



Preliminary Ecological Appraisal and Preliminary Roost Assessment

The Granary, Filkins, Lechlade, Oxfordshire, GL7 3JJ

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

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.

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)

Executive Summary

Arbtech Consulting Limited was instructed by Tony & Tracy Colledge to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Granary, Filkins, Lechlade, Oxfordshire, GL7 3JJ (hereafter referred to as “the site”). The survey was required to inform a planning application for the erection of a porch, the replacement of part of the existing roof with Cardinal slates and alterations to fenestration (hereafter referred to as “the proposed development”).

The following is work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 6 of this report.

Feature	Survey Results Summary	Impact Assessment	Recommendations
Roosting bats (B1)	B1 has a low value for roosting bats, specifically for crevice dwelling bats. It has no habitat value for void dwelling bats, as there is no internal roof void within the impacted area. The value for crevice dwellers stems from a few loose tiles and other external gaps. The majority of these features are on the northern single storey extension, with only a handful of gaps and slightly loose tiles on the western side of the south-western roof which will be impacted by the works.	The proposed development will result in the modifications to the south-western roof, and no direct impacts to the northern roof or to the northern extension, which has the highest number of loose tiles. The works to the south-western roof could impact bat roosts if any are present in this area, but given the exposed nature of the few gaps in this area, it may be possible to fully inspect these features with an endoscope prior to commencing the works and therefore ensure bats are absent and that no impacts will occur.	It is assessed that the roosting features within the area impacted by the works are sufficiently exposed such that they can be fully inspected by an ecologist, and therefore it may be suitable to avoid further survey effort by implementing a precautionary working method approach. This approach is enforced by the 4 th edition bat survey good practice guidelines. This precautionary working method should include the following: <ul style="list-style-type: none"> • The provision of a toolbox talk to contractors by a qualified ecologist to inform them of the potential presence of bats. • A pre-commencement inspection of any roost features by a qualified ecologist using a torch and an endoscope (this may be via ladders or scaffolding) • The removal of bat roost features by hand under the supervision of a qualified ecologist (where it is not possible conclude absence of bats during the pre-commencement inspection). • Avoiding the use of unnecessary lighting, particularly at night, or implementing a low impact lighting strategy to avoid illumination of retained or newly created roosts or roost features. • Avoiding excessive noise or vibration disturbance e.g. from power tools or radios, within close proximity of retained or newly created roosts or roost features.

Contents

1.0 Introduction and Context 6

 1.1 Background..... 6

 1.2 Site Location and Landscape Context 6

 1.3 Scope of the Report..... 6

2.0 Methodology 8

 2.1 Desk Study..... 8

 2.2 Field Survey 8

 2.3 Limitations..... 9

3.0 Results and Evaluation.....10

 3.1 Designated Sites.....10

 3.2 Field Survey Results.....10

4.0 Conclusions, Impacts and Recommendations21

 4.1 Informative Guidelines.....21

 4.2 Evaluation.....21

5.0 Bibliography25

 Appendix 1: Proposed Development Plan.....28

 Appendix 2: Site Location Plan29

 Appendix 3a: Habitat Survey Plan30

 Appendix 3b: PRA Plan.....31

 Appendix 4: Legislation and Planning Policy32

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Tony & Tracy Colledge to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Granary, Filkins, Lechlade, Oxfordshire, GL7 3JJ (hereafter referred to as “the site”). The survey was required to inform a planning application for the erection of a porch, the replacement of part of the existing roof with Cardinal slates and alterations to fenestration (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

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. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

1.2 Site Location and Landscape Context

The site is located at National Grid Reference SP2385004372 and has an area of approximately 0.2ha comprising amenity grassland and a residential dwelling. It is surrounded on all sides by other residential dwellings and the wider landscape comprises agricultural fields. A site location plan is provided in Appendix 2.

1.3 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 possible ecological constraints as a result of the proposed development and 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 PRA element of this report provides a description of all features suitable for roosting, foraging and commuting 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 possible constraints to the proposed development as a result of 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.

To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including roosting bats.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.

- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site.

