



ECOLOGICAL IMPACT ASSESSMENT

**Manor Farm, Holywell,
Rowington, Warwickshire**

Report

Client:

Morton Titterton

Report author:

Anna Dudley

Report reference:

C2093-1

© Swift Ecology Ltd
35 Winterway
Blockley
Moreton in Marsh
GL56 9EF

Email swifteco@swiftecology.co.uk

Website www.swiftecology.co.uk



QUALITY ASSURANCE

SURVEY CONDUCTED BY	Anna Dudley MCIEEM Principal Ecologist	SURVEY DATE/S	28.01.22
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DATE	VERSION	PREPARED BY	CHECKED AND APPROVED BY
19.07.22	Final	Anna Dudley MCIEEM Principal Ecologist	Mike Sharp MCIEEM Principal Ecologist/Director

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Every reasonable attempt has been made to comply with BS 42020 (Biodiversity: Code of practice for planning and development); the CIEEM Guidelines for Ecological Report Writing (CIEEM, 2017); the CIEEM Guidelines for Ecological Impact Assessment 2018 and the Amphibian and Reptile Group (ARG) UK's Great Crested Newt Habitat Suitability Index (ARG UK, 2010). If compliance has not been achieved, justification/explanation has been given.

VALIDITY OF REPORT

The results of this assessment are only valid for a maximum of two years from the date the site visit was carried out (January 2022). Should the works be delayed beyond this date, the survey should be updated to determine any changes to the status of the site and the assessment of effects. It should also be noted that local planning authorities may require updated surveys within a shorter timescale than two years.

The proposed development details provided by the client (see Section 4 of this report) were used to determine the assessment of effects. If the proposed development changes, the report will need to be reviewed to determine if there will be any changes to the assessment of effects and the overall outcome of the development.

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SUMMARY

- A Preliminary Ecological Appraisal was carried out at Manor Farm in Holywell, Rowington, Warwick, CV35 7BH in January 2022. As a part of the protected species assessment a great crested newt Habitat Suitability Index assessment was undertaken of accessible waterbodies. The surveys and assessments were required in connection with proposals for the construction of a single-storey extension on the west elevation of the existing dwelling.
- The purpose of this report is to identify and describe all potentially significant ecological effects associated with the proposed development in order to assess the impacts of the development; set out the mitigation, compensation and enhancement measures required to ensure compliance with nature conservation legislation and planning policy; and address any potentially significant ecological effects.
- The red line boundary comprises the mature garden around an existing dwelling with an associated large barn and two smaller outbuildings. The garden includes areas of both short-mown and infrequently cut grassland, shrubs and ornamental planting, scattered trees, a duck pond and a shallow ditch. The footprint of the proposed extension, west of the existing dwelling, comprises paved surface and formal lawn, with some nearby trees to the west.
- The site has no designation for nature conservation within its boundary. The site is located within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for Oak Tree Farm Meadows SSSI; however, the development does not fall within any of the development categories considered to represent a potential risk to this SSSI and so no impacts are considered likely. Due to the limited extent of the proposed development, no direct or indirect impacts on nearby non-statutory nature conservation sites are predicted.
- The habitats within the footprint of the works and the surrounding garden are generally species-poor and of low ecological value. The development will result in the loss of small areas of mown lawn and paving (total area <100 m²). Impacts will be limited due to the sensitive working methods required to protect the mature garden that surrounds the house. Grassland enhancement is proposed to mitigate for the minor habitat loss.
- Three waterbodies within c.20 m of the development have 'poor' and 'below average' suitability for breeding great crested newts, and a fourth (55 m away) has 'average' suitability. The proposed development will not impact upon these waterbodies but will result in the loss of <100 m² of low quality terrestrial habitat. Due to the small scale of the works and the proposed low impact construction methods it is considered an offence is 'highly unlikely' to occur; however, works will be undertaken under a strict great crested newt Reasonable Avoidance Method Statement (Appendix 4) to avoid/minimise the risk of offences occurring.
- The survey identified potential for a range of other protected and priority species to occasionally pass through the development area, including bats, badger, birds, reptiles, common amphibians and priority mammals. None of these species are expected to be adversely impacted by the proposed works, but precautionary mitigation measures will be implemented to ensure compliance with legislation and planning policy.

- Providing all mitigation, compensation and enhancement measures detailed within this report are appropriately implemented, the proposed development will result in overall beneficial impacts to biodiversity.

1 INTRODUCTION

1.1 Background

A Preliminary Ecological Appraisal, comprising a habitat survey and assessment for protected, priority and invasive non-native species was carried out at a site known as Manor Farm in Holywell, Rowington, Warwick, CV35 7BH (approximate central OS grid reference SP 1971 6648) on 28th January 2022. As a part of the protected species assessment a great crested newt Habitat Suitability Index assessment of accessible waterbodies was completed.

The surveys and assessments were required in connection with proposals for the construction of a single-storey extension on the west elevation of the existing dwelling. The client has confirmed that they have not commissioned any previous ecological surveys of the site, and that they are not aware of any surveys undertaken by the previous occupant/owner.

