brick-and-mortar building in good condition. The building had a tall central section with a slightly pitched roof and a partially pitched abutment to the south. The building had wooden soffits and fascia, with a bitumen roof (Photograph 21). The windows and vent on all aspects were covered by metal grates (Photograph 22). Droppings were found on the southeast aspect of the exterior of the building and droppings were also found within the interior of the building (Photographs 23 & 24). The species of bat is not known at this point. The presence of dropping confirms that bats were present within Building 3. No access to any roof void was possible during this visit. A total of 3 PRFs were observed on Building 2 with features only found on the west and south aspect of the building.

Outbuildings 1 and 2 were located within the northeast corner of the site and both were used for storage. Outbuilding 1 was a corrugated metal shed with no potential roost features. Outbuilding 2 was a wooden shed with damage to the roof and wall due to weather and Common Ivy damage. The building had no suitable features for bats.

Outbuilding 3 was located was a large metal shipping container with no access to the internal of the building. The exterior had no suitable features for bats.

Table 4: Summarising each building's features and suitability for roosting bats

Building	Features observed	Potential roosting points	Suitability
1	External: Contained building with a large number of lifted/broken roof tiles, damage to wooden soffit and fascia. Mortar missing around ridges tiles. Dormers on the western elevation provide the opportunity for entry. On the southern aspect of the building twenty-two tiles were missing or lifted. Internal: Not surveyed	External crevices under the wooden soffit, wooden fascia, missing slate tiles and missing mortar were located across all elevations. This could lead to a void space between the tiles and the membrane. Holes in stonework could lead to a void between internal cladding and stonework.	High
2	External: Contained building with some gaps in mortar on the southern and northern aspects. Small gaps are also present on the southern aspect around flashing. Internal: No feature within the internal section of the building	External crevices within missing mortar were on the north and south aspect. Could lead to a void space between the flashing and brickwork.	Medium
3	External: Contained building with limited potential for entry. Gaps are found within the brickwork on the southwest aspect. On the southeast aspect gaps were found under external wall felt tiles. Internal: Gaps found between wooden ceiling board and roof space with bat droppings underneath. No access to the roof void at the time of the survey	External crevices within missing mortar and gaps under felt tiles. Gaps were also found between drainage features and brickwork. Internally, gaps between the wooden ceiling and the roof void allowed bats to enter the internal structure through the roof void.	Confirmed presence of bats
Outbuilding 1	External: Small corrugated metal shed with no features Internal: The interior was well-lit with no suitable features.	N/A	Negligible
Outbuilding 2	External: Wooded shed with damage to roof and south wall aspect. All aspects heavily covered with Common Ivy. No suitable features Internal: The interior was well-lit with no suitable features.	N/A	Negligible
Outbuilding 3	External: Contained building with no access to internal. No suitable feature Internal: Not surveyed	N/A	Negligible

The site provided limited foraging opportunities however, 200 m to the east of the site was Prospect Park which provided suitable foraging and commuting habitat.

3.2.2.3 Badgers

TVERC provided records of Badgers within 2 km of the site. During the Phase 1 survey evidence of Badgers was found within the north of the site. Latrines with three dung pits were found in two locations (see Target Note 3 and 6). A Badger sett with two entrances was also found within the northeast of the site (see Target Note 5). Clear Badger runs could be seen adjacent to the sett leading under the wooden fence (Target Note 4). During the survey, no signs of current occupation were found around either sett entrance. However, the path and latrines were all still visible, so the area has been used recently.

3.2.2.4 Hazel Dormice

TVERC returned no records of Hazel Dormice (*Muscardinus avellanarius*) within 2 km of the site. No suitable woodlands were present on site. Connectivity to the wider landscape was relatively poor as roads created barriers. With the wider landscape predominantly consisting of residential properties, suitable foraging or nesting habitat was limited.

3.2.2.5 Otters and Water Voles

TVERC returned records for Water Voles and Otters within 2 km of the site. However, no suitable habitat was located within the site boundary and no suitable habitats for either of these species were located within 1.5 km.

3.2.2.6 Other mammal species

Records for European Hedgehog were found during the records search and the habitats on site such as the scrub and improved grassland provide suitable foraging and hibernation areas for Hedgehogs.

On the northern aspect of Building 2, evidence of a burrow under the building was found (see Target Note 8). There were also animal remains found close to the burrow (see Target Note 9) suggesting that this may have been a Fox (*Vulpes vulpes*) den.

3.2.2.7 Reptiles

TVERC returned records of three reptile species within 2 km these included Common Lizard, Grass snake and Slow Worm.

The scrub and hedge with trees and improved grassland on the site, and the areas of refugia (See Target Note 2 & 10), provided potential suitable hibernating and foraging habitats for reptiles. However, the site has a poor connection to other areas of suitable habitat limiting its suitability for reptiles. The rest of the site was comprised primarily of buildings, hardstanding and mown grassland, which did not provide suitable habitat to support reptiles.

3.2.2.8 *Amphibians*

TVERC returned records of a number of amphibians species within 2 km of the site, including Common Frog , Common Toad, Palmate Newt and Smooth Newt .

