



Preliminary Ecological Appraisal and Preliminary Roost Assessment

Yew Tree Cottage, Moss Road, Moss Valley, Wrexham LL11 6HA

Owen Ellis Architects

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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.

This approach is enshrined in Government planning guidance, for example, paragraph 174 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)

Executive Summary

Arbtech Consulting Limited was instructed by Owen Ellis Architects to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Yew Tree Cottage, Moss Road, Moss Valley, Wrexham LL11 6HA (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the single-storey side extension and construction of a new extension and separate garage outbuilding (hereafter referred to as “the proposed development”).

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 8 of this report.

Feature	Foreseen impacts	Recommendations
Amphibians There are no ponds within 500m of the site however there is suitable terrestrial habitat present on site. The closest amphibian record is over 700m from site.	A small area of grassland and shrub will be removed during construction. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, site clearance could result in the death or injury of amphibians, if present.	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction. See Table 8 for full details.
Reptiles The site provides suitable reptile habitat due to the presence of scrub and grassland.	A small area of grassland and shrubs will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, site clearance could result in the death or injury of reptiles, if present.	Owing to the nature of the proposed development and the low potential for impacts to reptiles, further surveys are considered to be disproportionate. A precautionary working method will be implemented during construction. See Table 8 for full details.
Foraging bats The garden area could be used by local bat populations for foraging and commuting.	The proposed development will result in the loss of small areas of shrubs and grassland but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality and retained on site, this is likely to be inconsequential for bats.	A low impact lighting strategy will be adopted for the site during and post-development. See Table 8 for full details.
Hedgehogs The site provides suitable hedgehog habitat.	Shrubs and grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, construction activities could result in the death or injury of hedgehogs, if present.	A precautionary working method will be implemented during construction. See Table 8 for full details.
Nesting birds The scattered trees on site may provide suitable bird nesting habitat.	A small number of trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Owen Ellis Architects to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Yew Tree Cottage, Moss Road, Moss Valley, Wrexham LL11 6HA (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the single-storey side extension and construction of a new extension and separate garage outbuilding (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 Context

The site is located at National Grid Reference SJ 31045 53084 and has an area of approximately 0.17ha comprising buildings, hard standing, introduced shrubs, scrub, grassland and scattered trees. It is surrounded by woodland and agricultural fields, with dwellings across the wider landscape.

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 2km radius review of the magic.gov.uk database for statutory designated sites. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Field Survey

The survey was undertaken by Mel Reid BSc (Hons) MRes, Senior Consultant (accredited agent Natural Resource Wales Bat Licence Number: S091515/1) on 20th September 2022.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in *Phase 1 Habitat Survey Methodology* (JNCC, 2010). 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).

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 two built structures and all trees 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 buildings 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 buildings 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. An endoscope was used to complete a close-up inspection of any accessible features, where appropriate.

For any surveyed trees:

A visual inspection was undertaken from ground level using binoculars and, where accessible and safe to do so, an internal inspection of any features which bats could use for roosting was completed using an endoscope, torch and ladders.

Suitability Assessment

Built structures and trees 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 for buildings and Table 2 for trees 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
Moderate to 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.
Low	A small number of possible roost sites or features, used 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 isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.
Negligible	Unsuitable for use by bats.

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

Classification	Feature of tree and its context
Moderate to high	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. Trees with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	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 to be used 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.
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.

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.

3.0 Results and Evaluation

3.1 Designated Sites

Details of any statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in Table 3 below.