2.2 Field Survey

The survey was undertaken by Dr James Fielding PhD BA (Hons), Consultant Ecologist (Natural England Bat Licence Number 2022-10412-CL17-BAT) on 31/10/2023.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

For ease of reading, scientific names are omitted from this report for widespread, ubiquitous and well-known species. Scientific names are only included where deemed necessary in conveying correct information to the reader, for example where common names differ regionally or in specialised, notable, unusual or challenging taxa, or if there is any ambiguity in identification (e.g where a species can only be identified to genus level).

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.

Preliminary Roost Assessment

The PRA focussed on 1 built structures which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the building for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the building was also made, including the living areas and any accessible roof spaces, using a 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.

Suitability Assessment

Built structures were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in Table 1 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats

Classification	Feature of building and its context
High	Buildings or structures with features of particular significance for larger numbers of 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). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Moderate	Buildings or structures with one or more features suitable for more regular roosting due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value such as maternity or hibernation roosts. Continuous habitat connected to the wider landscape which could be used by bats for commuting such as lines of trees, linked gardens. Foraging habitat in the surrounding area such as trees, scrub, grassland or water.
Low	Buildings or structures with one or more features suitable for use sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but largely isolated in the landscape. Or an isolated site not connected by prominent linear features.
Negligible	Unsuitable for use by bats.

2.3 Limitations

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

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

There were two ponds within the 500m buffer of the site. However, the ponds could not be inspected as they were located on private land with no access.

These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

3.0 Results and Evaluation

3.1 Designated Sites

No statutory designated sites were identified within 2km of the site. However, the site lies within the impact risk zone for Cotswold Water Park SSSI, Grafton Lock Meadow SSSI and Westwell Gorse SSSI. Proposed development type is not listed as a possible high risk with regard to these designations.

3.2 Field Survey Results

The results of the field survey are illustrated in Appendix 3. The weather conditions recorded at the time of the survey are shown in Table 2.

Table 2: Weather conditions during the survey

Date:	31/10/2023
Temperature	18°C
Humidity	63%
Cloud Cover	5%
Wind	1mph
Rain	None

Habitats and Flora



The following habitats are present within and adjacent to the site:


- u1 built-up areas and gardens
- u1b5 buildings
- h2 hedgerow (other)
- u1b developed land; sealed surface

A description and photographs of each habitat are provided in Table 3.

No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site.

Table 3: Description and photographs of habitats within and adjacent to the site

Habitat type	Habitat description	Photograph
<p>u1 built-up areas and gardens</p>	<p>The site features a garden dominated by closely mown amenity grassland, with small flowerbeds and introduced shrubs along the outskirts. The south-western boundary is bordered by a species-poor hedgerow, and the other site boundaries are bordered with wooden fencing. This area will not be impacted by the works.</p>	 <p style="text-align: right;">Oct 31, 2023 13:48:39</p>
<p>h2 hedgerow (other)</p>	<p>There is a species poor deciduous hedgerow along the south-western boundary of the site. This will not be impacted by the works.</p>	 <p style="text-align: right;">Oct 31, 2023 13:49:56</p>

<p>u1b5 buildings</p> <p>u1b developed land and sealed surface</p>	<p>The site features one residential dwelling (discussed in more detail in the PRA section below) and two wooden sheds, which will not be impacted by the proposed works and are therefore not discussed further.</p> <p>There is hard standing and gravel parking in front of the main residential building.</p>	
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Fauna

Bats

The results of the PRA are provided in Table 4. No evidence of roosting bats was identified during the survey.