The site and the wider landscape provided limited suitable habitat to support these species. No waterbodies were located within the site boundary and only a single waterbody was recorded within 500 m of the site. This was located 437 m to the northwest and separated from the site by a large road, which can be considered as a barrier for movement to the site.

3.2.2.9 *Invertebrates*

A small number of notable invertebrates were recorded within the desk study, including White-letter Hairstreak small heath, Grey Dagger and Stag Beetle.

The site was dominated by species-poor habitats, which would not provide suitable habitat for notable invertebrates such as the one found in the records search.

3.2.2.10 *White-clawed Crayfish*

There were no records of white-clawed crayfish (*Austropotamobius pallipes*) within 2 km of the site. The site and the wider landscape did not provide suitable habitats to support these species.

3.2.2.11 *Non-native invasive plants*

TVERC found records of three non-native invasive plants species within 2 km of the site, these were Himalayan Balsam Japanese Knotweed and American Mink . No evidence of these species was found during the Phase 1 survey.

However, during the survey, Hollyberry Cotoneaster was found in two locations on site which is listed on schedule 9 of The Wildlife and Countryside Act 1981 (as amended).

4 Planning Policy and Legislation

4.1 Local Planning Policy

The Reading Borough Local Plan was adopted in November 2019 and sets out our planning policies for development in Reading up to 2036.

Table 5 details the policies within the Reading Borough Local Plan which are relevant to the ecological features on site.

Table 5: Summary of relevant local planning policy – Reading Borough Local Plan

Policy	Description
EN12: BIODIVERSITY AND THE GREEN NETWORK	a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network. The Green Network comprises: ▪ Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and ▪ Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links. New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map. b) On all sites, development should not result in a net loss of biodiversity and geodiversity and should provide a net gain for biodiversity wherever possible. Development should: ▪ Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and ▪ Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable. In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.

4.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) July 2021 is an update to the previous version issued in February 2019, and is a policy framework document which provide a range of important principles. Paragraph 174 of the NPPF states that decisions should contribute to and enhance the natural local environment by:

‘Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.’

Paragraph 175 goes on to state:

‘... take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.’

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles (paragraph 180):

‘opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.’

4.3 Relevant Legislation

4.3.1 National Legislation

4.3.1.1 *The Wildlife and Countryside Act 1981*

The Wildlife and Countryside Act 1981 (as amended) consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain.

4.3.1.2 *Natural Environment & Rural Communities Act 2006*

Section 40 of the NERC Act 2006 places a duty upon all local authorities in England to promote and enhance biodiversity in all of their functions. Section 41 lists habitats and species of principal importance to the conservation of biodiversity. Fifty-six habitats and 943 species of Principal Importance for Conservation are included on the Section 41 list and draws upon the UK BAP List of Priority Species and Habitats.

4.3.1.3 The Conservation of Habitats and Species (2017 as amended)

The Conservation of Habitats and Species Regulations 2019 transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law and transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations provide for the designation and protection of a national site network including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), the protection of 'European protected species', and the adaptation of planning and other controls for the protection of other sites, such as Ramsars.

4.3.1.4 The Environment Act 2021

Para 2 (3) of Schedule 14 of The Environment Act 2021 makes it mandatory for all new developments (with some limited exceptions) to achieve a biodiversity net gain (BNG) of at least 10% by the time the development is completed compared to the pre-development biodiversity value of the onsite habitat. This percentage may be amended in the future by the Secretary of State. Please note that some Local Policies stipulate a higher target than this.

The Bill allows three methods for securing biodiversity net gains:

1. enhancement of the biodiversity of land to which the planning permission relates;
2. the allocation of registered offsite biodiversity gain to any development for which the planning permission is granted; and
3. the purchase of biodiversity credits for any such development.

A biodiversity gain statement must set out whether, and if so how, the biodiversity gain objective applies in relation to development where the onsite habitat is irreplaceable, how the development will minimise any adverse effects to the onsite habitat, and what the evidence must be produced to show how the biodiversity net gain has been met upon completion of the development.

Biodiversity gains will need to be maintained for at least 30 years after the development is completed.

4.3.2 Species Specific Legislation

4.3.2.1 Birds

Breeding wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Under the Wildlife and Countryside Act, a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds however are not included in this definition (except for limited parts of the Act). They are covered by the Game Acts, which fully protect them during the close season.

All birds, their nests and eggs are protected and it is thus an offence, with certain exceptions to:

- *intentionally kill, injure or take any wild bird;*
- *intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built;*
- *intentionally take or destroy the egg of any wild bird;*
- *have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954;*
- *have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954;*
- *use traps or similar items to kill, injure or take wild birds; and*
- *have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations.*

Additionally for some species listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) it is an offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young.

4.3.2.2 Bats

Bats are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Under the Wildlife and Countryside Act 1981 it is illegal to:

- *Kill or injure bats;*
- *Cause disturbance at their resting places; or*
- *To block access to, damage or destroy their roost sites.*

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 it is an offence to:

- *Deliberately capture or kill a bat;*
- *To damage or destroy a breeding site or resting place of any bat. (This is an absolute offence and intent or recklessness does not have to be proved); and*
- *Deliberately disturb a bat (this applies anywhere, not just at its roost).*

4.3.2.3 Badgers

The Protection of Badgers Act (1992) (as amended) affords protection to badgers and their setts. This legislation, as well as outlawing the persecution of Badgers, also makes it an offence, amongst others, to disturb Badgers whilst they are using a sett or to damage or block a sett.