Table 3: Statutory designated sites within 2km radius of the site

Designated site name	Distance from site (approx.)	Reasons for notification from Natural Resources Wales
Gatewen Marsh Site of Special Scientific Interest (SSSI)	1430m	One of only three significant examples in the former county of Clwyd of the “southern mesotrophic mires” wetland type. This type is more characteristic of south-west Wales and, in North Wales, is largely restricted to Ynys Môn and Dwyfor.
Coedwig Ffosil Brymbo Fossil Forest SSSI	1520m	Exposures at Brymbo comprise approximately 14m of Upper Carboniferous Duckmantian Coal Measures that contain an internationally important plant fossil assemblage.
Afon Gwenfro Wildlife Site	1451m	A reclaimed coal site with grasslands and scrub. The grasslands are mainly dominated by kidney vetch, false oat grass and yorkshire fog, with frequent patches of scattered willow scrub. Common centaury, hare's-foot clover, squirreltail grass, silver hair-grass and yellow rattle also occur. There is also a small wetland dominated by sea club-rush. On top of the steep mound are some marshy hollows with much marsh horsetail, reedmace, yorkshire fog and common spotted orchids. To the north there are semi-improved neutral grasslands either side of the river. They are species rich with black knapweed, common bent, yellow oat grass and common spotted orchid. Along the river there is an ash/alder wood which has an understorey of holly, elder and hazel. Species within the ground flora include tufted hair-grass, ramsons and yellow archangel. The strip of wood along the steep banks of the storm drain is dominated by sycamore with a ground flora of ramsons and dog's mercury.
New Broughton Meadow Wildlife Site	1647m	A site with a variety of semi-natural habitats. At the centre is a pond with some marginal vegetation. Around this is a wet alder/willow carr. This extends into a marshy area which has much hairy sedge and lesser water parsnip. The surrounding land is mostly sandy grassland, with a ranker sward to the north-east. There is scrub along the the line of the old railway. The grassland is diverse with such species as goatsbeard, oxeye daisy, common toadflax and bird's-foot trefoil.
Brymbo Pony Fields Wildlife Site	1250m	This site is situated on a steepwest facing slope between houses and gardens in Brymbo. The small fields, bounded by hedges, consist of semi-improved grassland grazed by ponies. The southern fields are short with abundant black knapweed, crested dog's-tail and bird's-foot trefoil with frequent bulbous buttercup and yellow oat-grass. Quaking grass and mouse-eared hawkweed also occur. The northern fields are tall and coarser and in one field, there is invading ash, sycamore and hawthorn scrub.
Higher Berse Marsh Wildlife Site	1729m	Two marshy areas separated by a road, the southern one is unsurveyed. The northern marsh is dominated by soft rush and great willowherb and the diversity is only fair. Other species found in the marsh include lesser water parsnip, fool's water cress and brooklime. Around the edge of the marsh is dry semi-improved grassland which is rushy in places. Flush vegetation occurs amongst the marsh and this feeds a small area of mire with abundant tawny sedge. There are also small patches of open water, swamp and alder scrub.

Designated site name	Distance from site (approx.)	Reasons for notification from Natural Resources Wales
Alyn Waters Wildlife Site	1480m	A series of woods along the River Alyn and some regenerating neutral grassland within the Alyn Waters Country Park. The woods have an ash/oak canopy with much sycamore or are wet and dominated by alder. This latter type has frequent great horsetail, butterbur and pendulous sedge. The dryer woods are fairly diverse with such species present as ramsons, dog's mercury, bluebell, yellow archangel, wood melick, giant fescue, hartstongue and wood-sorrel. The grasslands are on an old sand and gravel quarry. There are many interesting species here, including, common spotted orchid, bee orchid, yellow-wort, kidney vetch, common centaury, goat's-beard, yellow rattle, ox-eye daisy, common broomrape and grass vetchling. Much of the grassland is rank with scrub invasion. There are breeding skylarks to the east of the river and otters along the river.
Bryn Alyn & Wormswood Wildlife Site	1841m	N/A
Woodlands and Fishpond Wood Wildlife Site	1193m	Two areas of wetland; the larger area is the site of an old lake which is no longer dammed. Along the line of this lake is now a marsh and alder woodland. Around the west end of the marsh is semi-improved neutral grassland with a good herb content. Species include black knapweed, bird's-foot trefoil and field wood-rush. The most frequent species in the marsh are great willowherb, common sedge, meadowsweet, marsh horsetail, yorkshire fog and marsh marigold. Other species present include elongated sedge, hairy sedge, common yellow sedge, greater bird's-foot trefoil, ragged robin, hard rush, water figwort and water mint. There is a small scrubby gorse mound to the north and two patches of alder woodland. Willow and sycamore are also found in the canopy with many of the marsh species continuing as undergrowth. In addition there is great horsetail, hemp-agrimony, bittersweet and reed canary-grass. The smaller wetland to the north has steep banks on its western side covered with broad leaved woodland dominated by sycamore with wild cherry, holly, hazel and hawthorn and a bluebell ground flora. The low lying swamp is dominated by bullrush and great willowherb
Moss Valley Wildlife Site	48m	Well wooded valley slopes with adjoining grassland. The eastern slopes have semi-natural woodland, a canopy of pendunculate oak, sycamore and ash with some planted beech. The understorey has hawthorn, hazel and wild cherry. The ground flora is fairly diverse with areas of nettle, bracken, bramble and ivy along with large areas of thinner soiled woodland with wavy hair-grass, bluebell, wood sage, heather and goldenrod. On the western slopes there is a more recent woodland with a sycamore/ash/oak canopy. The ground flora includes bramble, bracken, ivy, bluebell wood-sorrel, hartstongue fern and tutsan. To the south east of the site, semi-improved neutral grassland with abundant yorkshire fog, common bent, and sweet vernal grass occurs. The herb content is high with tufted vetch, meadow vetchling, musk thistle, greater knapweed, yellow rattle, field scabious and bladder campion. To the south-west, there is a disused railway line with uncommon species present, such as upright brome, ratstail fescue, and hare's-foot clover.