Table 4: Assessment of the suitability of the site for bats

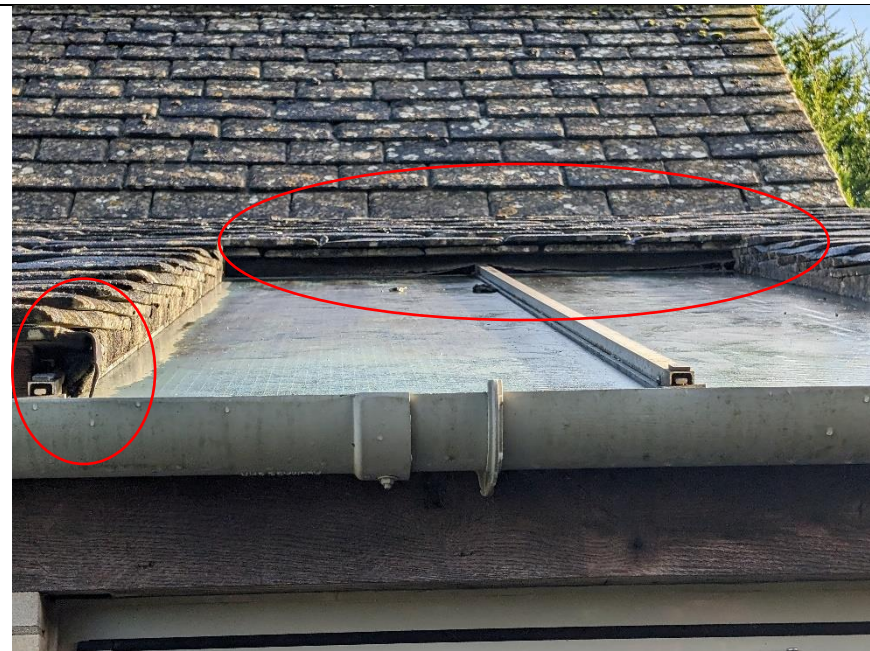
Feature	Description	Photographs
<p>Historical records</p>	<p>Two EPSLs were identified for bats within 2km of the site. The closest EPSL was 280m south-west for common pipistrelle, and Natterers bats (resting place). The second EPSL was 1.3km east for common and soprano pipistrelle bats (resting place). The furthest EPSL was 1.45km east for brown long-eared, common pipistrelle, soprano pipistrelle, serotine and whiskered bats (breeding and resting place).</p>	

<p>Bat foraging and commuting habitat</p>	<p>Bats will find some moderate foraging value on site in the form of amenity grassland, introduced shrubs and hedgerow. The hedgerow on site will also offer an excellent commuting feature. There are several scattered trees and rich areas of grassland to the north and north-west of the site, which will offer excellent foraging habitat.</p>	 <p>Oct 31, 2023 13:48:43</p>
<p>B1 - overview</p>	<p>B1 is a two storey detached residential dwelling with a pitched and cross-gabled roof. The roof is clad in stone roof tiles which are generally in good condition, with occasional small gaps which might be of minor use to crevice dwelling bats.</p> <p>The roof is divided into a northern section, and a southern section, which will be the focus of the proposed works.</p> <p>The doors and windows of the building are a mix of wood and UPVC clad, and appear to be in good condition. There is one large brick chimney on the northern roof, which is in good condition with lead flashing at the base, which is flat and without gaps.</p>	 <p>Oct 31, 2023 13:48:54</p>

<p>B1 – north-western elevation</p>	<p>The north-west facing gable end is in good condition, with no bat roosting features present.</p>	
<p>B1 – northern elevation</p>	<p>The western section of the roof has a sloped facing extending over a conservatory-style extension. This roof has two skylights in the upper section, and three pipes rising through the roof. These are well fitted, with no gaps or cracks. The roof is joined to the northern section of the building with lead flashing, which is flat and without gaps.</p>	

B1 – northern elevation roof close up



Two sections of wired glass and clear polymer are present embedded within the lower roof, which provides sunlight into the conservatory extension below. There are open gaps at the side of these polymer areas, and the stone tiles overhang it above. These provide relatively exposed roosting features which could be of use to crevice dwelling bats.







B1 – northern elevation roof close up

The stone roof tiles on the northern elevation of the lower roof are in good condition, but have been laid in a widely spaced pattern, which provides small gaps between the tiles. These gaps are typically too exposed to be of use to bats, but in some locations provide access to a small overhang which could be utilised by crevice dwelling bats. In these cases, the gaps are sufficiently shallow that they should be able to be inspected with an endoscope or torch prior to the roof works commencing.



<p>B1 – southern elevations</p>	<p>The southern side of the lower roof appears to be in good condition, with no visible roosting features.</p>	
<p>B1 – eastern elevations</p>	<p>The northern cross-gabled end is in good condition with no roosting features.</p>	

<p>B1 – north-eastern elevation</p>	<p>The north-eastern elevation features a pitched-roof dormer window and a single storey extension with a sloped roof clad in stone tiles. These stone tiles are in good condition, but are widely spaced, providing several small, relatively exposed gaps beneath the tiles which could be of use to crevice dwelling bats. This area of the building will not be impacted by the proposed works.</p>	
<p>B1 – north-eastern extension corner</p>	<p>The eastern side of the north-eastern extension is clad in wooden boards. One board is loose (circled in red) which provides a small gap which bats could use to access the interior space of the extension.</p>	

