Preliminary Ecological Appraisal and Roost Assessment

45 Tilehurst Road, Reading, RG1 7TT

Athena Peters Investments Limited

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Guidelines

This assessment has been designed to meet:

- Chartered Institute of Ecology and Environmental Management 'Guidelines for Preliminary Ecological Appraisal Second Edition, December 2017'; and
- British Standard 42020 (2013) 'Biodiversity – Code of Practice for Planning and Development'.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> This approach is enshrined in Government planning guidance, for example, paragraph 193 of the National Planning Policy Framework for England.
>
> The desk studies and field surveys undertaken to provide a preliminary ecological appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

In consequence of the scale and intensity of the proposed development, the low impact on ecological receptors identified through both the site survey and search of local biological records, and the passive interface with the mitigation hierarchy, this plan-led report is considered adequate and proportionate. It communicates all relevant information necessary to determine a planning application or support the recommendations for further surveys.

Executive Summary

Arbtech Consulting Ltd was commissioned by Athena Peters Investments Limited to undertake a combined Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at 45 Tilehurst Road, Reading, RG1 7TT. The survey was completed on 12th October 2021. The development proposals are to demolish the two existing buildings and to construct two three storey buildings containing eight flats in total with a communal garden and parking.

Recommendations - This is work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent.

Ecological Factor	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
Notable habitats and plants	The magic.gov.uk database shows that deciduous woodland and parkland is located within 2km of site. There are no Priority habitats within the zone of influence of the proposed works. However, deciduous woodland is located adjacent to the site, along the western boundary.	The loss of low value habitats is likely to be inconsequential. Any retained trees within and surrounding the site could be affected by construction activities such as machinery encroachment which could damage canopies or root systems.	A Construction Method Statement (CMS) will be produced detailing best practice measure to be implemented to prevent pollution during construction works.
Bats- B1	The building has raised roof tiles, gaps within the soffits and barge boards, missing mortar within the brickwork and gaps in the eaves. The building has **moderate habitat value** for roosting bats. Crevice dwelling bats could also roost in gaps under roof tiles. There are excellent foraging and commuting resources in close proximity due to the adjacent deciduous woodland to the west of the site. The site is likely to be used by bats as a foraging ground.	As the proposals include the demolition of this building, any bat roosts present would be destroyed. This could result in death/injury of bats.	Two bat emergence/re-entry surveys are required during the active bat season (May – September) to confirm presence/likely-absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive. Sub-optimal: early May and September. One of these surveys must be a dawn re-entry survey. Three surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building one additional survey will be required to inform a European Protected Species

			Mitigation Licence application to Natural England once planning permission has been granted.
Bats- B2	There are no suitable roosting features on B2. The building has **negligible habitat value** for roosting bats.	Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on bats as a result of the proposed works.	No further surveys required. In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licenced ecologist contacted for further advice. For any external lighting – a low impact lighting strategy will be adopted from the guidance outlined in the new Bats and Lighting Publication produced by the Institution of Lighting Professionals and the Bat Conservation Trust "Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment series publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting The lighting on the site will: • Use narrow spectrum light sources to lower the range of species affected by lighting • Use light sources that emit minimal ultra-violet light • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature
Birds	No evidence of nesting birds was found during the survey; however, birds could use the vegetation on site for nesting.	Active nests could be destroyed during vegetation removal.	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the trees and scrub should be undertaken immediately prior to the commencement of works. All active nests will need to be retained until the young have fledged.

Reptiles	The site provides a small area of reptile habitat in the form of scrub along the south-western boundary of the site.	The proposed development will result in the loss of habitat for common reptiles. Any reptiles present during the works could be injured or killed.	Due to the small area of suitable habitat on present on the site, reptile surveys are considered to be disproportionate. To minimise the risk of killing or injuring herpetofauna, site clearance works will be carried out under a precautionary method of working. Compost heaps or vegetation, log or rubble piles should be moved by hand prior to commencement of any work. Contractors will also adopt the following practices to safeguard reptiels during the works: • Any materials will be stored on pallets on areas away from the vegetation, in particular along the southern site boundary. • Rubble created during the development will be safely disposed of in a skip. If no skip is available the rubble will be stored on pallets off the ground until it can be removed from site, to prevent reptiles from using the rubble piles for hibernation.
Hedgehog	The site provides suitable habitat for hedgehogs.	The proposed development will result in the loss of habitat for hedgehogs. Any hedgehogs present during the works could be injured or killed.	No further surveys are required. However, the following recommendations are given in order to mitigate against potential harm to hedgehogs during the development works. • Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. • Security lighting to be directed away from the undergrowth. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Ltd was commissioned by Athena Peters Investments Limited to undertake a combined Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at 45 Tilehurst Road, Reading, RG1 7TT. The survey was completed on 12th October 2021. No previous reports have been produced for this site by Arbtech Consultancy Ltd, or to the author's knowledge by any other consultancy.

1.2 Project Description

The development proposals are to demolish the two existing buildings and to construct two three storey buildings containing eight flats in total with a communal garden and parking. A planning application is being prepared for submission to Reading Borough Council.

1.3 Site Context

The site is located at National Grid Reference SU 70176 73041 and has an area of approximately 0.09ha. The site consists of two buildings with a garden and hardstanding surrounding the buildings.

1.4 Scope of the Report

The PEA element of this report describes the baseline ecological conditions at the site; evaluates habitats within the survey area in the context of the wider environment; and describes the suitability of those habitats for notable or protected species. It identifies significant ecological impacts as a result of the development proposals; summarises the requirements for further surveys and mitigation measures, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. Establishing the baseline conditions for future monitoring. To achieve this, the following steps were taken:

- The desk study area and field survey area (generally 50m from the site boundary/proposed footprint and including the 'zone of influence' of the scheme) have been identified
- A desk study has been carried out.
- Baseline information on the site and surrounding area has been recorded through an 'Extended Phase 1 Habitat Survey', including a Phase 1 Habitat Survey (JNCC 2010) and recording further details in relation to notable or protected habitats and species.
- The ecological features present within the survey area have been evaluated where possible (CIEEM, December 2017).
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Likely impacts on features of value, as a result of the development proposals, have been identified.
- Recommendations for further survey and assessment have been made.
- Recommendations for mitigation and opportunities for enhancement have been provided based on current information.

The PRA element of the report provides a description of all features suitable for roosting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on constraints to the proposals as a result of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the assessment was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how they could use the site. To achieve this, the following steps have been taken:

- A field survey has been undertaken, including an external survey and internal inspection where possible.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on the requirements of a European Protected Species Mitigation Licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1, proposed plans in Appendix 2, desk study results in Appendix 3 and a summary of relevant legislation is presented in Appendix 4.

2.0 Methodology

2.1 Desk Study

The desk study included a 2km radius review of statutory and non-statutory designated sites, Biodiversity Action Plan (BAP) Priority Habitats and granted EPSML records for bats held on Magic database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

Existing biological records relating to the site and a surrounding 2km radius are required to conform to national guidelines. The data search is confidential information that is not suitable for public release and has been analysed and summarised for presentation in this report.