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 4.

Table 4: Weather conditions during the survey

Date: 20/09/2022	
Temperature	16°C
Humidity	71%
Cloud Cover	80%
Wind	3mph
Rain	None

Habitats and Flora

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

- Buildings
- Hard standing
- Introduced shrub
- Dense scrub
- Scattered trees
- Amenity grassland with tall ruderal vegetation

A description and photograph of each habitat is provided in Table 5.

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 5: Description and photographs of habitats within and adjacent to the site

Habitat Type	Habitat description	Photograph
Buildings	There is one main dwelling on site and two small outbuildings. A full PRA has been carried out on these buildings (see below).	
Hard standing	There is a hard standing access driveway and footpath surrounding the dwelling.	

Introduced shrubs	There are introduced shrubs present across the garden areas of the site interspersed with scattered trees. Introduced species present include lilac, cherry laurel <i>Prunus laurocerasus</i>, privet <i>Ligustrum ovalifolium</i>, snowberry, buddleia <i>Buddleja davidii</i> with native trees present including willow <i>Salix sp.</i>, hawthorn <i>Crataegus monogyna</i>, elder <i>Sambucus nigra</i> and hazel <i>Corylus avellana</i>.	
Dense scrub	There is an area of dense scrub to the west of the main dwelling. Species present include bramble <i>Rubus sp.</i>, bracken <i>Pteridium</i>, nettle <i>Urtica dioica</i> and rosebay willow <i>Salix sp.</i>	

Scattered trees	There are scattered young and semi-mature trees present across the site. Species present include sycamore <i>Acer pseudoplatanus</i>, willow <i>Salix sp.</i>, oak <i>Quercus sp.</i>, Douglas fir <i>Pseudotsuga menziesii</i>, hawthorn <i>Crataegus monogyna</i>, cherry <i>Prunus sp.</i> and elder <i>Sambucus nigra</i>. All trees were assessed from ground level for suitable bat roosting features and none were found. As such all trees on site are considered negligible for roosting bats.	
Amenity grassland with tall ruderal vegetation	The western side of the site consists of managed amenity grassland with scattered tall ruderal vegetation. Species present include broad-leaved dock <i>Rumex obtusifolius</i>, nettle <i>Urtica dioica</i>, common hogweed <i>Heracleum sphondylium</i>, bramble, dandelion <i>Taraxacum sp.</i>, creeping buttercup <i>Ranunculus repens</i>, white clover <i>Trifolium repens</i>.	

Fauna

Bats

A search of the Magic database for granted European Protected Species Mitigation Licences (EPSMLs) for bats within a 2km radius of the site was completed. However, this database only includes licences granted by Natural England. There is currently no online database of bat mitigation licences granted by Natural Resources Wales. As the 2km search radius does not cross the Wales-England border, it is not known if there are any nearby sites with bat mitigation licences issued by Natural Resources Wales.

The site provides suitable bat foraging and commuting habitat due to the presence of scattered trees and scrub. There is further suitable habitat surrounding the site (i.e. woodland).