1.2 Personnel

The survey and reporting were carried out by Anna Dudley MCIEEM of Swift Ecology Ltd. Anna is employed as a Principal Ecologist with Swift Ecology Ltd and is an experienced habitat surveyor and holder of Natural England survey licences for bats (Class Licence reference 2017-32147-CLS-CLS) and great crested newt (Class Licence reference 2015-16315-CLS-CLS). Anna graduated from Aberystwyth University in 2005 and has over 15 years' experience working as a consultant ecologist. Anna has undertaken numerous preliminary ecological appraisals, preliminary roost assessments (bats), botanical surveys (FISC Level 4), and surveys for protected species including great crested newt and otter, and has prepared subsequent reports with appropriate recommendations.

1.3 Ecological Context

The site is located within the small hamlet of Holywell, within the parish of Rowington, in Warwickshire. It comprises an existing dwelling, with associated barns and outbuildings set within a mature garden, which includes formal areas surrounded by topiary hedges close to the house and more informal areas toward the periphery, which include less-frequently managed grass beneath scattered trees. There is a duck pond to the east of the house and wet ditches to the south.

The site is in a rural location, surrounded by open farmland, with scattered dwellings and farmsteads. Farmland is dominated by pasture and meadows, which are surrounded by boundary hedgerows and standard trees. Meadows adjacent to small watercourses north of the site include the nationally important Oak Tree Farm Meadows Site of Special Scientific Interest (SSSI). Ponds are scattered throughout the fields and there are several small woodland areas in the local area, including at Yarningale Common, roughly 600 m to the south-west. The Stratford on Avon Canal, which runs roughly north to south, is located roughly 840 m to the north-west at its closest point. The M40 motorway, which runs roughly north-west to south-west, is roughly 1.2 km to the north-east of the site at its closest point.

The landscape context of the site and its immediate surroundings are illustrated in Figures 1.1 and 1.2, respectively.

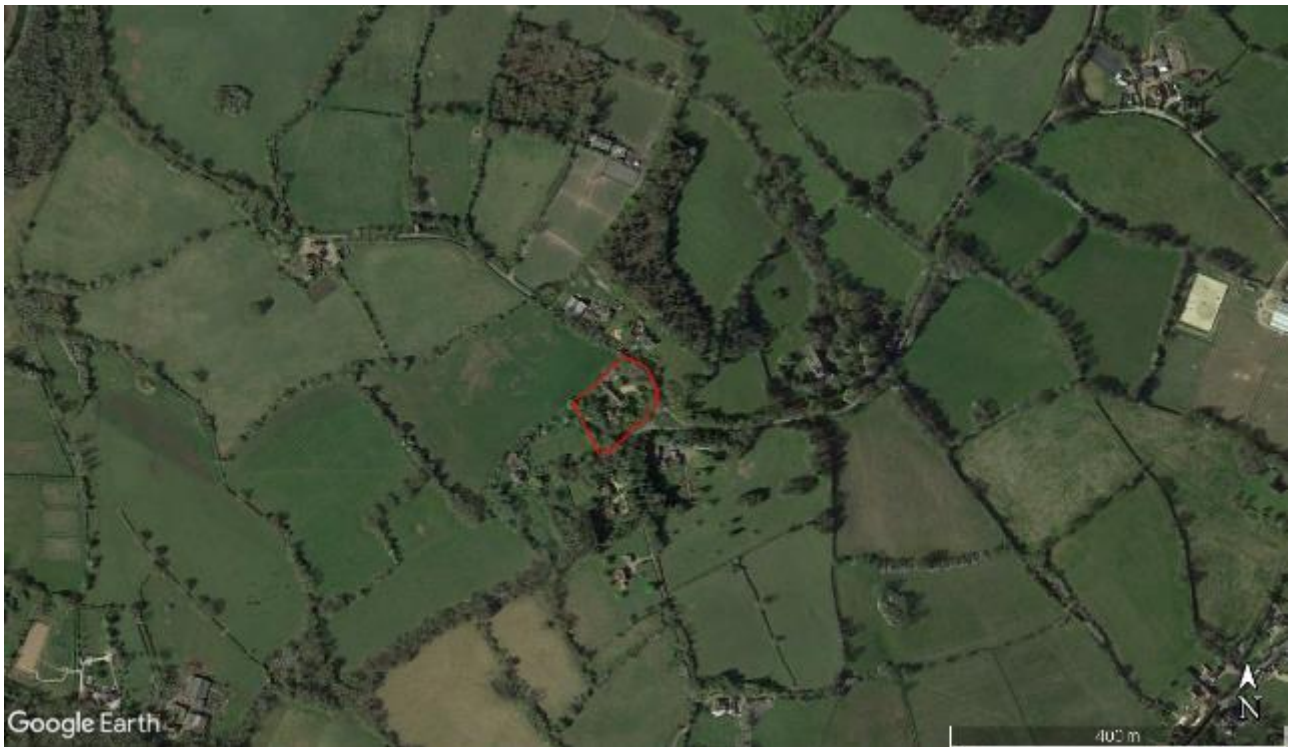


Figure 1.1: The location of the site (outlined in red) within the wider area



Figure 1.2: Aerial photo of the site, with the approximate boundaries of the survey area outlined in red

1.4 Purpose of Report

The purpose of this report is to identify all important ecological features that could be affected by the development; identify, describe and evaluate all the potential impacts associated with the proposed development, and identify likely significant ecological effects of the development.