4.3.2.4 Reptiles

Adder (*Vipera berus*), Slow-worm, Grass Snake and Common Lizard are protected under the Wildlife and Countryside Act 1981 (as amended). It is illegal to kill or injure them.

Smooth Snake (*Coronella austriaca*) and Sand Lizard (*Lacerta agilis*) also receive legal protection under the Conservation of Habitats and Species Regulations 2017. The following is prohibited:

- *deliberate capturing, injuring or killing*
- *deliberate disturbance; Disturbance of animals includes in particular any disturbance which is likely- (i) to impair their ability to survive, to breed or reproduce or to rear or nurture their young; or (ii) to impair the ability of hibernating or migratory species, to hibernate or migrate; or (iii) to affect significantly the local distribution or abundance of the species to which they belong;*
- *deliberate taking or destroying the eggs of such an animal; or*
- *damaging or destroying a breeding site or resting place of such an animal and/or (ii) intentionally or recklessly - (a) disturbing any such animal while it is occupying a structure or place which it uses for shelter or protection; or (b) obstructing access to any structure or place which any such animal uses for shelter or protection.*

5 Evaluation of Ecological Features/Further Survey

Table 6 below provides an evaluation of the ecological features, identifying which are of sufficient importance to be taken forward. Any ecological feature that is identified as having negligible importance will not be considered further, where there are insufficient evidence further surveys will be recommended to be able to assess the ecological importance of that feature in relation to the site and the proposed development. In some instances, a level of site importance has been identified for features which have a very localised scale.

Table 6: Evaluation of ecological feature

Ecological Feature	Justification	Level of Importance
Statutory designations	It is considered unlikely due to the scale and scope of the works that there will not be any impact on the statutory designated sites in the area	Negligible importance
Non-statutory designations	It is considered unlikely due to the scale and the scope of the works that there will not be an impact on the non-statutory designated sites in the area.	Negligible importance
Broadleaved plantation Woodland	The woodland contained common and widespread species; however, the habitat is rare within the site	Site importance
Scrub	All areas of scrub within the site were species-poor and common within the wider landscape.	Negligible importance
Scattered broadleaved trees	Scattered mature and semi-mature broadleaved trees are present throughout the site and are generally widespread throughout the area. It is unknown at this time if the trees will be impacted by the works.	Site importance
Improved grassland	The improved grassland was species-poor and a common and widespread habitat with low ecological value.	Negligible importance
Amenity grassland	The amenity grassland was species-poor and a common and widespread habitat with low ecological value.	Negligible importance
Ephemeral/short perennial	The vegetation growing on the spoil heap was species-poor and consisted of common and widespread species	Negligible importance
Introduced Shrub	Planted areas occurred around the buildings on site. Comprised non-native species	Negligible importance
Species-poor hedge with trees	The hedge on site was species-poor and consisted of common and widespread species. The hedges on site do not meet the criteria to be classed as a priority habitat	Negligible importance
Fence	A non-natural feature that has no ecological value	Negligible importance
Building	A non-natural feature that has no ecological value	Negligible value.

Ecological Feature	Justification	Level of Importance
Bare ground	A non-natural feature that has no ecological value	Negligible importance
Birds	The potential impact on the areas suitable for bird activity is very low and localised, but there are opportunities for nesting birds in buildings and trees.	Site importance
Bats	The presence of bats was confirmed in Building 3 and suitable roosting features were found within Buildings 1 and 2.	Local value- further surveys needed
Badger	Evidence of Badgers was found within the site boundary including a badger sett and latrines. No evidence of recent activity was found during the phase 1 survey.	Site importance
Hazel Dormice	No records of this species within the 2 km of the site and no suitable habitat were present within the site boundary.	Negligible importance
Otter and Water Voles	Although records of these species were returned during the records search there is no suitable habitat within the site boundary for these species.	Negligible importance
Other mammal species	The site provides suitable habitat for European Hedgehogs and there is possible evidence of a Fox den within the site boundary	Site importance
Reptiles	The scrub, improved grassland and hedge within the site provide suitable habitat for reptiles, however, the site is isolated from other areas of suitable habitat.	Negligible importance
Amphibians	No suitable habitat for these species was located within the site boundary.	Negligible importance
Invertebrates	The habitats on site were common and widespread within the wider area.	Negligible importance
White-Clawed Crayfish	No records of this species within the 2km of the site and no suitable habitat was present within the site boundary.	Negligible importance
Non-native invasive plants	Hollyberry Cotoneaster was found during the survey	N/A

6 Ecological Constraints, Opportunities and Recommendations

6.1.1 Habitats

6.1.1.1 Broadleaved plantation woodland

The full amount of vegetation clearance needed as part of the works is unknown at this point, it is likely that some of the woodlands will be impacted as part of the works. Should any area of woodland be cleared as part of the works, native tree planting should be incorporated as part of the landscaping of the site to replace any trees removed on a 1:1 basis. Where possible areas of woodland should be retained, and root protection zones put in place to ensure retained woodland is protected where possible.