2.2 PEA Site Survey

The survey was undertaken by Beth Ellison-Perrett BSc (Hons) MSc, Consultant (Accredited Agent to Natural England Bat Licence Number: 2018-33540-CLS-CLS).

The methodology for the Phase 1 habitat survey is based on the best practice publication Phase 1 Habitat Survey Methodology (JNCC, 2010). All land parcels are described and mapped according to JNCC Phase 1 Habitat Classification. Where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management.

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species. The likelihood of the presence of protected species is ranked; the habitats on site are evaluated against their likelihood to provide suitable habitat for protected species.

The ecological value of the survey area has been assessed based on the Guidelines for Ecological Impact Assessment (CIEEM, 2018), and the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill, 2005), using geographic frames of reference. The biodiversity value of any identified designated sites, habitat types and associated species assemblages has been considered. The distribution and extent of invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981 as amended 1996) were also noted throughout the survey area.

2.3 Suitability Assessment

The habitats on site were evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat. The likelihood of the occurrence of protected species is ranked according to the criteria listed in Table 1 below.

Table 1: showing criteria considered when assessing the likelihood of occurrence of protected species

Present	**Species are confirmed as present from the current survey or historical confirmed records.**
High	Habitat and features of high quality for species/species assemblage. Species known to be present in wider landscape (desk study records). Good quality surrounding habitat and good connectivity.
Medium	Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat/ecological conditions required by the species/assemblage. Within known national distribution of species and local records in desk study area. Limiting factors to suitability, including small area of suitable habitat, some severance/poor connectivity with wider landscape, poor to moderate habitat suitability in local area.
Low	Habitats within the survey area poor quality. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features/conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Very limited poor-quality habitats and features. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species/species assemblage.

2.4 PRA Site Survey

The survey was undertaken by Beth Ellison-Perrett BSc (Hons) MSc, Consultant (Accredited Agent to Natural England Bat Licence Number: 2018-33540-CLS-CLS).

All features that will be impacted by the project proposals were assessed for their bat roosting and/or commuting habitat. The surveyor systematically surveyed all features suitable for bats and signs of bat activity.

<u>For any surveyed buildings</u>:

A non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the building(s) for potential access/egress points, and for signs of bat use. An internal inspection of the building was also made, including the living areas of derelict or abandoned buildings and the accessible roof spaces of all buildings, using an endoscope, torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

<u>For any surveyed trees</u>:

A visual inspection from ground level using binoculars and where accessible and safe to do so, an internal inspection of potential roosting features using an endoscope, torch and ladders.

2.5 Breeding Birds and Other Incidental Observations

The surveyor also made note of any other ecological constraints associated with the building observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for barn owls *Tyto alba*.

2.6 Suitability Assessment

All affected survey features on site were categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins, J. (ed) 2016). The features that dictate the likelihood of roosting bats are summarised in Tables 2 and 3 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 2: Features of a building that are correlated with use by bats

Likelihood of bats being present	Feature of building and its context
Higher	Buildings/structures with features of particular significance for roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data).
Lower	A small number of possible roost sites/features, used sporadically by more widespread species. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.

Table 3: Features of a tree that are correlated with use by bats

Likelihood of bats being present	Feature of tree and its context
Higher	A tree 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.
Lower	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.

2.4 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

A biological records data search was not commissioned by the client; therefore, historical records of protected species have not been factored into this report. These limitations have been taken into account during the evaluation of the site and requirement for further surveys.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below, full details are included in Appendix 3.

3.2 Designated Sites

Details of any statutory and non-statutory designated sites within a 2km radius of the survey site, including their reasons for notification, are provided in Table 4 below.

Table 4: Designated sites within 2km radius of the site

Designated Site Name	Distance from Site (approx.)	Reasons for Notification from Natural England and/or BRD or LPA policy maps
Statutory Sites		
Lousehill Copse Local Nature Reserve (LNR)	1635m west	Semi-ancient woodland surrounded by housing. Mature oak and hazel woodland with some coppice. There are many bluebells and other spring flowers, streams, relics of old ponds and boggy areas. The site is on sand and gravel.
Non-statutory Sites		
None known		

3.3 Landscape

A review of the designated sites, aerial photographs (Figure 1), the Magic database and OS maps has been undertaken. Collated together, the site's local habitat is described below:

The site is located in a densely urbanised area of Reading, with small gardens and tree cover is generally sparse, however they are linked by a network of tree lined boundaries which could be used by urban bats to navigate between the numerous urban open spaces dispersed throughout the study area. The wider landscape is predominately large arable fields with sparse tree cover. The quality of hedgerows is not particularly high, and many have been removed, however enough tree lined old hedges survive to form cohesive commuting routes across the landscape between the numerous habitats with high bat habitat value spread about the area. Priority habitats within 2km of the site are listed in Table 5 below.

Table 5: Priority Habitat Inventory within 2km (Magic.gov.uk):

Habitat	Closest distance from site
Deciduous woodland	~adjacent to site (western boundary)
Woodpasture and parkland	~927m west
Traditional orchards	~1537m north
Coastal floodplain and grazing marsh	~1207m south

Figure 1: Aerial photo of site, showing landscape structure

3.4 Historical Records

A search of the magic database for granted European Protected Species Mitigation Licences (EPSMLs) within a 2km radius of the site and details are provided in Table 6 below. The EPSML records show that five bat roosts have been destroyed within 2km involving common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and Daubenton's *Myotis daubentonii* bats. Displaced bats from these roosts could find suitable roosting habitat on site.

Table 6: Granted EPSMLs within 2km of the site

Case reference of granted application	Approx. distance from site	Species effected	Licence start date:	Licence end date:	Impacts allowed by licence
2017-32379-EPS-MIT	791m east	Common pipistrelle	04/12/2017	29/11/2022	Destruction of a resting place
EPSM2010-2590	847m south-west	Soprano pipistrelle	28/10/2011	31/08/2014	Damage of a breeding site
EPSM2013-6155	1813m north-east	Common pipistrelle	19/09/2013	31/08/2015	Destruction of a resting place
2017-28045-EPS-MIT	1850m north-east	Daubenton's	08/03/2017	08/03/2022	Destruction of a resting place
2016-22301-EPS-MIT	1881m east	Common pipistrelle	21/04/2016	20/04/2021	Destruction of a resting place

3.5 Field Survey Results

The site of the proposed development is an area of semi-improved grassland, hardstanding and introduced shrubs, with two buildings onsite and is illustrated in the map in Appendix 1. The weather conditions recorded at the time of the survey are shown in Table 7.

Table 7: Weather conditions during the survey

Date: 12/10/2021	
Temperature	11°C
Humidity	89%
Cloud Cover	80%
Wind	0.6mph
Rain	None

3.6 PEA site descriptions and photos

B6 poor semi-improved grassland Appears to be regularly mown and is dominated by perennial rye-grass *Lolium perenne* and Yorkshire fog *Holcus lanatus, with* ribwort plantain *Plantago lanceolate*, creeping buttercup *Ranunculus repens*, lesser celandine *Ranunculus ficaria* and moss species *Sphagnum spp*. also present.	
J2.1.2 intact species poor hedge The hedge is located along the northern boundary, separating the site from the main road. The hedge is comprised of California privet *Ligustrum ovalifolium*. The hedge is to be affected by proposed works which in turn could affect nesting birds.	