This report also sets out the mitigation, compensation and enhancement measures required to address significant ecological effects and to ensure compliance with nature conservation legislation and planning policy.

The legal protection/controls and planning policies relevant to the designated sites, habitats or species mentioned in this report are detailed in Appendix 1.

The report format follows the 2018 CIEEM guidance, modified to reflect the small size of the site and the limited impact of the development.

2 METHODS

2.1 *Scope of Assessment*

The scope of the assessment reflects the relatively small size and the likely limited impacts of the proposed development. The zone of influence is considered to be: the habitats within the red line boundary within which the development will occur; its boundary features and immediately adjoining features of biodiversity interest; and the Local Wildlife Sites and other designated sites within a 1 km radius. The important ecological features considered as part of this assessment are designated sites¹, protected/priority habitats and species², and legally controlled invasive non-native species³.

2.2 *Background Data Search*

A background data search was undertaken in February 2022 by Warwickshire Biological Records Centre (WBRC) for records of designated sites and protected, priority and invasive non-native species within a 1 km radius.

Reference was also made to Natural England's MAGIC website⁴ for:

- Site of Special Scientific Interest (SSSI) Impact Risk Zones (IRZ) within the site;
- Priority Habitats on and in close proximity to the site;
- records of granted Natural England protected species licences within a 1 km radius (bats and great crested newt);
- records from great crested newt class survey licence returns within a 1 km radius; and,
- pond surveys (Habitat Suitability Index and eDNA) carried out by Natural England between 2017 and 2019 within a 1 km radius.

2.3 *Field Survey*

2.3.1 *General*

A Preliminary Ecological Appraisal, comprising a habitat survey and assessment for protected, priority and invasive non-native species, was undertaken following standard methods as described in the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). As a part of the protected species assessment, an evaluation of four accessible waterbodies was undertaken in accordance with Amphibian and Reptile Group (ARG) UK's Great Crested Newt Habitat Suitability Index (2010).

¹ Designated sites are taken to mean statutory sites designated under international conventions or European legislation, statutory sites designated under national legislation, and locally designated sites. Impact zones (e.g. SSSI) are also included.

² Priority habitats and species are taken to mean habitats and species of principal importance for the conservation of biodiversity in England, local biodiversity action plan habitats and species, and red-listed, rare and legally protected species, and species endemic to a country or geographic location (as defined within *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017)).

³ Invasive non-native animal and plant species that are listed on Schedule 9, Parts I and II respectively, of the Wildlife and Countryside Act 1981 (as amended), and EU Regulation 1143/2014 on Invasive Alien Species (as amended).

⁴ <https://magic.defra.gov.uk/MagicMap.aspx>

The surveys were undertaken on 28th January 2022 by Anna Dudley of Swift Ecology Ltd. Weather conditions at the time of the surveys are shown in Table 2.1. The surveys covered all land within the red line boundary (see Figure 3.1, Section 3), as well as two other waterbodies within 100 m of the proposed works. Adjacent habitats were also briefly assessed.

Table 2.1: Survey conditions

Date	Approximate start time	Weather conditions
28.01.22	10:00	A cold (5°C) and overcast but dry morning, with little wind.

2.3.2 Habitat Survey

The habitat survey was carried out in accordance with the Phase 1 Habitat Survey Methodology (JNCC, 2010). This comprised the following elements:

- Habitat descriptions for each separate habitat type.
- Habitat map (locations of all habitat/site boundaries, trees etc. are approximate).
- Target notes to identify particular areas of interest or concern.

2.3.3 Protected Species Assessment

The suitability of habitats for protected animal species was assessed at the same time as the habitat survey and incidental evidence of such species was recorded if encountered. Species that might be expected to be present in the geographic location include bats, dormouse *Muscardinus avellanarius*, otter *Lutra lutra*, badger *Meles meles*, water vole *Arvicola amphibius*, nesting birds, reptiles, great crested newt *Triturus cristatus* and white-clawed crayfish *Austropotamobius pallipes*.

Species including dormouse, otter, water vole and white-clawed crayfish were scoped out of this assessment due to an absence of suitable habitat within the site or zone of influence and lack of connectivity to suitable habitats within the wider area.

Bats

There are three buildings within the site, with the proposed development joining onto the western elevation of the existing house. The suitability of the existing house for roosting bats was briefly assessed. The trees on site, especially those to be impacted by the proposals, were briefly assessed from ground level for their potential to support roosting bats. Habitat was assessed for its bat foraging and commuting potential.

Badger

Habitat was assessed for its suitability for badger foraging and sett digging. Any incidental signs of badgers, such as setts, latrines, foraging signs, or footprints, were recorded if they were encountered. A full badger survey was not undertaken.

Nesting birds

Habitats on site were assessed for their suitability for nesting birds. Any incidental sightings, or active/old nests were recorded.

Great crested newt

Habitat assessment of site

Great crested newts use terrestrial habitat within up to 500 m of breeding ponds; if used by the species for resting, such habitat is protected. Terrestrial habitats on site were therefore assessed for their potential to support the species, based on factors including vegetation structure and composition, the availability of shelter and foraging resources. The proximity of ponds and intervening habitats are also an important factor in determining the likelihood of this species being present on site.