6.1.1.2 Scattered broadleaved trees

The scattered broadleaved trees on site were a mix of mature and semi-mature trees, where possible all trees should be retained on-site, and a root protection zone put in place during construction to prevent damage. Should any trees be removed as part of the work, the same number of trees replaced as part of the landscaping plan. This is in line with The Reading Borough Local Plan section EN12 where it states 'Development should ... Provide new tree planting, wildlife friendly landscaping and ecological enhancements'

6.1.2 Species and Species Groups

6.1.2.1 Birds

During the survey, common bird species were observed on site and Red Kite, a schedule 1 species, was observed flying overhead. The Red Kite is known to be prevalent within the local area, though within the site there are minimal nesting opportunities.

The hedges, trees and scrub provide suitable nesting foraging for common and widespread birds. All buildings on site had features suitable to support nesting birds. The buildings are due to be demolished as part of the works. Where possible any suitable nesting vegetation should be retained.

All work to the buildings and clearance of trees and other suitable nesting habitat should be undertaken outside of the bird's nesting season (March to August inclusive) or be preceded by a check for nesting birds by a suitably qualified ecologist, no more than 24 hours prior to works commencing.

As the works will likely reduce the nesting opportunities for birds on site, compensation in line with the policy EN12 of the local plan should be put in place to reduce the impact of the works. The installation of eight bird boxes around the site will help to enhance the site for birds. These should include:

- *Schwegler 1B bird box or similar with a 32mm hole – four of these nest boxes are to be deployed in order to mitigate for the loss of habitat for small birds known to be in the area such as blue tit and*

house sparrows. These are to be placed on trees evenly distributed across the site, ideally east or south-east facing to reduce the chance of the box getting too hot in the summer. They should be placed a minimum of 1-2m from the ground to reduce disturbance.

- *Artificial house martin nests – four of these nests should be deployed underneath the eaves on north and east-facing exterior walls of the building, at a minimum height of 2m above the ground*

6.1.2.2 Bats

A PRA was completed on the building on site and roosting bats were confirmed to be present within Building 3 and Building 1 was deemed as having ‘high’ suitability. Although Building 2 had limited features, due to its proximity to a confirmed bat roost it was given ‘moderate’ suitability. It is likely the bats found on site are Pipistrelles as EPS licences have been granted for these species within the area.

Three surveys are recommended to be carried out on Buildings 1 and 3 due to the ‘high’ suitability/confirmed presence of roosting bats as per good practice guidance (Collins 2016) . The three surveys should be carried out between May and September, with at least two of the surveys between May and August. It is recommended that surveys are spaced at least two weeks apart and as close to optimal weather conditions as possible (sunset temperature 10°C or above, no rain or strong winds).

Building 2 will need at least two surveys which should be carried out between May and September, with at least two of the surveys between May and August.

Further surveys of the buildings will confirm the presence / likely absence of roosting bats within the buildings, which will inform any mitigation needed to ensure bats are not adversely affected by the proposed development. To provide further enhancements, recommendations will be made pending the results of the further bat surveys and specified the type of roosts and species present on site.

It is recommended that any new lighting follows the protocols outlined in the Institute for Lighting Professionals Guidance note 08/18 “Bats and Artificial Lighting in the UK” (2018) to minimise disturbance, light spill and sky-glow across the site and particularly towards the retained trees. By installing lighting during the construction phase, the lighting level and directionality can be controlled to ensure that lighting remains appropriate and sensitive.³¹

6.1.2.3 Badgers

Badgers were confirmed to be present on the site as during the survey, a Badger sett was found, and latrines were also found. All Badger activity was contained within the north of the site. The sett showed no signs of current activity at the time of the survey. However, a well-established path could be seen across the north of the site between the setts and latrines leading off site.

Badgers are protected under The Protection of Badgers Act (1992) (as amended), to ensure no offence is committed it is recommended that a Badger survey of the site be completed to check for activity / any additional setts on site. If the sett is currently inactive the sett should then be closed to prevent Badgers from using the sett on to the site during the works. If the sett is active a licence will need to be applied for from Natural England. Closure of an active sett can only take place from July to November as the breeding season runs from December to June.

6.1.2.4 Other mammal species

Underneath Building 2 is a mammal burrow/den with evidence of feeding remains adjacent to the entrance. It is likely to be a Fox den however, no other field signs were found during the survey. It is recommended that monitoring take place to identify if the burrow is active. Camera traps should be used for 1-month to monitor all activity associated with the den. If no activity is found the den should be closed before works begin. If the burrow is active to prevent an offence under the law a management plan for the closure and deterrence of the fox will need to be devised before works begin.

In addition, any pits, trenches or other excavations should be capped or covered at the end of each working day to prevent animals from falling in them. If a pit, trench or other excavation cannot be covered, mammal ladders (planks of wood with a 45-degree slope) should be incorporated into them or at least one side of any excavation should be graded as a means of escape. Chemicals and fluids such as petrol and diesel must be kept within a secure compound to prevent ingestion by badgers and other animals

6.1.2.5 Non-native invasive plants

During the Phase 1 survey, Hollyberry Cotoneaster was identified on site, if this is affected by the works it could result in the spread of this species in the wild, and off the site which is an offence under The Wildlife and Countryside Act 1981 (as amended). Disturbance to the plant should be avoided where possible. If it is not possible to avoid, measures to ensure this species is not spread around/off the site should be put in place, within a detailed Biosecurity method statement, to ensure compliance with the Wildlife and Countryside Act 1981 (as amended).