The results of the PRA are provided in Table 6. No evidence of roosting bats was identified during the survey.

Table 6: Assessment of the suitability of the site for bats

B1 Exterior Description
B1 is a stone-built double-storey dwelling with a pitched roof clad in slate roof tile. The roof structure appears in a generally good condition with only one missing tile noted on the western elevation which could provide suitable roosting habitat for crevice-dwelling bats. This feature will be retained and unimpacted by the proposed works. The stonework across all elevations appears in excellent condition with no gaps or cracks suitable for crevice-dwelling bats. There are gaps along the eaves between the wall tops and roof structure on the eastern elevation providing suitable roosting habitat for bats. These gaps will be unimpacted by the proposed works. The windows and door are wooden framed and appear tight fitting. Solar panels are present across the western elevation roof structure. There is a single-storey extension on the southern elevation of B1, designated as B1a for the purpose of this report. B1a has a sloped roof constructed from corrugated metal panels and as such the roof structure offers no suitable bat roosting habitat. Identified roosting features have been highlighted in the photos below.

B1 Exterior Photographs



Eastern elevation of B1 (pictured above).



Eastern elevation of B1 (pictured above).



Eastern elevation of B1 (pictured above).



Northern elevation of B1 (pictured above).



Western elevation of B1 (pictured above).



Western elevation of B1 (pictured above).



Western elevation of B1 (pictured above).



Western elevation of B1 (pictured above).



Western elevation of B1a (pictured above).



Southern elevation of B1a (pictured above).



Southern elevation of B1a (pictured above).



Southern elevation of B1a (pictured above).

B1 Interior Description

Internally there are no large loft spaces within the main roof void of B1 as this area mostly forms habitable living areas (i.e. bedrooms). There are two small crawl spaces on the western side of the building however these are too small to offer suitable void-dwelling bat flying areas. The crawl spaces appeared tightly sealed with no bat access points noted. There are no loft spaces within B1a. There are two rooms in this section of the building open to the roof structure. The internal roof structure consists of timber beams and the corrugated metal panels. There are high of levels of internal light reducing the suitability of the area for void-dwelling bats. The area is currently used as storage.

B1 Interior Photographs



Interior of B1a (pictured above).



Interior of B1a (pictured above).



Crawl space within B1 (pictured above).



Crawl space within B1 (pictured above).

B2 Description

B2 is a small single-storey brick-built garage outbuilding with a mono-pitched roof constructed from corrugated metal panels. The roof structure offers no suitable bat roosting habitat due to the construction material. The brickwork offers no gaps suitable for roosting bats. There is one room within the building which does not offer any suitable void-dwelling bat habitat. The building will be retained and unimpacted by the proposed works.

B2 Photographs

Northern elevation of B2 (pictured above).



Western elevation of B2 (pictured above).

B3 Exterior Description

B3 is a single-storey brick-built outbuilding with a flat roof constructed from corrugated metal panels. The roof structure and walls offer no suitable crevice-dwelling bats habitat. This building will be retained and unimpacted by the proposed works.

B3 Exterior Photographs



Northern and western elevation of B3 (pictured above).



Western elevation of B3 (pictured above).

B3 Interior Description

There is one room within B3 which is open to the roof. The internal roof is constructed from timber beams and wooden boards lining the interior. There are high levels of internal light due to the presence of windows reducing the suitability of the area for void-dwelling bats. The building is currently used as a working space and storage and as such is frequently in use.

B3 Interior Photographs

Interior of B3 (pictured above).



Interior of B3 (pictured above).

Other Species

An assessment of the suitability of the site for protected or notable species is provided in Table 7.