<p>B1 – north-eastern extension roof close up</p>	<p>The tiles on the north-eastern single storey extension are loosely fitted, with small overhangs between each tile which could offer a relatively exposed, and therefore suboptimal, roosting feature for crevice dwelling bats.</p>	
<p>B1 – interior</p>	<p>There is no loft space within B1, as it has been converted into habitable space.</p>	

B1 – suitability assessment	B1 has a low value for roosting bats, specifically for crevice dwelling bats. It has no habitat value for void dwelling bats, as there is no internal roof void within the impacted area. The value for crevice dwellers stems from a few loose tiles and other external gaps. The majority of these features are on the northern single storey extension, with only a handful of gaps and slightly loose tiles on the western side of the south-western roof which will be impacted by the works.	No photo.
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Other Species

An assessment of the suitability of the site for protected or notable species is provided in 5.

Table 5: Assessment of the suitability of the site for protected or notable species

Species	Assessment of suitability
Amphibians	No EPSLs were identified for great crested newts within 2km of the site. Great crested newts exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). A review of aerial imagery indicates the presence of two ponds within 500m of the site including a pond located 200m west, and a pond located 350m east. Both ponds are separated from the site by sub-urban infrastructure including tarmac roads, buildings, and extensive managed grassland. These landscape features are suboptimal for great crested newts due to a lack of refuge from predation. Given the distance of these ponds from the site, these landscape features are likely to represent a significant barrier to dispersal eliminating connectivity to the site for great crested newts. The site itself contains closely mown grassland, which will not offer good cover for foraging or sheltering amphibians. Amphibians could access the site from the bounadries, but overall the site is considered to have a low suitability for amphibians.
Reptiles	No EPSLs were identified for reptiles within 2km of the site. Similarly, to great crested newts, the habitats within the site have a short sward height due to their regular mowing. The site has minimal connective features to the wider landscape, with a dispersal barrier to the south-east of the site (road). As a result, this site is unlikely to support basking, foraging, hibernation or sheltering opportunities for reptiles, and only provides a low value to these species.
Badgers	The site provides little suitable habitat for set excavation due to the potential well-managed grassland and the immediate surrounding residential area. However, the area may be suitable for commuting and foraging badgers as the well-managed grassland on-site may provide some worms and grubs, and badgers could access the site under the wooden fencing.
Hazel Dormouse	No EPSLs were identified for Hazel Dormice within 2km of the site. There is no suitable Hazel dormouse habitat within the site or within 2km of the site as the area is not connected to any woodland pockets.
Hedgehog	From aerial imagery, the habitats identified within and around the local landscape provide some shelter and potential foraging opportunities. However, there is a lack of commuting corridors (hedgerows and treelines) for hedgehogs that could lead to predation. The amenity grassland within the site and local landscape will support some invertebrates that are suitable for foraging.
Riparian mammals (otters, water voles)	No EPSLs were identified for otters within 2km of the site. The Broadwell Brook is 500m west of the site with a section of the brook that is indicated to fill during heavy rainfall (100m adjacent the site). This is sufficiently far from the site that otters and water voles are unlikely to access the site. Given the information above, no suitable watercourses or terrestrial habitats were identified for otters in the site or within the immediate surrounding area.
Birds	The site has plenty of suitable nesting bird opportunities including the trees on the south-east border, nest boxes on site as well as the abundance of residential dwellings in the surrounding area. The site has no ground nesting opportunities due to the well-managed nature of the residential dwelling's amenity grassland.

Invertebrates	The site likely has a low diversity of invertebrates due to the land use and management giving a low sward height for the grassland.
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4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

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.

Where this report supports a planning application, the ecological interest of the study area (i.e. the area covered by the desk study and field survey) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

4.2 Evaluation

Taking the desk study and field survey results into account, Table 6 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development which will comprise the addition of a porch, alterations to the fenestration, and replacement of roof tiles.

Table 6: Evaluation of the site and any ecological constraints

Feature	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
Designated sites	<p>There are no statutory sites within 2km of the site.</p> <p>The presence of non-statutory designated sites within 2km of the site cannot be established without data from Thames Valley environmental records centre. However given the low footprint of the proposed development it is not considered likely that any impacts upon non-statutory sites will occur.</p>	<p>No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers.</p>	None.	None.