Habitat Suitability Index assessment of ponds

A Habitat Suitability Index (HSI) assessment was made of all waterbodies within 100 m of the footprint of the proposed new extension. The assessment comprised an evaluation of the waterbodies in accordance with Amphibian and Reptile Group (ARG) UK's Great Crested Newt Habitat Suitability Index (2010). The index is not a substitute for newt surveys but is intended to provide a measure of habitat suitability for great crested newts and to give an indication of the probability of this species being present within any given waterbodies.

Reptiles

The suitability of habitats on site for common reptiles (adder *Vipera berus*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*) was assessed, based on factors such as the quality of the foraging resource, the presence of suitable sites for basking, and the presence of refugia for shelter and hibernation. Detailed reptile surveys were not undertaken.

2.3.4 Other Priority Species

General habitat suitability and incidental sightings of other priority species, including species of principal importance for the purpose of conserving biodiversity in England (NERC Act 2006) and Local Biodiversity Action Plan species, were noted. However, the presence of many priority species cannot be confirmed without targeted surveys (e.g. lower plants, insects) and thus the type and quality of habitats present (e.g. freshwater) were used to help assess the likelihood of such species being present. Species particularly considered as part of this assessment were mostly limited to mammals, reptiles, amphibians, birds and more easily visible/identifiable plants and insects likely to be present in the geographical region, and which could potentially occur on the site.

2.3.5 Invasive Non-Native Species

Any incidental sightings of relevant invasive non-native species with legal controls were recorded. A full survey was not undertaken.

2.4 Limitations

Preliminary Ecological Assessment

January is not an optimal time of year for habitat survey because many plants are not in flower and/or leaf and so may not be easily identified. This is not considered to be a significant constraint to this report as the basic Phase 1 habitat types can be distinguished at this time of year, and this report constitutes an initial assessment of habitats only, not a detailed botanical study.

It should be noted that any survey based on a single site visit will miss a significant proportion of the species present on or using the site. As such this report includes an assessment only of the likely presence of protected, priority and invasive species.

Great crested newt Habitat Suitability Index assessment

It was not possible access Waterbody 4, as it is not within the ownership of the client; however, it was possible to view the pond from the public highway. Where necessary, precautionary values were assigned to habitat suitability indices, to ensure the value of the pond to newts is not underestimated as a result of this access constraint. As the HSI assessment is provides a measure of the likely suitability of a pond for breeding great crested newts the lack of access is not considered to be limitation to the overall assessment of the site for great crested newt.

January is not an optimal time of year for undertaking the HSI assessment as indices for several factors, including water quality (as indicated by aquatic invertebrate diversity) and macrophyte cover, are best assessed between May and September. Scores for water quality, macrophyte cover and fish presence/absence were instead based on observational cues and professional judgement and the precautionary principle was applied to the assessment.

3 BASELINE ECOLOGICAL CONDITIONS

3.1 *Designated Sites*

Statutory designated sites

There are no statutory sites within the site. There is one statutory site within the 1 km search radius, Oak Tree Farm Meadows SSSI, which is one of the six last remaining flood meadows in central Warwickshire, it is located approximately 675 m to the west. Further information on this SSSI is provided in Table A2.1 in Appendix 2.

The site is located within the SSSI Impact Risk Zone for Oak Tree Farm Meadows SSSI. It appears that the development site is also located within the SSSI Impact Risk Zone for at least one other site within the locality, but due to the number of the SSSIs in the wider area it is not clear which site or sites the additional Impact Risk Zone(s) relate to.

Non-statutory designated sites

There are no non-statutory sites within the grounds of Manor Farm; however, the southern boundary of the garden abuts Hobbs Hole Lane Ecosite/potential Local Wildlife Site (pLWS). The part of Hobbs Hole Lane which abuts Manor Farm is identified as an Ecosite (with ungraded nature conservation status); the nearest part identified as a pLWS is roughly 100 m to the south-west.

There are 11 other non-statutory sites within the 1 km search radius, the closest of which is Field at Hobbs Hole Lane pLWS, approximately 130 m to the south. Further information on these sites is provided in Table A2.1 in Appendix 2. The full data search, including a map showing the locations of the sites, is available on request.

3.2 *Habitats*

3.2.1 **Priority Habitats**

Natural England's MAGIC website identified no priority habitats within the survey area (as shown on Figure 1.2).

MAGIC identified the presence of the priority habitat 'Traditional Orchard' in a field which abuts the site to the west. Where this field does not support 'Traditional Orchard' it is listed on the Priority Habitat Inventory as supporting 'No main habitat but additional habitat exists'.

3.2.2 **Site – General Description**

The site comprises mature garden around an existing dwelling with an associated large barn and two smaller outbuildings. The garden includes areas of short-mown and infrequently mown grassland, shrubs and ornamental planting (including formal hedges), scattered trees, a duck pond and a shallow ditch.

Habitats within the site are illustrated on Figure 3.1 and Target Notes are listed in Table 3.1, and are further described below

3.2.3 Habitats within/overhanging the footprint of extension

The new extension will join directly to the western elevation of the house, and will extend westwards from the house over an area of patio/path and mown lawn. The western edge of this area is overhung by the canopies of nearby trees.