Table 7: Assessment of the suitability of the site for protected or notable species

Species	Assessment of suitability	Biological records data
Amphibians	There are no ponds present of site or within a 500m radius of the site. There is suitable terrestrial amphibian habitat present on site (i.e. scrub and ruderal). There is suitable commuting habitat connected to the site providing good connectivity between the site and wider suitable habitats.	17 records of GCN within 2km radius of the site, closest records over 700m from the site. 9 records of palmate newts, closest 1.25km from site. 15 smooth newt records, closest 750m from site. 5 records of common toad, closest 750m from site. 11 records of common frog, closest 750m from site.
Reptiles	There is suitable reptile habitat present on site due to the presence of denser, taller vegetation (i.e. scrub) and open areas for basking (i.e. grassland). There is suitable commuting habitat connected to the site providing good connectivity between the site and wider suitable habitats.	3 records of grass snake, closest 1.2km from site.
Badgers	No badger setts are located on or within a 30m radius of the site. There is suitable badger foraging habitat present on site however no signs of foraging badger were noted on site during the survey.	6 badger records of badgers within 2km of the site including 2 sett records
Hazel Dormouse	There are no suitable hazel dormice habitats on site.	No records of hazel dormice within 2km of the site.
Hedgehog	The site provides suitable hedgehog habitat and there is good connectivity between the site and other suitable habitats due to the good surrounding habitats.	6 records of hedgehogs within 2km of the site, the closest being 300m from site
Otter	There are no water courses on site or connected to the site.	2 otter records located 1.9km from site.
Water Vole	There are no water bodies or water courses on or connected to the site.	There are no water vole records within 2km of the site.
Birds	The scattered trees will provide suitable bird nesting habitat on site.	103 species of birds within 2km including 89 local BAP species and 14 Schedule 1 species.
Invertebrates	The garden area will provide suitable habitat for invertebrate assemblages.	25 local BAP species within 2km radius.

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 8 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 demolition of the single-storey side extension and construction of a new extension and separate garage outbuilding.

Table 8: Evaluation of the site and any ecological constraints

Ref	Summary of Survey Findings	Foreseen Impacts	Recommendations <i>Measures required to adhere to guidance, legislation and planning policies.</i>	Biodiversity Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the PPW (2021)</i>
Designated sites	The site is not subject to any statutory or non-statutory designation. There are two statutory sites within 2km of the site, the closest being Gatewen Marsh SSSI located 1430m from the site. There are a further eight non-statutory designated sites within a 2km radius (Wildlife Sites) the closest of which is 50m from site. All other Wildlife Sites are over 1km from the site.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known).	None.	None.
Habitats and flora	There are no notable habitats within the site but Coastal and floodplain grazing marsh and	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.	None.	Habitat creation and The following habitat creation and enhancement opportunities could be

	deciduous woodland habitats are present within 2km of the site, the closest being Coastal and floodplain grazing marsh located 460m from the site. The site contains scrub and trees which are of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). The remaining habitats are common and widespread and have low ecological value. No protected or notable plant species were recorded during the survey.	The proposed development will result in the loss of a small area of trees and shrubs. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats.		incorporated into the proposed development: • Native tree, hedgerow and shrub planting. • Creation of wildflower grassland. Species-specific enhancement opportunities are detailed later in this table.
Amphibians	There are no ponds within 500m of the site however there is suitable	A small area of grassland and shrub will be removed during construction. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented	None.

	terrestrial habitat present on site. The closest amphibian record is over 700m from site.	value and the presence of more extensive habitat locally and retained on site. However, site clearance could result in the death or injury of amphibians, if present.	for common amphibians during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of amphibians, including great crested newt, at the site. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where amphibians could be present. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.	
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Reptiles	The site provides suitable reptile habitat due to the presence of scrub and grassland.	A small area of grassland and shrubs will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, site clearance could result in the death or injury of reptiles, if present.	Owing to the nature of the proposed development and the low potential for impacts to reptiles, further surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the reptile hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of reptiles at the site. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where reptiles could be present. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any reptiles to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist.	None.
Roosting bats	B1 has low habitat value for supporting crevice-dwelling bats due to the presence of a	B1 will remain unimpacted by the proposed works and as such none of the features that could be used by roosting bats which were noted on the building during the survey will be affected and therefore no impacts to bat roosts are anticipated. However, the proposed	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	Bat boxes could be incorporated into new extension on the site e.g. Habibat Bat Box Schwegler 1FR Bat Tubes