J1.4 introduced shrub To the west of the site, within the semi-improved grassland and along the western fenced boundary is an area of introduced shrubs. These consist of geraniums Pelargonium spp., coralberry *Symphoricarpos orbiculatus*, lavender *Lavandula angustifolia*, rose *Rosa* and bamboo *Bambusoideae*. These shrubs will be impacted by the proposed development.	
A3.3 scattered trees Throughout the site, but mainly along the southern boundary are scattered trees. These are comprised of common fig tree *Ficus carica*, apple trees *Malus domestica* and cherry trees *Prunus avium*. These trees are to be affected by proposed works which in turn could affect nesting birds. There are no suitable roosting features for bats within these trees.	

A2.2 scrub To the south-west of B2, there is a small patch of brambles and nettles. The brambles are scattered and are due to be impacted by the proposed developments.	
J4 hardstanding Surround B1 and the northern and eastern elevations of B2 is hardstanding. It is comprised of concrete, wooden decking and shingles. The areas are used as a driveway and an outdoor recreational space.	

J2.4 fencing and J2.5 brick wall Surrounding the site on the southern and western boundaries is both wooden and metal fencing. On the northern (behind the hedge) and eastern boundary, the site is surrounded by a brick wall.	

3.7 PRA Site Feature Descriptions and Photos

 B1 –northern and eastern elevations	 B1 – southern and western elevations
B1 – General description B1 is a detached two-storey brick-built building with a hipped roof. The roof is clad in concrete tiles and has UPVC soffits, fascia and windows. There are two chimneys on the roof of B1.	

B1 Exterior

Western elevation (pictured opposite)

The roof is clad in concrete roof tiles, which appear to be in overall good condition but with some raised tiles in which crevice dwelling bats could roost, mainly under the ridge tiles (circled in red in the photo opposite). There is some mesh between the ridge tiles and roof tiles, but many are missing this which creates suitable gaps for bats to roost.

There are two chimneys located on the building. The chimney's brickwork on the western elevation is covered with plastic which is in good condition. The lead flashing atop the chimney is flush with the tiles.

The porch is in poor condition with missing areas of wood from under the pitched roof. These gaps create access points for bats to roost and birds to enter the building. However, the roof of the porch is clad in clear plastic which illuminates the entryway entirely.

The soffits on the western elevation are in poor condition with gaps in which bats could roost (highlighted with a yellow arrow).

B1 southern elevation (pictured opposite)

The roof tiles on the main roof are in relatively good condition with the only gaps around the ridge tiles (circled in red). However, the roof tiles on the extension on the southern elevation are in poor condition with raised sections and a missing roof tile, creating suitable roost features for crevice dwelling bats.

The brickwork on the main building is in relatively good condition on the southern elevation. However, the brickwork on the extension is in poor condition with holes that bats could roost within.

The chimney's brickwork on the southern elevation is in good condition. The lead flashing atop the chimney is flush with the tiles.

There are UVPC soffits and fascias around the building which have gaps where the soffits are not connected properly (highlighted with yellow arrow). Bats and birds could access the soffit box via this gap.

On the extension the lead flashing connecting the roof to the main house is lifted (highlighted with the blue arrows) which could further create suitable roosting features for crevice dwelling bat species.

The eaves on the extension are in poor condition as they are missing the fascia. This has created suitable gaps which could allow bats to roost within. These gaps are free from cobwebs suggesting recent activity.	
B1 eastern elevation (pictured opposite) The brick gable end appears to be in good condition. There is a section of the roof lining sticking out the gable end which obstructs the view of the ridge cap. However, there are no missing areas of mortar around the verges that might create access underneath the tiles. There are timber bargeboards on this gable end which are raised (yellow arrows). There are UVPC soffits and fascias around the building which have gaps where the soffits are not connected properly. Bats and birds could access the soffit box via this gap.	

B1 northern elevation (pictured opposite) The brickwork on the northern elevation appears to be in good condition with no gaps or cracks in which bats could roost. The soffits and fascias on the northern elevation are also in good condition with no access points for bats or birds. The doors and windows are UPVC framed and appear to be in excellent condition with no suitable bat roost sites. The roof tiles on the northern elevation are also in good condition with no raised sections under which bats could roost.	
B1 Interior There was no internal access so the loft space within B1 could not be assessed.	
B1 Evidence of bats There was no evidence of bat use (e.g. bat droppings) found on external features. However, this kind of evidence is easily weathered away on the exterior of buildings and is rarely visible. ***B1 Breeding birds and other incidental observations*** There was no evidence of nesting birds located internally or externally on the survey building	

B2 –northern and eastern elevations

B2 – western elevation

B2 – General description

B2 is a a semi detached one and a half-storey brick-built building with a gabled roof. The roof is clad in slate tiles which are in relatively good condition. The windows and doors are wooden framed and the soffits and fascias are UPVC. The southern elevation was unable to be surveyed due to the proximity to the neighbours property.

B2 Exterior

B2 Northern and eastern elevations (pictured opposite)

The roof is clad in slate roof tiles, which appear to be in relatively good condition with no raised tiles under which bats could roost.

The dormer on the northern elevation appears to be in good condition with no missing mortar on the gable end and all roof tiles intact with no raised sections.

The porch on the northern elevation is also in good condition with the lead flashing flush to the roof tiles and brick wall.

There are UVPC soffits and fascias around the building which appear to be in good condition with no gaps between the soffit and fascia or the soffit and walls and no holes.

The brick gable end appears to be in good condition with no gaps around the tops of the gable ends.

There are no missing areas of mortar around the verges that might create access underneath the tiles. There is no mortar missing from the end ridge cap.

There are two garage doors located on the northern elevation of the building. The doors are tight-fitting with no gaps around them that bats could use to enter the building.

The doors and windows are timber framed and appear to be in good condition with no suitable bat roost sites.

The presence of cobwebs in the soffit box/gap under the fascia indicates a lack of recent bat activity.

There are no suitable bat roost features on these elevations of the building.

B2 western elevation (pictured opposite) The brick gable end appears to be in good condition with no gaps around the tops of the gable ends. There are no missing areas of mortar around the verges that might create access underneath the tiles. There is no mortar missing from the end ridge cap. There are no suitable bat roost features on this section of the building. The southern elevation of the building could not be observed due to the proximity of the adjacent property.	
B2 Interior There is no loft space within B2. Daylight enters through the window on the northern elevation.	
B2 Evidence of bats There was no evidence of bat activity located internally in B2. There was no evidence of bat use (e.g. bat droppings) found on external features. However, this kind of evidence is easily weathered away on the exterior of buildings and is rarely visible. ***B2 Breeding birds and other incidental observations*** There was no evidence of nesting birds located internally or externally on the survey building	

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

Likelihood of the presence of protected species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat. The likelihood of occupancy of protected species is ranked according to the criteria listed in Table 1.