Such measures should be detailed within a method statement but would entail retaining all plant material/soil at the point of work, or appropriate off-site disposal by a licensed contractor. To prevent the further natural spread of this plant around the site, the method statement for the site should include control/removal measures. Removal of this species from the site would be an ecological enhancement.

6.2 Other Enhancement Opportunities

In order to ensure likely compliance with the NPPF, The Environment Act (2021) and Policy EN12 of the Local Plan, we recommend that Biodiversity Impact Calculations be carried out for the site using a suitable metric (such as The Biodiversity Metric 3.0 issued by Natural England) and submitted alongside the planning application. This will assess the impacts of the development and ensure that there is no net loss in biodiversity, and ideally achieve a net gain in biodiversity

To ensure the work are in line with The Reading Borough Local Plan policy EN12 which state new development should include ‘tree planting, wildlife-friendly landscaping and ecological enhancements’, additional considerations and biodiversity enhancements should be considered for the site. These could include;

- Artificial hibernacula should be installed in the retained boundary landscaping, such as log piles, using any felled trees or dead branches from the site will also increase the opportunity for invertebrates and other mammals such as hedgehogs.
- In any area of grassland not affected by the works, habitat enhancement could be carried out, such as re-seeding to rough grassland.
- Soft landscaping should be incorporated using native species planting to ensure that connectivity and foraging opportunities are not lost. Planting schemes should use a range of native flora, including diverse meadow seed mixes, fruit/seed/nut-bearing species and those that provide pollen and/or nectar (such as *Corylus* sp., *Sambucus* sp., *Prunus* sp., *Malus* sp., *Sorbus* sp., *Viburnum* sp., etc.) this will also increase foraging opportunities for invertebrates, badgers, bats and birds.
- Additional locally occurring plants could be added to the site, such as the naturalised plant red valerian (*Centranthus ruber*) to encourage more butterflies and night-scented plants such as jasmine (*Cestrum nocturnum*). Additional native bee-friendly plants could also be incorporated within the site, for example, adding more lavender to the introduced shrub areas.

The line of the hedge with trees bordering the site provides potential habitat for commuting Hedgehogs and the amenity grass provides foraging opportunities. To enhance the site for hedgehogs following works, it is recommended that the hedge should have additional native planting to increase suitable for hedgehogs, a strip of grass around the boundary line be allowed to grow long, and leaf litter and dead wood should be left in areas around the site to provide more foraging and nesting opportunities. These areas should be created away from the road and parking areas too. Hedgehog homes could also be provided within the line of scattered trees.

7 Conclusions

The proposed works will include the construction of 2-3 bed homes to the north of the site with the southern part of the site being a respite centre (adult care) with associated garden, amenity space, visitor access and parking. The full scale of vegetation clearance and the size of the new building is unknown at this point.

The survey identified that the site consisted of three brick-built buildings with three additional small outbuildings. The main habitat on site was bare ground with an area of amenity grassland, improved grassland and introduced shrubs.

Further survey work with regards to bats has been recommended with all 3 buildings on site need bat emergence /re-entry surveys. As all buildings are due to be demolished as part of the works. Building three has a confirmed presence of bats but surveys are needed to understand the number and species of bats present. A survey on the other building will determine if there are any more roost on site. The results of these surveys will be used to inform any European Protected Species licences work need as part of the proposed works.

In order to comply with relevant legislation recommendations have been made to safeguard habitats and species present including bats, birds, Hedgehogs and Badgers both during construction and post-development.

Recommendations have been made to ensure that the development complies with NPPF and The Reading Borough Local Plan by retaining, protecting and enhancing mature trees and hedgers on site. Also, by enhancing the site's biodiversity post-development, to do these recommendations includes; the enhancement of existing hedges with native planting of fruit/seed bearing species; and creating and allowing areas for hibernaculum.

8 References

Chartered Institute of Ecology and Environmental Management, (2017). *Guidelines for Ecological Preliminary Ecological Appraisal. Technical Guidance Series.* www.cieem.net

Chartered Institute of Ecology and Environmental Management, (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.* Technical Guidance Series www.cieem.net

Collins. J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidance (3rd edn.). The Bat Conservation Trust, London.

Joint Nature Conservation Committee, (2010). *Handbook for Phase 1 Habitat Survey. A technique for environmental audit (reprint).* Joint Nature Conservation Committee, Peterborough.

Stace. C., (2019). *New British Flora of the British Isles.* 4th Edition. Cambridge University Press.