	small number of external roosting features including a slipped roof tiles and gaps along the eaves. The building offers no suitable void-dwelling bat habitat. B1a has negligible habitat value for supporting roosting bats due to a lack of suitable external roosting features for crevice-dwelling bats and a lack of suitable internal areas for void-dwelling bats. B2 and B3 both have negligible habitat value for supporting roosting bats and will remained unimpacted by the proposed works.	development could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting. Bats are very unlikely to be roosting within B1a and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.		Bat tubes should be inserted into the fabric of the building during construction, positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance and facing landscapes areas, away from artificial light.
Foraging and commuting bats	The garden area could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing	The proposed development will result in the loss of small areas of shrubs and grassland but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality and retained on site, this is likely to be inconsequential for bats.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light.	None. •

	from nearby roosts outside of the site.		• 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 <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
Badger	It is anticipated that badgers are likely absent from site.	No impacts are anticipated on badgers as a result of the proposed development.	None.	None.
Hazel dormouse	It is anticipated that hazel dormice are likely absent from site.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.
Hedgehog	The site provides suitable hedgehog habitat.	Shrubs and grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the	A precautionary working method will be implemented during construction, including the following measures:	The following habitat creation and enhancement opportunities could be

		presence of more extensive habitat locally and retained on site. However, construction activities could result in the death or injury of hedgehogs, if present.	• Site clearance will be undertaken outside of the hedgehog hibernation season (November to March) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of hedgehogs at the site. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where hedgehogs could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If a hedgehog is found then this should be moved by gloved hand to an undisturbed and sheltered area of the site or adjacent land.	incorporated into the proposed development which would be beneficial for hedgehogs: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Otter	It is anticipated that otters are likely absent from site.	No impacts are anticipated on otters as a result of the proposed development.	None.	None.
Water vole	It is anticipated that water vole are likely absent from site.	No impacts are anticipated on water vole as a result of the proposed development.	None.	None.
Birds	The scattered trees on site may provide suitable bird nesting habitat.	A small number of trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally and retained on site. However, the proposed development could result in the destruction or the disturbance	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	The installation of bird boxes on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box

		and subsequent abandonment of active bird nests.		Schwegler 1SP Sparrow Terrace Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Invertebrates	The garden areas will offer suitable habitat for common assemblages of invertebrates.	A small area of shrub and grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally and retained on site.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates: • Native tree, hedgerow and shrub planting. • Creation of wildflower grassland. • A green roof on new buildings. • Retention of deadwood on the site.