Where this report supports a planning application, the ecological interest of the study area (including the survey area) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity. It is clearly stated where a preliminary value can be given and where further information is required.

Appropriate justification for this assessment is provided in Section 2.3 and Table 1 of this report.

4.2 Informative guidelines for bats

Bats are protected under the Wildlife and Countryside Act and Conservation Regulations (see Appendix 4 for a summary of legislation protecting bats in the UK). Legislation protects all wild birds whilst they are breeding, and prohibits the killing, injuring or taking of any wild bird or their nests and eggs. Certain species of bird, including the barn owl, are subject to special provisions; it is an offence to disturb any bird or their young during the breeding season.

There are three possible outcomes of this survey, each with specific recommendations. These are outlined below:

Confirmed bat roost

Best practice survey guidelines (Collins, 2016) recommend additional surveys for confirmed roosts. Three further surveys are required to characterise the bat roost present including species, roost type and access points to inform a European Protected Species Mitigation Licence (EPSML) application with Natural England. Surveys must be completed during the active bat season (May – September). At least two of the surveys should be completed during the optimal survey period mid-May to August, and at least on the surveys should be a dawn re-entry survey (Collins, J. 2016).

Low, moderate or high likelihood of a bat roost present

Best practice survey guidelines (Collins, 2016) recommend additional surveys for features assessed as having low to high suitability for roosting bats. One, two or three further surveys are required to confirm presence/likely absence of a bat roost, based on a low, medium or high roost likelihood evaluation. Surveys must be completed during the active bat season (May – September). If more than one survey is recommended, at least one of them should be completed during the optimal survey period mid-May to August, and at least one the surveys should be a dawn re-entry survey (Collins, J. 2016). If two or one further survey is recommended these surveys must be completed during the optimal survey period (mid-May to August). For low and moderate roost likelihood evaluation the survey effort recommended at this stage is iterative and if bats roosts are confirmed in the building, a further survey will be required to provide sufficient information to inform an EPSML application to Natural England.

Negligible likelihood of a bat roost present

Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. However, if bats are found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted for further advice.

4.2 Evaluation

Taking the desk study and site survey results into account, the following conclusions for ecological factors has been reached.

Table 8: Evaluation of site

Ecological Factor	**Survey assessment conclusions (with justification)**	**Foreseen impacts**	**Recommendations**	**Enhancements** The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)
Designated sites	The site is not subject to any designation, and there are no designated sites nearby with the potential to be affected by the proposed development.	No impacts	No further surveys.	N/A
Notable habitats and plants	The magic.gov.uk database shows that deciduous woodland and parkland is located within 2km of site. There are no Priority habitats within the zone of influence of the proposed works. However, deciduous woodland is located adjacent to the site, along the western boundary.	The loss of low value habitats is likely to be inconsequential. Any retained trees within and surrounding the site could be affected by construction activities such as machinery encroachment which could damage canopies or root systems.	A Construction Method Statement (CMS) will be produced detailing best practice measure to be implemented to prevent pollution during construction works.	The proposed development could incorporate a range of habitat enhancements such as: • Native tree, shrub and hedgerow planting. • Wildflower grassland.

Non-native invasive species	No non-native invasive species recorded on site.	N/A	No further surveys.	None
Bats- B1	The building has raised roof tiles, gaps within the soffits and barge boards, missing mortar within the brickwork and gaps in the eaves. The building has **moderate habitat value** for roosting bats. Crevice dwelling bats could also roost in gaps under roof tiles. There are excellent foraging and commuting resources in close proximity due to the adjacent deciduous woodland to the west of the site. The site is likely to be used by bats as a foraging ground.	As the proposals include the demolition of this building, any bat roosts present would be destroyed. This could result in death/injury of bats.	Two bat emergence/re-entry surveys are required during the active bat season (May – September) to confirm presence/likely-absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive. Sub-optimal: early May and September. One of these surveys must be a dawn re-entry survey. Three surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building one additional survey will be required to inform a European Protected Species Mitigation Licence application to Natural England once planning permission has been granted.	To be confirmed following further surveys.
Bats- B2	There are no suitable roosting features on B2.	Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts	No further surveys required. In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licenced ecologist contacted for further advice.	The installation of bat boxes on new buildings or retained mature trees around the site boundaries will provide additional roosting habitat for bats e.g.

	The building has **negligible habitat value** for roosting bats.	on bats as a result of the proposed works.	For any external lighting – a low impact lighting strategy will be adopted from the guidance outlined in the new Bats and Lighting Publication produced by the Institution of Lighting Professionals and the Bat Conservation Trust "Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment series publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting The lighting on the site will: • Use narrow spectrum light sources to lower the range of species affected by lighting • Use light sources that emit minimal ultra-violet light • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature	2F Schwegler Bat Box (trees) 1FF Schwegler Bat Box (trees) Vivara Pro Woodstone Bat Box (buildings or trees) Or a similar alternative brand. Bat boxes should 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. Bat boxes could also be integrated into the design of the new buildings, such as Ibstock C bat bricks.

Birds	No evidence of nesting birds was found during the survey; however, birds could use the vegetation on site for nesting.	Active nests could be destroyed during vegetation removal.	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the trees and scrub should be undertaken immediately prior to the commencement of works. All active nests will need to be retained until the young have fledged.	The installation of bird boxes on new buildings or retained mature trees will provide additional nesting habitat for birds on site e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Schwegler 1B and Schwegler 2H nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be placed at the eaves of a building or incorporated into the building design.
Reptiles	The site provides a small area of reptile habitat in the form of scrub along the south-western boundary of the site.	The proposed development will result in the loss of habitat for common reptiles. Any reptiles present during the works could be injured or killed.	Due to the small area of suitable habitat on present on the site, reptile surveys are considered to be disproportionate. To minimise the risk of killing or injuring herpetofauna, site clearance works will be carried out under a precautionary method of working. Compost heaps or vegetation, log or rubble piles should be moved by hand prior to commencement of any work.	Waste materials created during the development e.g. log piles, brash, rocks etc, can be used to create hibernacula and refugia for common reptiles. These should be positioned on the site boundaries.