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

<p>Habitats and flora</p>	<p>There are no notable habitats within the site but lowland calcareous grassland, woodpasture and BAP priority habitats and deciduous woodland habitats are present within 2km of the site, the closest being woodpasture and BAP priority habitat located ~100m west from the site.</p>	<p>No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.</p>	<p>None.</p>	<p>None.</p>
<p>Roosting bats (B1)</p>	<p>B1 has a low value for roosting bats, specifically for crevice dwelling bats. It has no habitat value for void dwelling bats, as there is no internal roof void within the impacted area. The value for crevice dwellers stems from a few loose tiles and other external gaps. The majority of these features are on the northern single storey extension, with only a handful of gaps and slightly loose tiles on the western side of the south-western roof which will be impacted by the works.</p>	<p>The proposed development will result in the modifications to the south-western roof, and no direct impacts to the northern roof or to the northern extension, which has the highest number of loose tiles. The works to the south-western roof could impact bat roosts if any are present in this area, but given the exposed nature of the few gaps in this area, it may be possible to fully inspect these features with an endoscope prior to commencing the works and therefore ensure bats are absent and that no impacts will occur.</p>	<p>It is assessed that the roosting features within the area impacted by the works are sufficiently exposed such that they can be fully inspected by an ecologist, and therefore it may be suitable to avoid further survey effort by implementing a precautionary working method approach. This approach is enforced by the 4th edition bat survey good practice guidelines. This precautionary working method should include the following:</p> <ul style="list-style-type: none"> • The provision of a toolbox talk to contractors by a qualified ecologist to inform them of the potential presence of bats. • A pre-commencement inspection of any roost features by a qualified ecologist using a torch and an endoscope (this may be via ladders or scaffolding) • The removal of bat roost features by hand under the supervision of a qualified ecologist (where it is not possible conclude absence of bats during the pre-commencement inspection). • Avoiding the use of unnecessary lighting, particularly at night, or implementing a low impact lighting strategy to avoid illumination of retained or newly created roosts or roost features. • Avoiding excessive noise or vibration disturbance e.g. from power tools or radios, 	<p>The installation of one bat box at the site will provide additional roosting habitat for bats. The bat boxes will be installed on the south-eastern elevation or on trees along the site boundaries. 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, away from artificial light. The bat boxes will be a specification suitable for crevice dwellers such as Beaumaris bat boxes or a similar alternative brand.</p>

			within close proximity of retained or newly created roosts or roost features.	
Foraging and commuting bats	The hedgerows and grassland on site could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats.	None.	None.
Amphibians	The site has a low value for amphibians, which could access the site from nearby habitats.	The development will be restricted to the footprint of the house and therefore no impacts are anticipated on great crested newt or common amphibians as a result of the proposed development.	None.	None.
Reptiles	The site has a low value for reptiles, which could access the site from nearby habitats.	The development will be restricted to the footprint of the house and therefore no impacts are anticipated on reptiles as a result of the proposed development.	None.	None.
Badger	No evidence of badgers or badger setts was found on site or within 30m. Badgers could access the site from nearby habitats during foraging.	The development will be restricted to the footprint of the house and therefore no impacts are anticipated on badgers.	None.	None.
Hazel dormouse	The site has no significant dormice habitat.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.
Hedgehog	Hedgehogs could be present foraging or sheltering within the site's garden.	The development will be restricted to the footprint of the house and therefore no impacts are anticipated on hedgehogs as a result of the proposed development.	None.	None.
Riparian mammals	The site has no value for riparian mammals.	Riparian mammals are highly unlikely to be present on site and therefore no impacts are anticipated on riparian mammals as a result of the proposed development.	None.	None.

Birds	The buildings on site have no value for nesting birds. Bird boxes are present on site, which will offer nesting opportunities for birds.	The development will be restricted to the footprint of the house and therefore no impacts are anticipated on nesting birds as a result of the proposed development.	None.	None.
Invertebrates	The site's garden is likely to support a typical small assemblage of garden invertebrates.	No impacts are anticipated on notable species or populations of invertebrates as a result of the proposed development.	None.	None.