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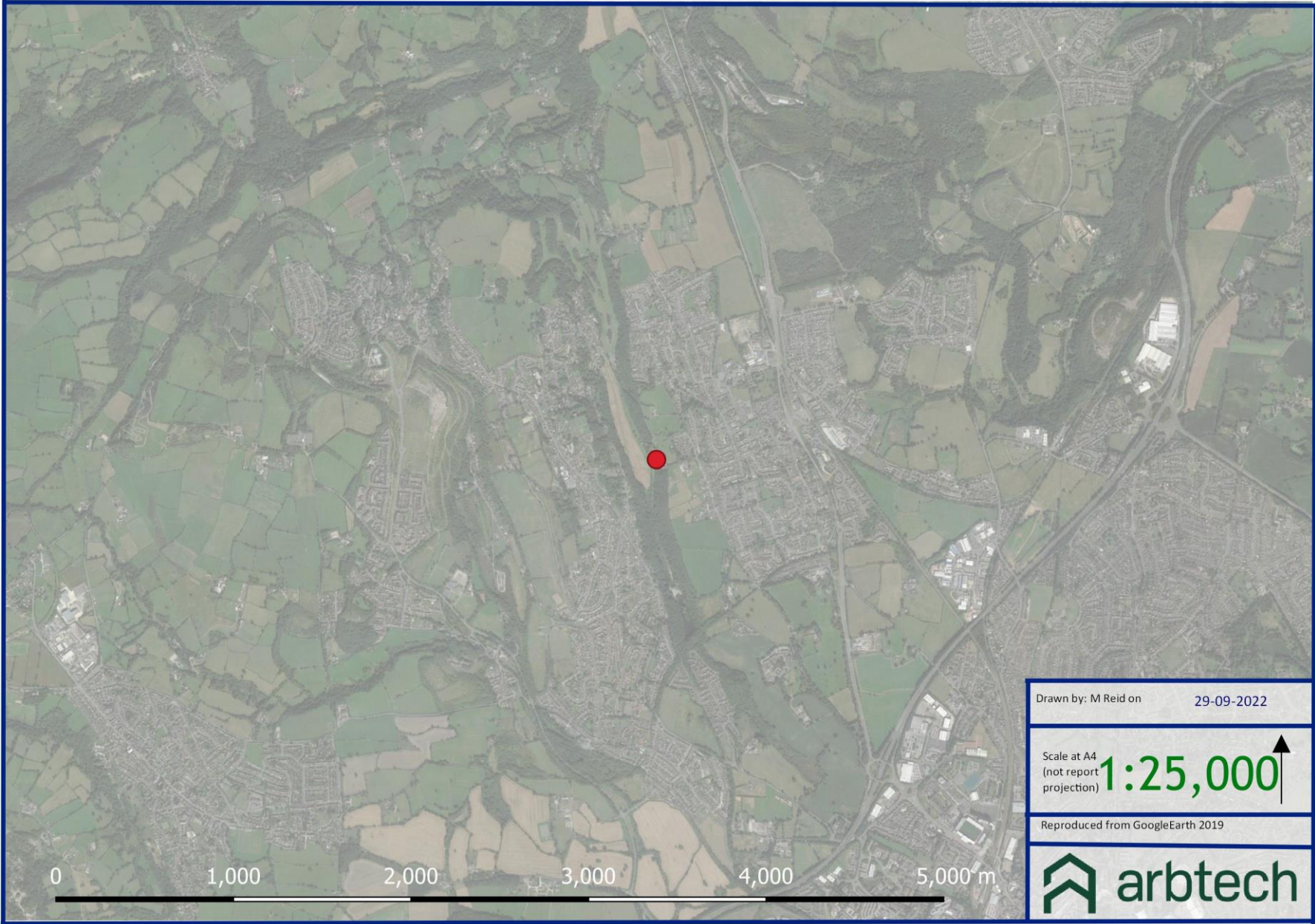
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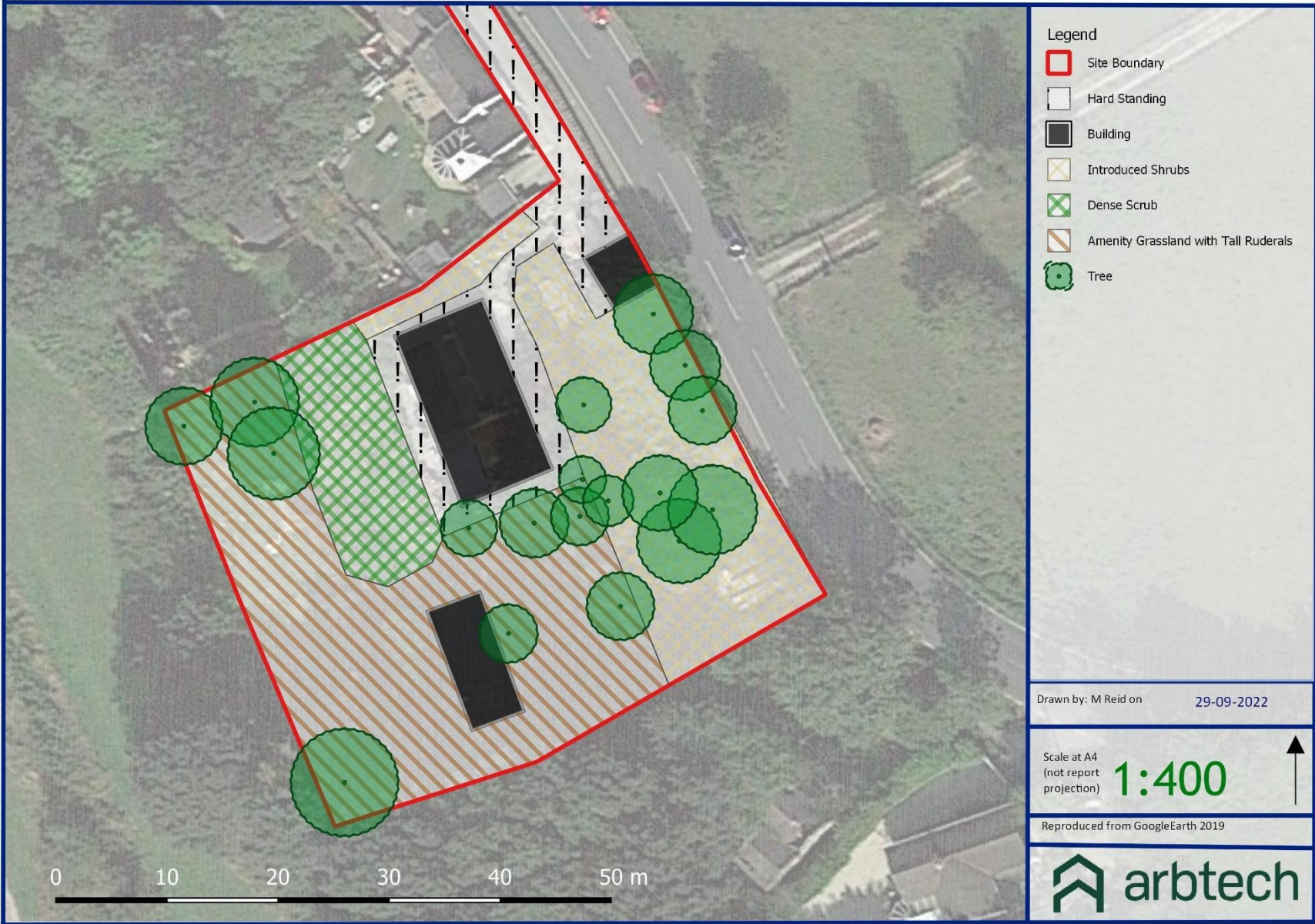
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3a: Habitat Survey Plan