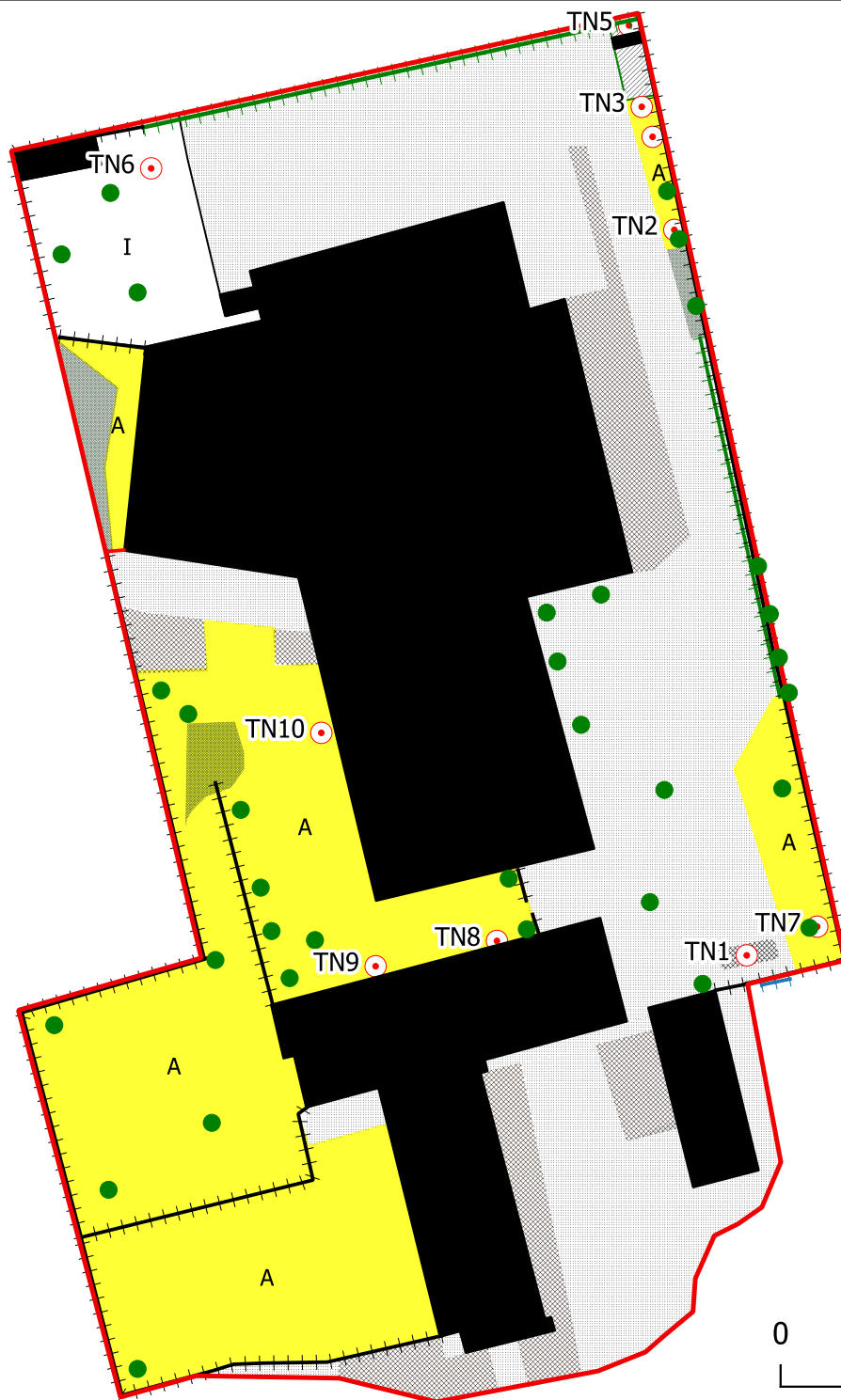
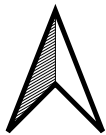
The Institution of Lighting Professionals (ILP) and The Bat Conservation Trust (BCT)., (2018). *Bats and artificial lighting in the UK; Bats and the Built Environment series.*

Appendix 1: Frame of Reference for Geographical Context

Geographical context	Examples
International and European	Ramsar Sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation. Sites supporting populations of internationally important species. Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP. A regularly occurring, nationally significant population/number of any internationally important species.
National	SSSIs or non-designated Sites meeting SSSI selection criteria, NNRs, Marine Nature Reserves, NCR Grade 1 Sites. Sites containing viable areas of key habitats identified in the UK Biodiversity Action Plan. Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (see local BAP). A regularly occurring, regionally or county significant population/number of any nationally important species.
Regional	Sites containing viable areas of threatened habitats listed in a Regional BAP (or some Natural Areas), comfortably exceeding SINC criteria, but not exceeding SSSI criteria. Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation; A regularly occurring, locally significant number of a regionally important species.
County / Metropolitan	Sites meeting the criteria for county or metropolitan designation (SINC, CWS, etc.). Ancient semi-natural woodland, LNRs or viable areas of key habitat types listed in county BAPs/Natural Areas. Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan “red data book” or BAP on account of its regional rarity or localisation; A regularly occurring, locally significant number of a County/Metropolitan important species.
Local	Undesignated Sites or features considered to appreciably enrich the habitat resource in the District or Borough or within a zone of influence. A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation; A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.

Appendix 2: Phase 1 Habitat Survey Map

See following page.



0 10 20 m

Reading Borough Council

Gleeds Cost Management Ltd
Vanbrugh House, Hampshire
SO30 2AF

Phase 1 Survey

- Site Boundary
- Broad-leaved plantation woodland
- Scrub
- Improved grassland
- Amenity grassland
- Ephemeral/short perennial
- Introduced shrub
- Bare ground
- Scattered broadleaved trees
- fence
- Species-poor hedge with trees
- brick wall
- gate
- Buildings
- Target note

Drawn by Rachel Richards 24/10/2022 Checked By Joesph Dyson 25/10/2022



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Appendix 3: Target Notes



Target Note 1: Spoil heap with ephemeral vegetation.