			Contractors will also adopt the following practices to safeguard reptiles during the works: • Any materials will be stored on pallets on areas away from the vegetation, in particular along the southern site boundary. • Rubble created during the development will be safely disposed of in a skip. If no skip is available the rubble will be stored on pallets off the ground until it can be removed from site, to prevent reptiles from using the rubble piles for hibernation.	
Amphibians	No suitable habitat on site for amphibians and there are no ponds within 500m of the development area. There are no GCN licenced sites within 2km of the site on the magic.gov.uk database, reducing the likelihood of them being present on site.	The proposed development is anticipated to have no impacts on common amphibians and GCN.	No further surveys required.	Creating log, brash and rock piles along the site boundaries will create hibernacula and refugia for amphibians.
Other Terrestrial Mammals	**Badgers** No suitable habitat for badgers found on site e.g. foraging and refuge.	**Badgers** No impacts on badgers.	**Badgers** No further surveys are required.	**Badgers** Planting fruit trees on the developed site will provide additional foraging resources for badgers.
	Water Vole No suitable habitat.	**Water Vole** The proposed development will have no impact on water voles.	**Water Vole** No further surveys.	**Water Vole** N/A

	Otter No suitable habitat.	**Otter** The proposed development will have no impact on otters.	**Otter** No further surveys.	**Otter** N/A
	Hazel dormouse No suitable habitat	**Hazel dormouse** The proposed development is anticipated to have no impact on hazel dormice.	**Hazel dormouse** No further surveys	**Hazel dormouse** N/A
	Hedgehog The site provides suitable habitat for hedgehogs.	**Hedgehog** The proposed development will result in the loss of habitat for hedgehogs. Any hedgehogs present during the works could be injured or killed.	**Hedgehog** No further surveys are required. However, the following recommendations are given in order to mitigate against potential harm to hedgehogs during the development works. • Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. • Security lighting to be directed away from the undergrowth. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.	**Hedgehog** Gaps should be created in new boundary fences to provide commuting routes through the developed site for hedgehogs. Hedgehog houses should be incorporated into the developed site positioned beneath the site boundaries, in shady areas of the new gardens. Avoid the use of slug pellets, as hedgehogs can be killed when they consume slugs that have been exposed to them.