Appendix 3b: PRA Survey 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

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 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 (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 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.

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.

Effects on development works:

A European Protected Species Licence (EPSL) 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:

A European Protected Species Licence (EPSL) 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:

A European Protected Species Licence (EPSL) 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.

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

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 a European Protected Species Licence (EPSL) 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:

A European Protected Species Licence (EPSL) 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 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*

Effects 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 (WALES)***Environment (Wales) Act 2016 and the Biodiversity Duty***

The Environment (Wales) Act 2016 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.

Planning Policy Wales (2021)

Paragraph 6.4.3 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 SoNaRR, Area Statements and species records from Local Environmental Record Centres should be taken into account. Development plan strategies, policies and development proposals must consider the need to:

- support 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 and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority 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, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

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.

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.

Planning Authorities should also refer to up to date ecological survey information (where appropriate).

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 and must provide a net benefit for biodiversity;

- 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: Ecosystems need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services. Planning decisions 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. Planning for the long term management of retained habitats is key to maintaining condition through for example, the use of planning obligations;
- Connectivity: to take opportunities to develop functional habitat and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management. 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; and
- Adaptability to change: primarily in the form of climate change, for both species (diversity) and ecosystems requires action to protect the extent, condition and connectivity of habitats, features and ecological networks. Development plans, planning proposals and applications which build on protecting designated sites and securing and enhancing green infrastructure will be key ways of addressing the attributes of ecosystems resilience identified in the Environment Act as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act.

Good Practice Guide GPG 3 (October 2015) NRW Approach to Bats and Planning

As explained in Planning Policy Wales (Chapter 5 - Conserving and Improving Natural Heritage and the Coast), the presence of a European protected species is a material consideration for a development proposal that would be likely to result in disturbance or harm to the species or its breeding sites or resting places. Planning Policy Wales also explains that planning authorities should seek the advice of Natural Resources Wales for all planning applications likely to result in disturbance or harm to bats and should always consult them before granting permission. Local Planning Authorities address this by screening applications to identify when there is a reasonable likelihood that bats may be present and, therefore, when to require a bat survey and report that will confirm if bats are present and if they likely to be disturbed or harmed by the proposal. The overall requirement on Local Planning Authorities, Natural Resources Wales and developers is to avoid harm or disturbance to bats and their breeding sites and resting places, unless Natural Resources Wales has given a licence to allow the harm or disturbance. Natural Resources Wales may only give a licence if the requirements for derogation are met, including that disturbance or harm to individual bats (or to their breeding sites and resting places) would not be detrimental to the maintenance of the population.