Target Note 2: Fallen fence pannel provides suitable refugia habitats for reptiles.



Target Note 3: Badger latrine in north west corner of site



Target Note 4: Badger run under fence



Target Note 5: Badger sett entrance



Target Note 6: Badger latrine found in northeast of the site



Target Note 7: Refuiga near south boundary



Target Note 8: Possible burrow/den under Building 2



Target Note 9: Animals remains by Building 2 indicated by red circles



Target Note 10: Fallen fence panel provides suitable refugia habitats for reptiles.

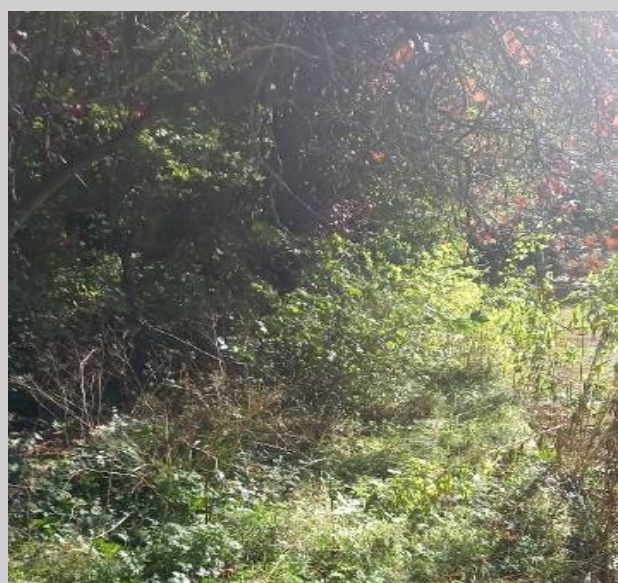
Appendix 4: Photographs



Photograph 1: Small area of woodland in north-east corner of site.



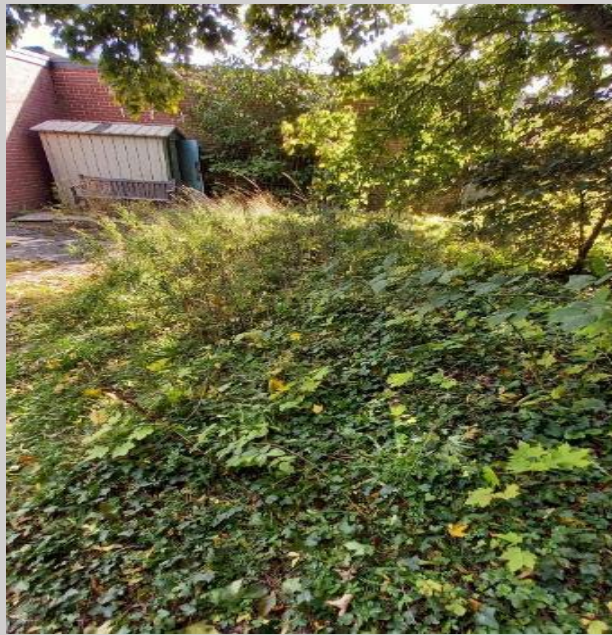
Photograph 2: Bramble scrub



Photograph 3: Area of Hawthorn and Field Elm scrub



Photograph 4: Small area of bramble scrub south of Building 3



Photograph 5: Area of Improved grassland in northwest corner



Photograph 6: Area of unmanaged amenity grassland



Photograph 7: Butterfly bush dominated area to the south of site



Photograph 8: Area of introduced shrub along wall of Building 2



Photograph 9: Bamboo encroaching from neighbouring residential property.



Photograph 10: Species-poor hedge along east boundary of site.