Amenity grass: The lawn within the footprint of the development comprises a very species-poor sward that is managed with frequent cuts (Plates 3.1 and 3.3). The sward comprises roughly 50% grasses and forbs (including red fescue *Festuca rubra*, Yorkshire-fog *Holcus lanatus* and buttercup *Ranunculus* sp.) and 50 % springy turf-moss *Rhytidiadelphus squarrosus*. The lawn is partially shaded by the adjacent building and trees and is covered with a significant amount of leaf litter. The ground is compact.

Building: An old (listed) brick-built dwelling with a pitched roof clad in tiles. The building has a number of different wings and roof heights as there have been many different additions to the structure over the years. At the time of survey the building was undergoing some repair work, including repointing and replacement of tiles (Plate 3.2). No climbing vegetation is present on the western elevation.

Hardstanding: There is a small patio to the west of the house; this area is formed by slabs, which appear to be well set into the ground. A path, formed from brick paving, extends northwards from this patio and provides pedestrian access around the outside of the house.

Scattered trees: Two mature cherry *Prunus* sp. trees overhang the western edge of the proposed extension footprint. These trees are in good condition; however, one of the trees has some minor peeling bark on one of its major limbs (Target Note 6).



Plate 3.1: Western gable end of house, where the new extension will join, mown grass and cherry trees



Plate 3.2: Western end of existing house showing repair works and patio/path



Plate 3.3: Lawn and patio area in footprint of proposed new extension

3.2.4 Habitats within/adjacent to work access route and storage areas

Contractors will use the existing driveway for car parking and storage of building materials will occur on the drive and within an existing outbuilding. Materials will be moved to the construction site along an existing narrow pathway that extends from the driveway around to the western side of the house. This pathway is abutted by a large brick barn, areas of ornamental shrub and herbaceous planting, and several areas of mown grassland with scattered trees. The path also passes through an existing gap in a mature formal hedge.

Grass: All areas of mown grass are species-poor and lacking in structure like the area within the footprint of the proposed extension. In places, spring bulb planting (snowdrop *Galanthus* sp.) is present. Along the rear of the house, there are a few areas where the grass has been trampled by the movement of contractors and materials around the site (Plate 3.9).

Beneath the canopy of the cherry trees (west of the proposed extension), the mown grass stops and beyond it the grass is cut less-frequently. This area supports tussocky grassland, as well as a variety of common forbs, including frequent cow parsley *Anthriscus sylvestris* and nettle *Urtica dioica*, as well as occasional ivy *Hedera helix*, cleavers *Galium aparine*, ground-ivy *Glechoma hederacea*, primrose *Primula vulgaris*, snowdrop and daffodil *Narcissus* sp.

Building: There is a large L-shaped barn to the north of the house (part traditional brick barn, part modern metal Dutch barn; Plate 3.5) and a small open-fronted brick building (with concrete floor) by the driveway (Plate 3.6). In addition, there is a small brick outbuilding to the north-west of the proposed extension (Plate 3.11).

Hardstanding: The existing driveway is gravel and predominantly devoid of vegetation (Plates 3.4-3.5). The pathway around the rear of the property is also devoid of vegetation, mostly comprising brick and slab paving, with a small gravelled section.

Garden beds, including introduced shrub and formal hedges: Small ornamental flower beds abut much of the pathway around the house. These areas are well-maintained and include a mixture of herbaceous and low shrubs, including Christmas rose *Helleborus* sp., box *Buxus sempervirens*, ferns (species unknown) and ivy *Hedera* sp.

The path passes through a gap in a mature well-maintained yew *Taxus baccata* hedge, which is approximately 2.5 m wide and 2-2.5 m high. In addition, a formal box *Buxus sempervirens* knot garden, with moss covered gravel, is present to the south of the proposed extension (Plate 3.12).

Scattered trees: A single early-mature horse-chestnut *Aesculus hippocastanum* is present within the grassy island in the centre of the drive (Plate 3.5). Further early mature trees are present to the north of the drive (include maple *Acer* sp.) and to the east of the yew hedge (including cherry *Prunus* sp.) (Plates 3.4 and 3.11).



Plate 3.4: Access into property from public highway



Plate 3.5: Gravel driveway and parking area



Plate 3.6: Brick outbuilding (with concrete floor) within which building materials will be stored



Plate 3.7: Existing gravel pathway from driveway to house



Plate 3.8: Paved pathway past the northern elevation of the house



Plate 3.9: View of northern elevation of house and pathway



Plate 3.10: Gap in mature yew hedge (<1 m wide) through which building materials will be transported



Plate 3.11: Area of shrubbery and small outbuilding to north-west of proposed extension, with less frequently mown grass beneath the trees



Plate 3.12: Box knot garden to south of the proposed extension.