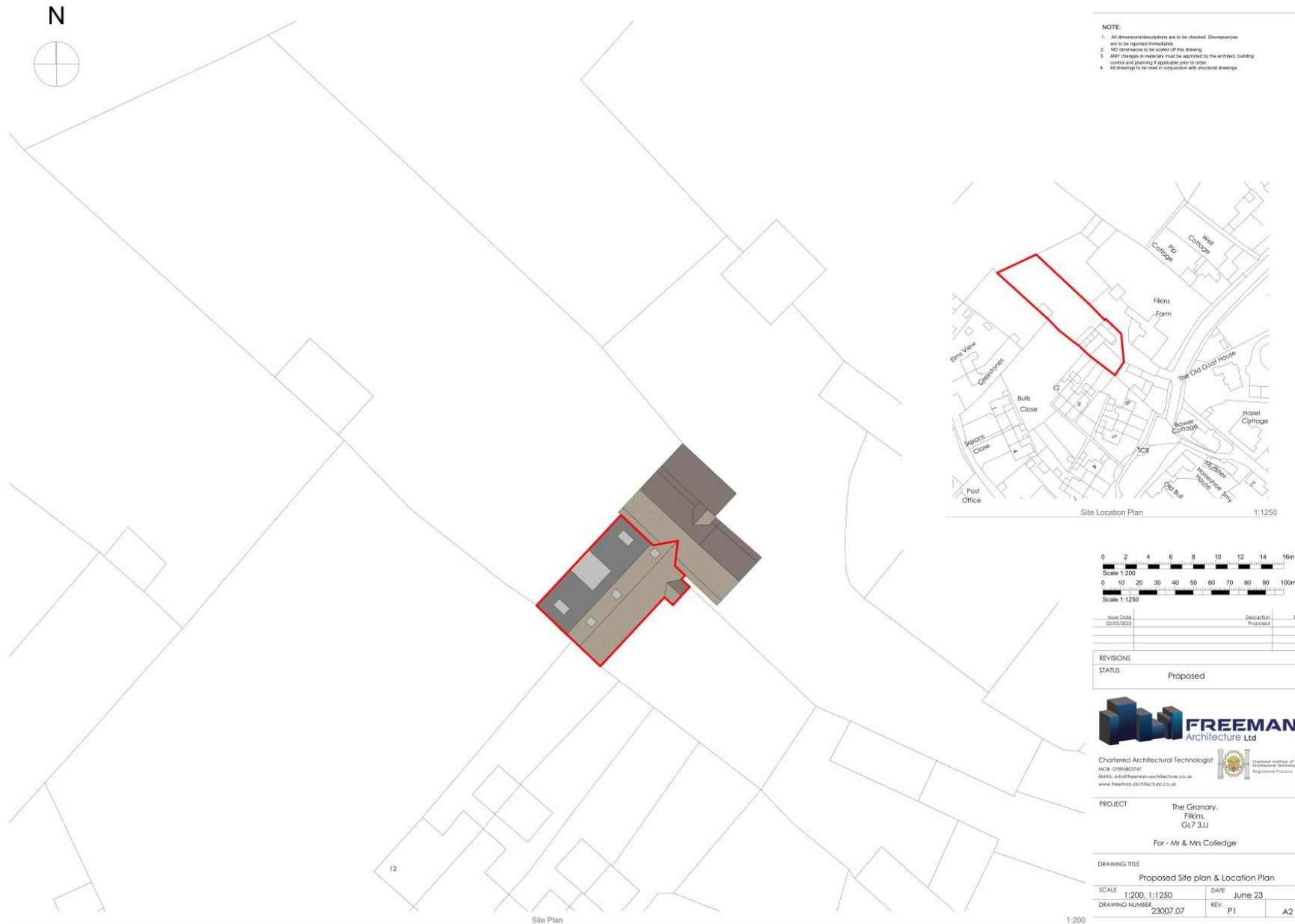
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