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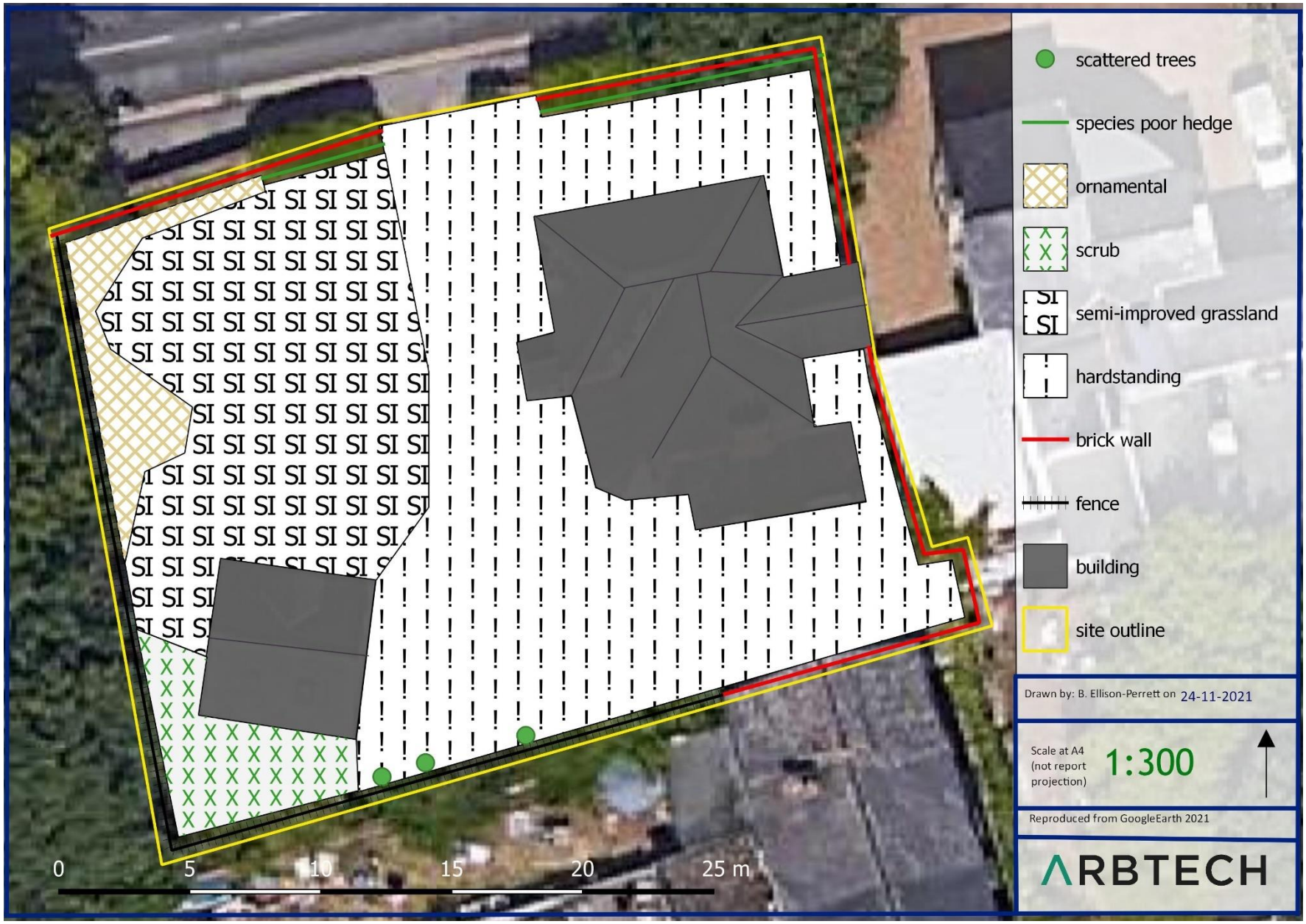
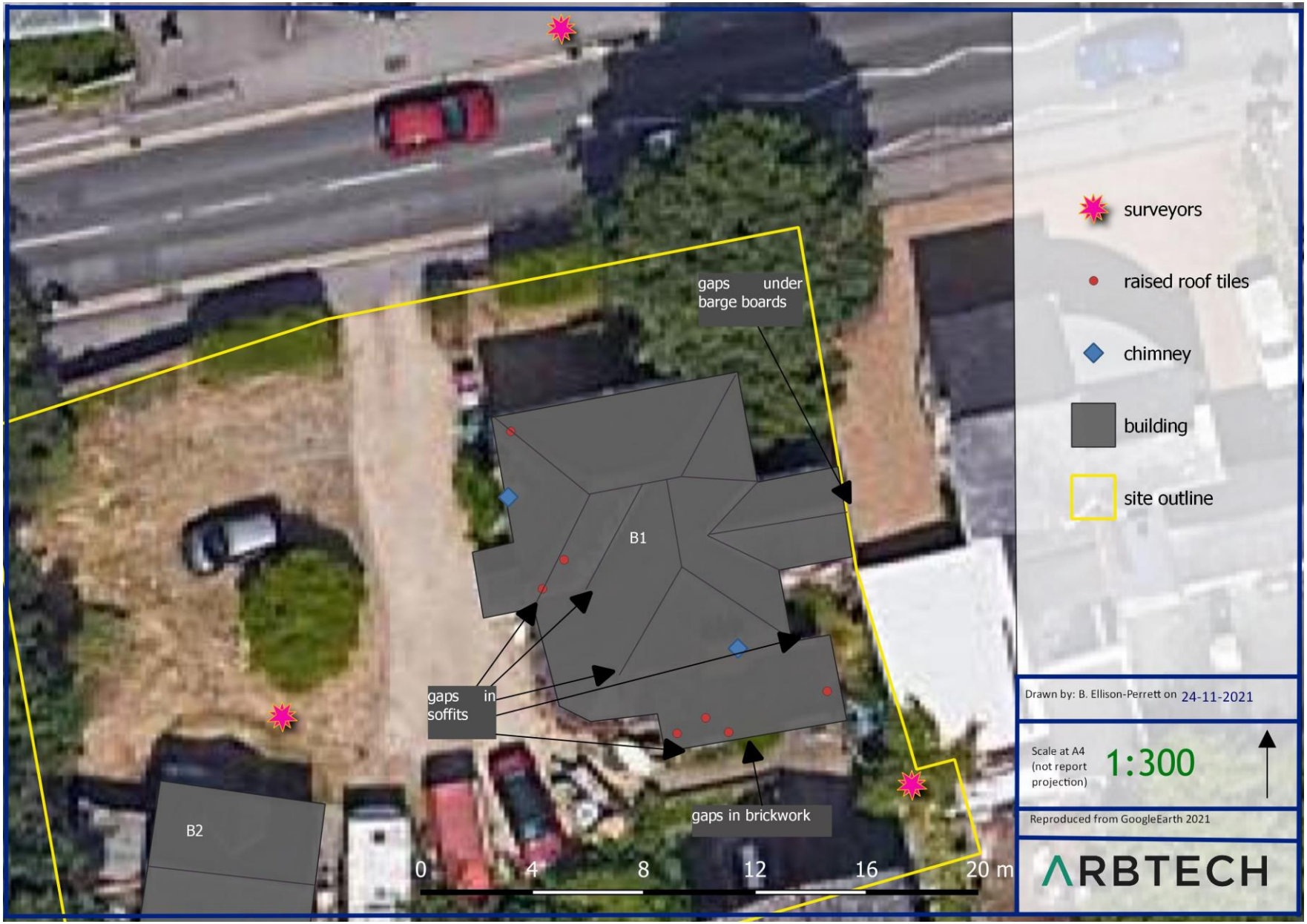
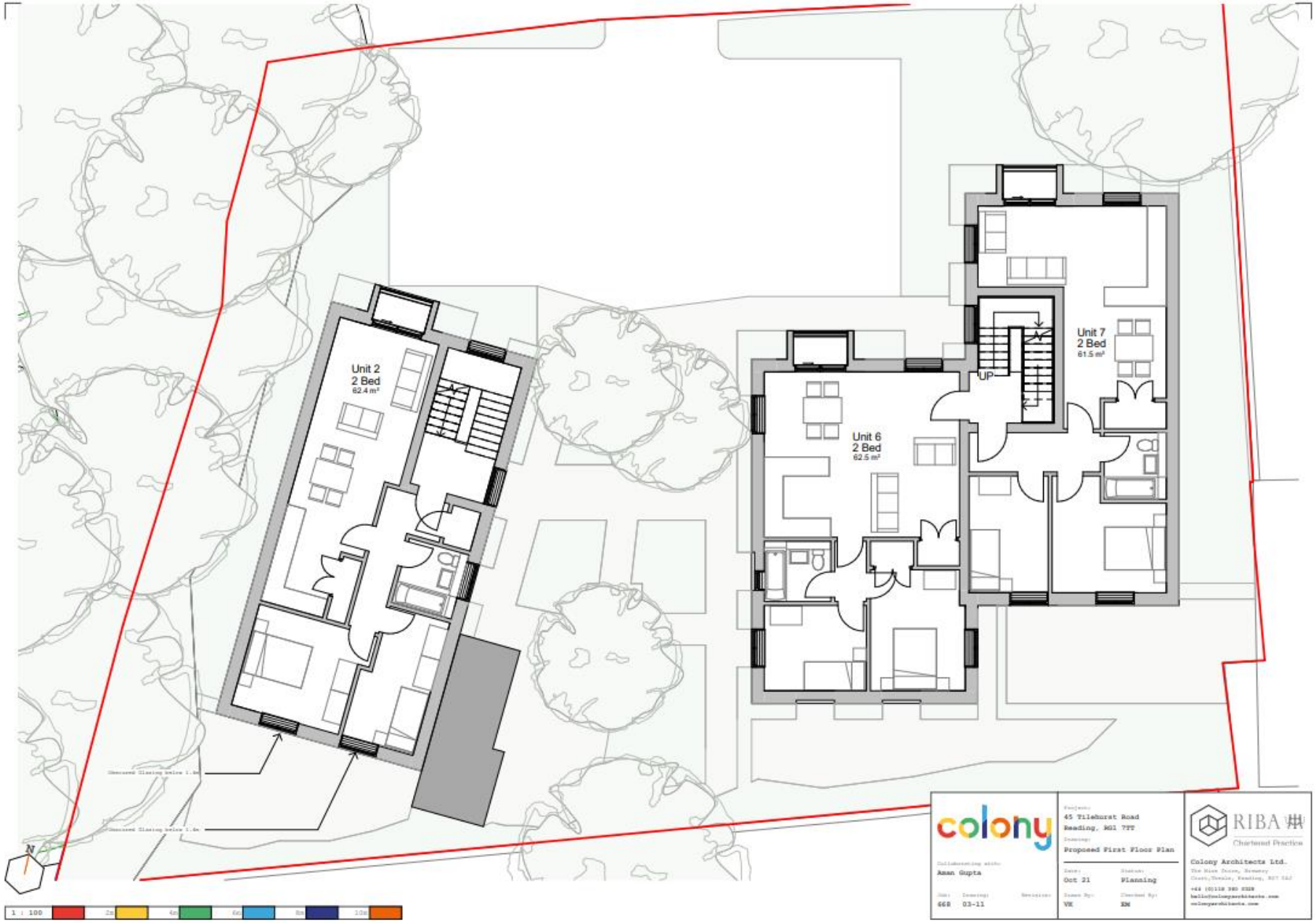
Appendix 1a: Phase 1 Habitat Survey Map