3.2.5 Habitats in the wider garden

The wider site is dominated by areas of infrequently mown grass with scattered trees, including birch *Betula* sp. and holm oak *Quercus ilex* (Plates 3.13-3.14). Towards the western boundary of the site are five fruit trees (species unknown) that appear to be of a similar age to those within the adjacent field (which are identified as Traditional Orchard priority habitat; see Section 3.2.1), and seem to be planted along the same lines (Target Note 8). In addition, there is a small vegetable garden surrounded by fencing and a beech *Fagus sylvatica* hedge (Target Note 7, Plate 3.15) and a formal garden surrounded by topiary hedges (Target Note 2, Plate 3.18). In the south-west of the site there is a shallow ditch; just over half of its length held water at the time of survey. The very western end supports no marginal/aquatic plants, suggesting this part does not hold water for any significant period of time each year (Plate 3.16). To the south-east of the site there is a duck pond surrounded by shrubbery and with some bankside willow *Salix* sp. The ditch and pond are further described in Section 3.3.4.



Plate 3.13: Scattered trees in garden to north of the house, with mown and less-frequently mown grassland



Plate 3.14: Trees and hedge around vegetable garden to west of house.



Plate 3.15: Vegetable garden



Plate 3.16: Shallow dry ditch that extends off site to the west, and on site to the east (see Plate 3.17)



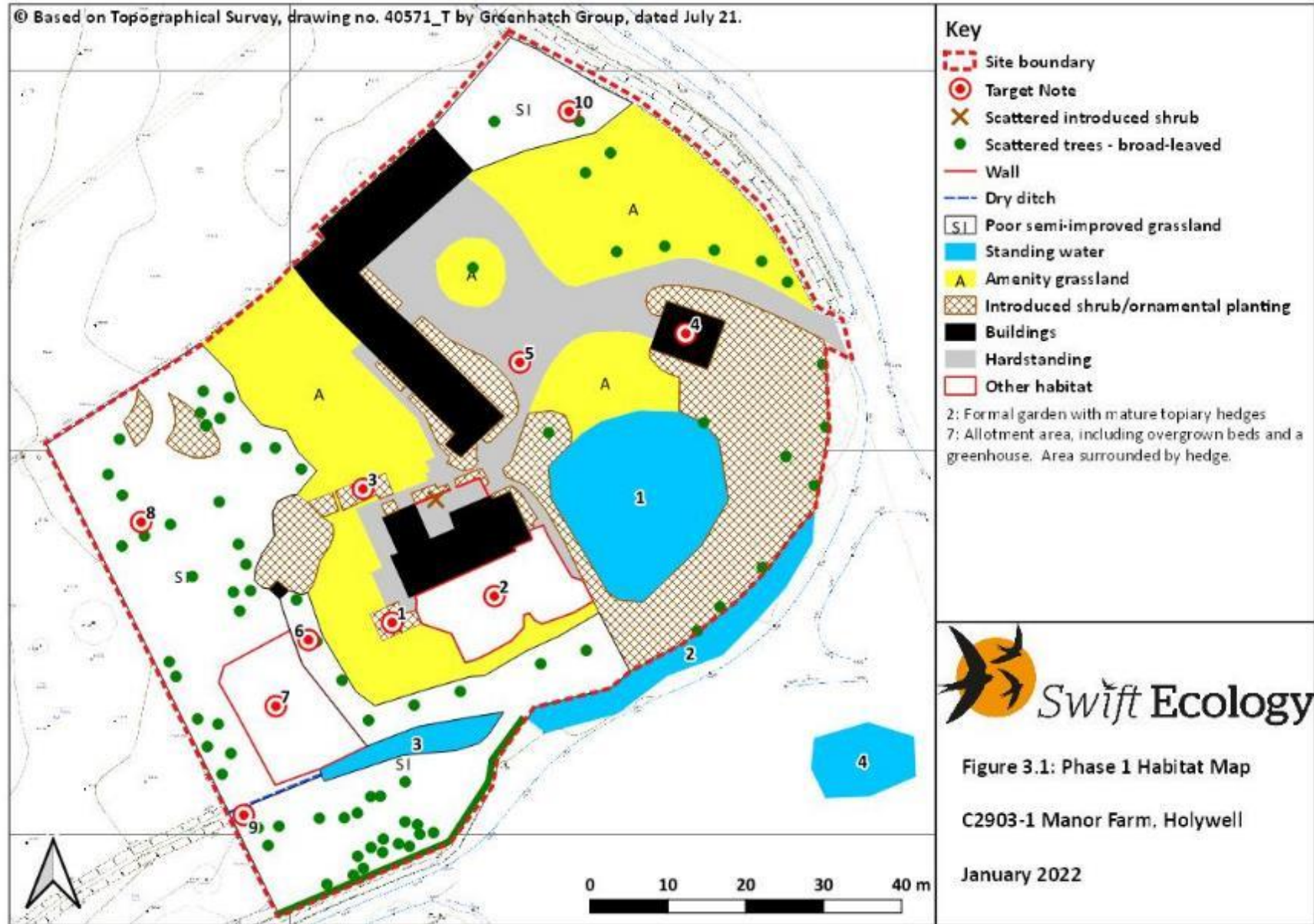
Plate 3.17: Shallow wet ditch that extends east-west through the southern portion of the site



Plate 3.18: Topiary hedge around formal garden to south of house

Table 3.1: Target notes (all relate to Figure 3.1)