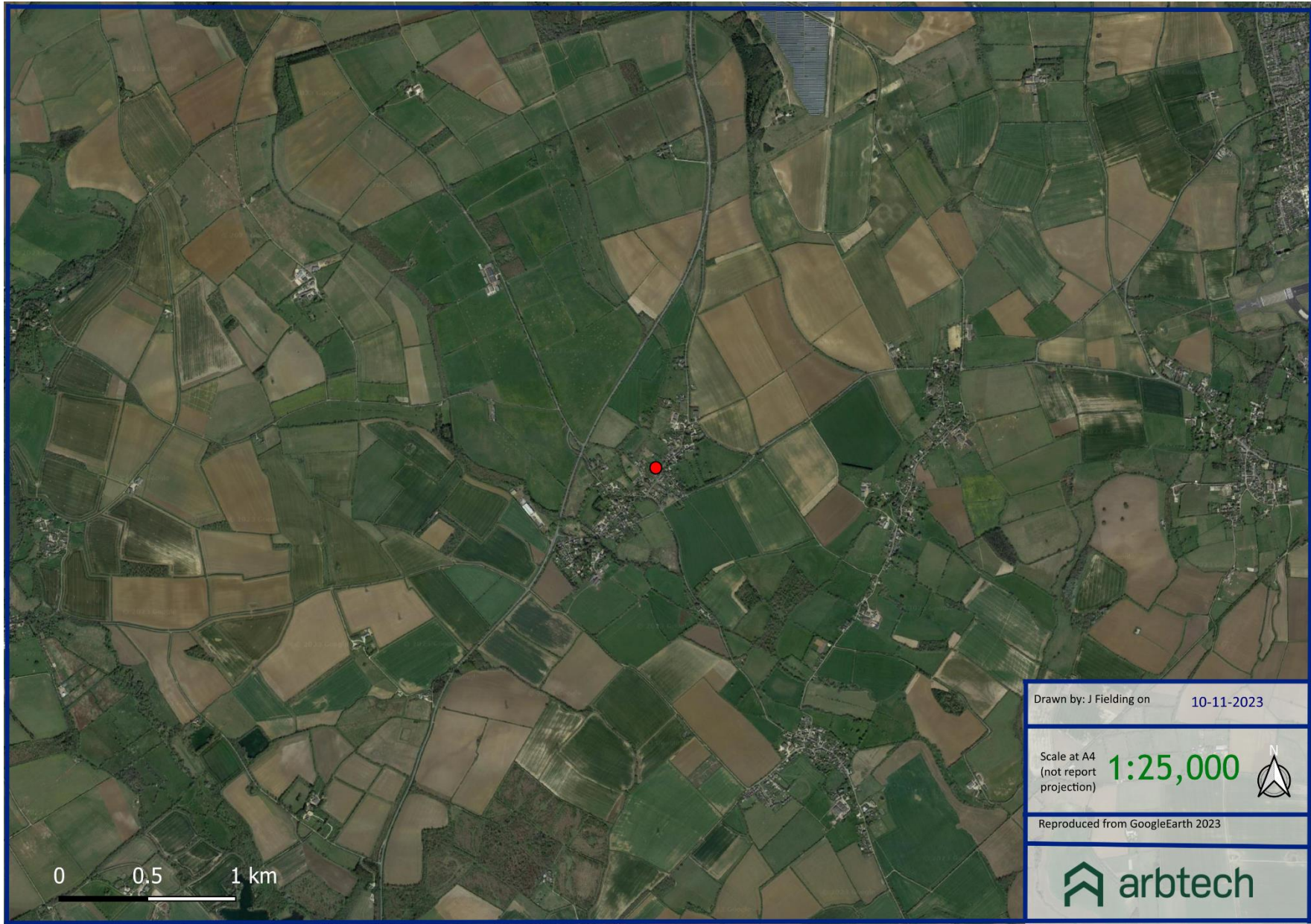
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Appendix 1: Proposed Development Plan