Appendix 1b: Preliminary Roost Assessment Survey Plan



Appendix 2: Proposed Site Plan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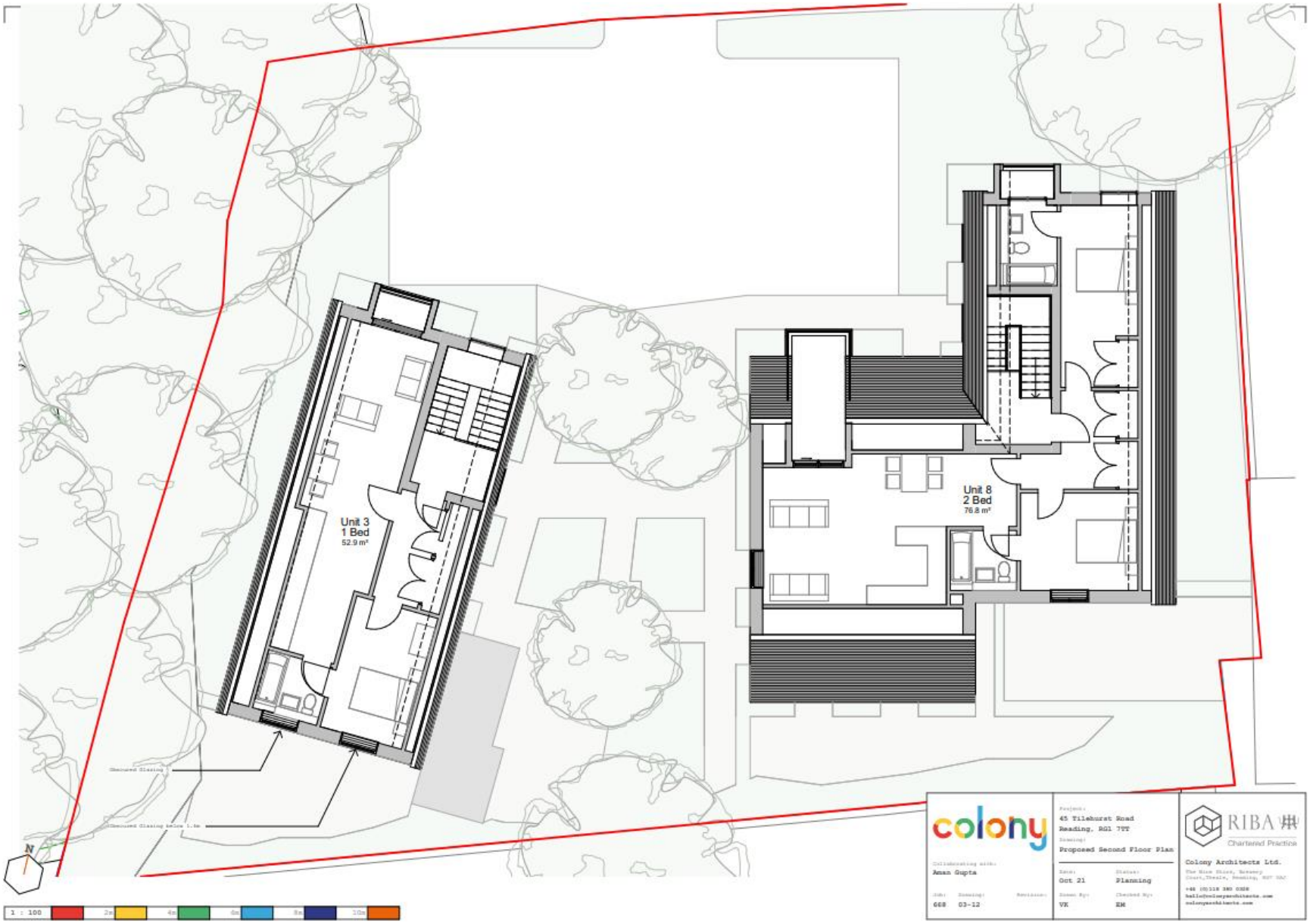
2 Bed
62.4 m²
Unit 6
2 Bed
62.5 m²
Unit 7
2 Bed
61.5 m²
UP
N
1 : 100
colony
Aman Gupta
668
03-11
45 Tilehurst Road
Reading, RG1 7TT
Proposed First Floor Plan
Oct 21
Planning
VK
RM
RIBA
Chartered Practice
Colony Architects Ltd.


Unit 3
1 Bed
52.9 m²
Unit 8
2 Bed
76.8 m²
N
1 : 100
2m
4m
6m
8m
10m
colony
Project:
45 Tilehurst Road
Reading, RG1 7TT
Drawing:
Proposed Second Floor Plan
Collaborating with:
Aman Gupta
Job:
668
Drawing:
03-12
Revision:
Date:
Oct 21
Status:
Planning
Drawn By:
VK
Checked By:
EM
RIBA
Chartered Practice
Colony Architects Ltd.

Appendix 3: Desk Study Information

MAGiC

Designated Statutory Sites

Legend

Local Nature Reserves (England)

Projection = OSGB36
xmin = 460500
ymin = 168700
xmax = 479000
ymax = 177900

0 0.8 1.6 km

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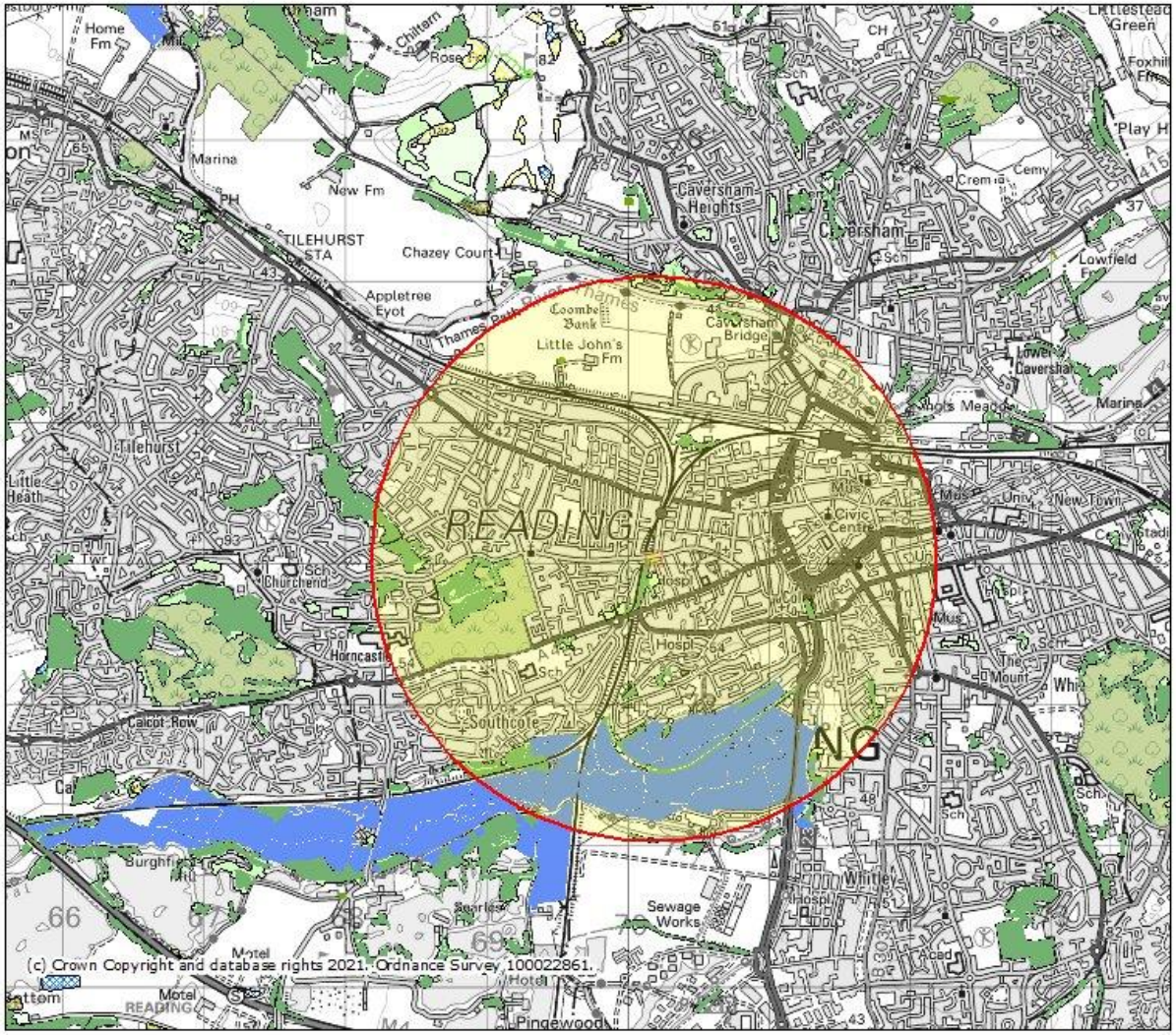
MAGiC