Target note	Description
1	Formal knot garden formed by a low box hedge with gravel infill.
2	Formal garden surrounded by tall (over 2 m high) topiary hedges.
3	Mature yew hedge, c. 2.5 m wide by 2-2.5 m tall.
4	Brick outbuilding, with tiled pitched roof and open front (north-west) elevation. The floor is concrete and is being used to store building materials associated with the refurbishment of the house.
5	Pile of building materials associated with refurbishment of house.
6	Minor peeling bark/damage on branch of cherry tree. This feature does not provide sufficient shelter for a roosting bat.
7	Other habitat: Allotment area, which includes a greenhouse, fruit bushes, unmanaged vegetable beds and a paved area. Area is surrounded by hedge and fencing.
8	A number of fruit trees, possibly associated with the traditional orchard in the adjacent field.
9	Dry ditch that is continuous with Ditch 3, and extends off site to the west.
10	Mature maple tree with hollow in trunk; it is not clear how far up the trunk the hollow extends. May provide a potential bat roosting location.



3.3 Protected and Priority Species

Relevant protected and priority species records within 1 km of the site, are given below. None of the records provided relate directly to the study site. The full data search is available on request.

An absence of records does not mean that a species is not present, merely that it has not been recorded. Some species records are not obtainable from the sources utilised and there may be further undetected records for such species on the study site or in the local area.

3.3.1 Bats

WBRC holds 21 records of at least five bat species within the 2 km search radius, with records made between 1998 and 2019. Species include brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, a *Myotis* species, a *Nyctalus* species, as well as several records of indeterminate species. The closest record of a roost was made at Valley Farm, roughly 620 m to the south-west in 2013; this roost supports common pipistrelle and brown long-eared bat.

Reference to Natural England's MAGIC website, which holds records of granted protected species licences, identified one licence within a 1 km radius of the site. This licence was granted in 2018 for a location roughly 700 m to the south for the destruction of resting places for three bat species (common pipistrelle, soprano pipistrelle and brown long-eared bat).

Roosting

The western elevation of the house is the only part of the house that will be impacted by the proposals. The house is undergoing repair works and no potential roosting features are present on this elevation that could be used by bats. Due to the age of the house and the adjacent traditional barn, the presence of roosting bats within these structures cannot be ruled out.

Two cherry trees overhang the footprint of the proposed development. One is in good condition and has no crevices, rot holes or cavities that could be used by roosting bats. The other tree has some minor damage on a major limb that extends off the trunk to the east (Plate 3.19; Target Note 6). Around the edge of the wound there is some lifted bark, which is not extensive enough to form a suitable roosting location for bats. In the wider site, the majority of trees are in good condition, with the exception of a maple near the north-eastern corner of the site; this tree has a large hollow within its trunk (Plate 3.20); it was not possible to determine whether this hollow extended up into a suitable cavity for bats to roost in. No evidence of bat use was found at the base of the hollow.

Foraging and commuting

Whilst the site is likely to have some security lighting on the external walls of the house and barn, the wider garden and surrounding areas are likely to be dark due to the absence of streetlighting and the low density of housing in the area. As a result, the habitats on site (in particular the pond and wet ditches) will provide suitable foraging habitat for bats, including light-averse species (such as brown long-eared bat and *Myotis* sp.). The trees and shrubs around the site perimeter provide suitable commuting features that are continuous with the boundary hedgerows along Hobbs Hall Lane and the surrounding fields.



Plate 3.19: Wound on cherry tree with minor peeling bark at the edge, indicated with arrow (Target Note 6)



Plate 3.20: Maple tree with damaged trunk (Target Note 10)

3.3.2 Badger

WBRC holds 17 records of badger within the 1 km search radius, with the closest record of a road casualty, made roughly 220 m from the site. There was no evidence of badger activity within the proposed development footprint, or the wider garden. The garden provides suitable foraging habitat for badgers; however, it lacks any relatively undisturbed and sheltered areas that badgers may use for sett building.

3.3.3 Birds

WBRC holds over 100 records of priority bird species within a 1 km radius of the site; many being recorded at Yarningale Common. However, of these records, 15 are over 100 years old and 11 records have no associated date. Species of birds recorded within the local area that may forage or nest on site include bullfinch *Pyrrhula pyrrhula*, dunnock *Prunella modularis*, fieldfare *Turdus pilaris*, house sparrow *Passer domesticus*, mallard *Anas platyrhynchos*, redwing *T. iliacus*, song thrush *T. philomelos* and starling *Sturnus vulgaris*.

Species recorded on site included blue tit *Cyanistes caeruleus*, mallard, moorhen *Gallinula chloropus* and robin *Erithacus rubecula*. Over ten mallards were recorded on/by the duck pond at the time of survey, attracted by the presence of a feeder which is replenished daily; anecdotal evidence from the client suggests that up to 50 mallards are often present at feeding time.

The proposed footprint of the dwelling supports no suitable nesting locations; however, the surrounding trees and hedges will provide nesting opportunities for a variety of species.

3.3.4 Great Crested Newt

WBRC holds four records of great crested newts within a 1 km radius of the site. These records are made between 1985 and 2017. The location of one of the records (dated 1985) is given as 'Holywell', but the record is supplied as a four-figure grid reference and so the distance of the record from the site is not known; no further details regarding this record are provided. Of the other records, the closest record (for two adult females and four adult males) is dated 1998 and was made roughly 660 m to the south-west.