Photograph 11: Species-poor hedge with trees along north boundary



Photograph 12: Building 1



Photograph 13: Building 1 with substantial ivy cover



Photograph 14: Southern aspect of Building 2



Photograph 15: Southern aspect of Building 3 slight pitched roof



Photograph 16: Outbuilding 1



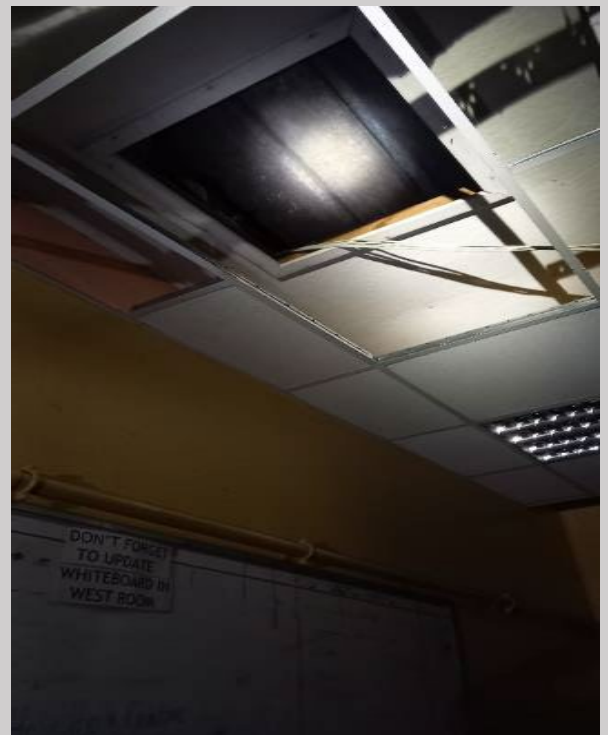
Photograph 17: Outbuilding 2



Photograph 18: Outbuilding 3



Photograph 19: Birds nest on the floor outside Building 3



Photograph 20: View of roof void in Building 2 through damaged ceiling tile



Photograph 21: Southern aspect of Building 3 with wood soffit



Photograph 22: Exterior windows of Building 3 covered by metal grates



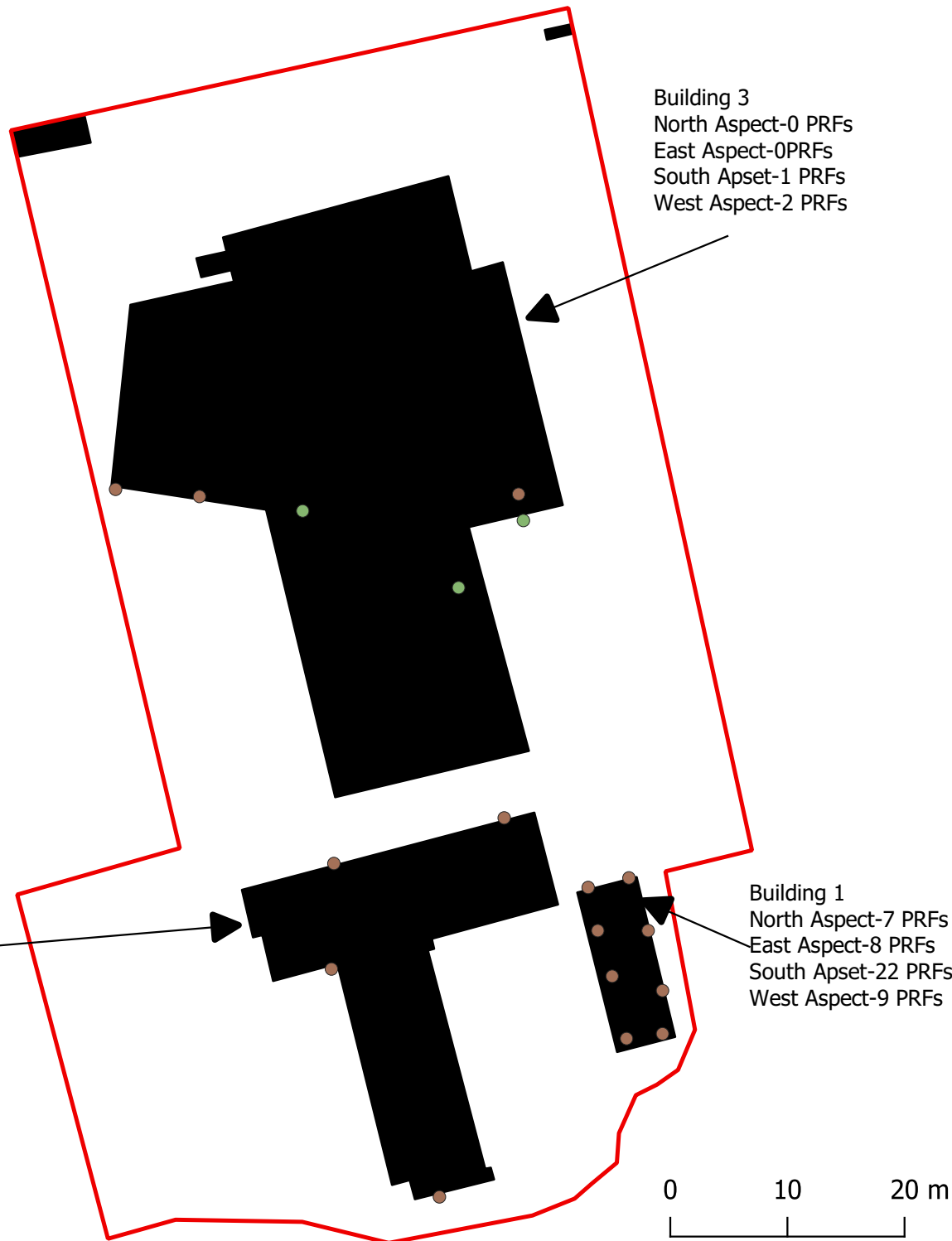
Photograph 23: Bat dropping on exterior of Building 3



Photograph 24: Bat droppings in interior of Building 3

Appendix 5: Preliminary Roost Assessment Map

See following page.



Reading Borough Council

Gleeds Cost Management Ltd
Vanbrugh House, Hampshire
SO30 2AF

Phase 1 Survey

-  Site Boundary
-  Potential Roost Features
-  Bat droppings
-  Buildings

Drawn by Rachel Richards 24.10.2022.
Checked by Joesph Dyson 24.10.2022



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