Habitats



Legend

- Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)
- Priority Habitat Inventory - Deciduous Woodland (England)
- Forestry Commission Legal Boundary (England)

National Forest Inventory (GB)

- Assumed woodland
- Broadleaved
- Cloud \ shadow
- Conifer
- Coppice
- Coppice with standards
- Failed
- Felled
- Ground prep
- Low density
- Mixed mainly broadleaved
- Mixed mainly conifer
- Shrub
- Uncertain
- Windthrow
- Young trees
- Priority Habitat Inventory - Traditional Orchards (England)
- Woodpasture and Parkland BAP Priority Habitat (England)

Projection = OSGB36
xmin = 460500
ymin = 168700
xmax = 479000
ymax = 177900

0 0.8 1.6 km

Map produced by MAGIC on 23 November, 2021.
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MAGiC

EPSLs

Legend

Granted European Protected Species Applications (England)

- Amphibian
- Bat
- Cetacean
- Invertebrate
- Other Mammal
- Plant
- Reptile

Projection = OSGB36
xmin = 460500
ymin = 168700
xmax = 479000
ymax = 177900

0 0.8 1.6 km

Map produced by MAGIC on 23 November, 2021.
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Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1.000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many annex II species): a strict protection regime must be applied across their entire natural range within the EU, both within and outside Natura 2000 sites.

Annex V species (over 90): Member States must ensure that their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

SACs and SPAs up to 12 nautical miles from the coast (i.e. 'territorial waters') are afforded protection in the UK under the Conservation of Habitats and Species Regulations 2017 which consolidate all amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994.

The Conservation of Offshore Marine Habitats and Species Regulations 2017 consolidate and update the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007. The 2017 Regulations introduce amendments which transfer responsibility for European nature conservation in the Welsh offshore region to Welsh Ministers. This gives Welsh Ministers similar powers in Welsh offshore waters to those currently exercised by Scottish Ministers in Scottish offshore waters. These regulations transpose into national law Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive), and elements of Council Directive 2009/147/EC on the conservation of wild birds (Wild Birds Directive) in the UK offshore area. They came into force on 30th November 2017. These regulations apply to the UK's offshore marine area which covers waters beyond 12 nautical miles, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area. The Conservation of Habitats and Species Regulations 2017 form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12nm in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as "*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*".

However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

<u>The Hedgerow Regulations 1997</u>

The Hedgerow Regulations 1997 are designed to protect ‘important’ countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of 'migration' and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests':

- The action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett

- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agency's to define what would constitute a licensable activity. It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as "Schedule 1" birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Reptiles (Amphibians and reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

<u>Effects on development works:</u>

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

An EPSM Licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species

- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

An EPSM Licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Dormice

Hazel Dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White clawed crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking
- Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species

- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

An EPSM licence will be required from the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any land owner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

National Planning Policy Framework (ENGLAND)

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Scottish Planning Policy (Published: 23 Jun 2014)

The SPP sits alongside the Scottish Government planning policy documents. The National Planning Framework (NPF) provides a statutory framework for Scotland's long-term spatial development. The NPF sets out the Scottish Government's spatial development priorities for the next 20 to 30 years.

A Natural, Resilient Place - Valuing the Natural Environment (National Planning Framework Context) Paragraph 193. The natural environment forms the foundation of the spatial strategy set out in NPF3. The environment is a valued national asset offering a wide range of opportunities for enjoyment, recreation and sustainable economic activity. Planning plays an important role in protecting, enhancing and promoting access to our key environmental resources, whilst supporting their sustainable use.

Policy Principles: Paragraph 194. The planning system should:

- Facilitate positive change while maintaining and enhancing distinctive landscape character;
- **Conserve and enhance protected sites and species, taking account of the need to maintain healthy ecosystems and work with the natural processes which provide important services to communities;**
- Promote protection and improvement of the water environment, including rivers, lochs, estuaries, wetlands, coastal waters and groundwater, in a sustainable and co-ordinated way;
- Seek to protect soils from damage such as erosion or compaction;
- Protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value;

- Seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats; and
- Support opportunities for enjoying and learning about the natural environment.

Planning Policy Wales (Draft 2018)

Paragraph 5.42 of the document refers to Biodiversity and Ecological Networks and states:

The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in The State of Natural Resources Report (SoNaRR) (published by Natural Resources Wales and Area Statements should be taken into account. Development plan strategies, policies and individual development proposals must take into account the need to:

- Promote the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily designated sites are properly protected and managed;
- Safeguard protected species; and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil; and
- Seek enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Environment (Wales) Act 2016 and the Biodiversity Duty

The Environment (Wales) Act introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience. This new duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006 (referred to as the NERC Act). Part 1 of the Act deals with Sustainable management of natural resources including Biodiversity and Resilience of Ecosystems Duty. The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

5.44 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

a) Diversity between and within ecosystems;
b) The connections between and within ecosystems;
c) The scale of ecosystems;
d) The condition of ecosystems (including their structure and functioning); and
e) The adaptability of ecosystems.

5.45 In fulfilling this duty, planning authorities must have regard to:

a) The list of habitats of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
b) The State of Natural Resources Report (SoNaRR), published by NRW; and
c) Any Area Statement that covers all or part of the area in which the authority exercises its functions.

5.46 A proactive approach towards facilitating the delivery of biodiversity and resilience outcomes should be taken by all those participating in the planning process. In particular, planning authorities should demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions. The broad framework for implementing the duty and building resilience through the planning system includes addressing:

- Diversity: to ensure mechanisms are in place to minimise further loss and that circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. This means development should provide a net benefit for biodiversity, and at the very least, with no significant loss of habitats or populations of species, locally or nationally;
- Extent: to ensure mechanisms allow for the maintenance of existing assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new habitat. This means that planning choices should incorporate measures which seek the creation and restoration of green networks and linkages between habitats and maintaining and
- enhancing other green infrastructure features and networks;
- Condition: this is more complex to address, not least because of the interactions of various factors which underpin habitats. At the very least planning approaches should not compromise the condition of ecosystems. By taking an integrated approach to development, for example, which considers both direct and wider impacts and benefits it should be possible to make a positive contribution through the planning system; and
- Connectivity: to take opportunities to develop functional habitat and ecological networks across landscapes, building on existing connectivity and quality and encouraging habitat creation and restoration. The opportunities could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors (including transport and river corridors) and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change.