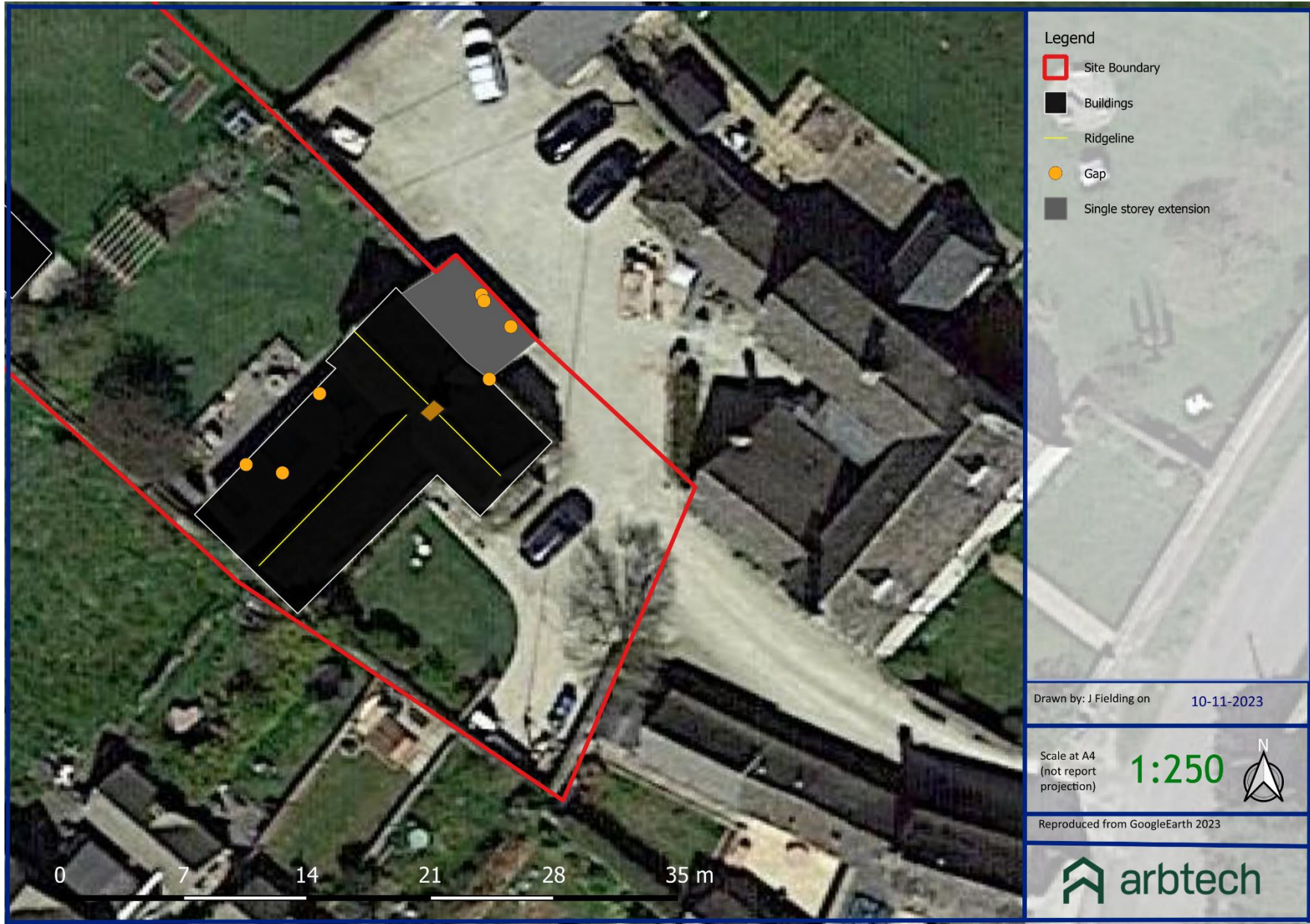
Appendix 2: Site Location Plan



Appendix 3a: Habitat Survey Plan



Appendix 3b: PRA Plan



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 (the Wild Birds Directive) 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 1000 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, both within and outside Natura 2000 sites.

Annex V species (over 90): 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.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles 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.

The Hedgerow Regulations 1997

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 Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

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).

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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A development licence will be required from the relevant countryside agency (i.e. Natural England) 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 agencies to define what would constitute a licensable activity. It is not 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 kill, injure or take any wild bird
- Intentionally take, damage or destroy 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.

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA 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

EFFECT OF LEGISLATION AND POLICY 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.

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.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England) 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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 EPSL. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel 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

EFFECT OF LEGISLATION AND POLICY 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 a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England). 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

The relevant countryside agency (i.e. Natural England) 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 picking, uprooting or destruction of any wild Schedule 8 species
- 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.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England) 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 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*

EFFECT OF LEGISLATION AND POLICY 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 landowner 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*

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

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***Environment Act 2021***

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

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 species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) 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; measurable gains in biodiversity in and around developments are incorporated; 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 bio diversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act 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.

LOCAL PLANNING POLICY**EUROPEAN PROTECTED SPECIES POLICIES**

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision ;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.