Reference to Natural England's MAGIC website, which holds records of granted protected species licences, identified no licences for this species within 1 km of the site. MAGIC holds one record from a licence survey return in 2014 confirming the presence of great crested newts at a location roughly 770 m to the south-west. MAGIC holds no records from survey licence returns or pond surveys within a 1 km radius.

Habitats on site

The garden of Manor Farm supports two water bodies, a duck pond (Waterbody 1) and a shallow ditch (Waterbody 3); their suitability for breeding great crested newts is discussed further below. The terrestrial habitats within the development footprint and within the works access and storage areas are either species-poor or lack vegetation cover, and so provide little to no foraging opportunities for great crested newt. The grass is short-mown and grows on compacted ground; as such it does not offer any potential refuge locations, whilst the patio and pathway are old and have no visible gaps between them and the ground and so are unlikely to provide potential refuge areas.

In the wider garden, the shrubs and infrequently cut grassland will provide cover and better foraging opportunities for great crested newts, and the roots of trees and shrubs may provide refuge and hibernation opportunities.

Assessment of waterbodies within 100 m of site

The likelihood of newts using the site would depend on the presence of a breeding pond or ponds on the site or within a reasonable distance (250-500 m or less). Mapped Ordnance Survey data and the field survey identified four waterbodies within 100 m of the new extension; there are no significant barriers to dispersal between these ponds and the development area. All waterbodies were subject to a Habitat Suitability Index (HSI) assessment. These waterbodies are briefly described below and the results of the HSI assessment are provided in Table 3.2. Photos are provided in Plates 3.21-3.24. In the wider landscape, mapped data indicates there are around 40 ponds within a 1 km radius of the site.

Waterbody 1

This pond is within the grounds of Manor Farm, roughly 20 m west of the proposed new extension. The pond supports limited aquatic/marginal vegetation, with a small area of iris *Iris* sp. and rush *Juncus* sp. noted on the northern edge of the pond only. These plants offer very limited egg-laying opportunities for newts, which prefer to use aquatic plants with fine, submerged leaves. The owner reports that the ducks are fed daily, something also done by the previous owner, and that up to 50 ducks may be present at once. The presence of such large number of ducks significantly reduces the likelihood that this pond could be a successful breeding pond for great crested newts, as there is limited aquatic/marginal vegetation and any eggs laid on vegetation or leaf litter in the pond would likely get eaten by the ducks. The water is very turbid and green indicating poor water quality, likely as a result of the presence of large numbers of ducks. It is understood the pond never dries and the possibility it supports a small population of fish (which also predate great crested newts at various life stages) cannot be ruled out. The margin of the pond is shaded to the east, south and west by the surrounding fringe of trees and shrubs. A Habitat Suitability Index (HSI) score was calculated at 0.45, which equates to 'Poor' suitability; predicted great crested newt presence 3 %.

Waterbody 2

This ditch is located to the south of Waterbody 1 and abuts the southern boundary of the site. It is roughly 20 m from the proposed works footprint at its closest point. The water in the ditch was no more than 0.4 m deep at the time of survey and it is likely the ditch only holds water during the winter and after periods of heavy rain, making it unsuitable for successful great crested newt breeding. The ditch is filled with leaf litter and mosquito larvae were seen in the water column, an indication of poor water quality. Much of the ditch is shaded by the shrubs and trees from the adjacent garden. The presence of large numbers of ducks in the adjacent pond increases the likelihood the ditch will be used by ducks on occasion, further reducing its suitability for breeding great crested newt. Some marginal vegetation may provide suitable egg-laying habitat. A Habitat Suitability Index (HSI) score was calculated at 0.53, which equates to 'Below Average' suitability; predicted great crested newt presence 20 %.

Waterbody 3

This ditch is located to the west of Waterbody 2; but they do not appear to be directly linked. It is located within the garden of Manor Farm and is roughly 15 m from the proposed works footprint at its closest point. The water in the ditch was no more than 0.3 m deep at the time of survey and it is likely it only holds water during the winter and after periods of heavy rain, making it unsuitable for successful great crested newt breeding. The water within the ditch is clear and no invertebrates to indicate pond water quality were observed; as such moderate water quality is assumed. Much of the ditch is shaded by the shrubs and trees within the garden. The use of Waterbody 1 by ducks makes it highly likely they will also use this ditch, at least occasionally, further reducing its suitability for breeding great crested newts. Marginal and aquatic vegetation present include iris and marsh marigold *Caltha palustris* may provide some suitable egg-laying habitat. A Habitat Suitability Index (HSI) score was calculated at 0.54, which equates to 'Below Average' suitability; predicted great crested newt presence 20 %.

Waterbody 4

This pond was assessed from the public highway only, as it is located in the garden of a nearby property. It is located roughly 55 m from the proposed extension, on the other side of a quiet country road. Due to the likely low volume of traffic on this road, it is not considered to be a barrier to newt dispersal. It was not possible to determine the depth of the pond, but it is considered unlikely it will dry out; and as such it is possible it will support a population of fish. No indication of poor water quality was observed and as such moderate water quality is assumed. Much of the pond is shaded by the shrubs and trees within the surrounding garden. The presence of large numbers of ducks in Waterbody 1 increases the likelihood ducks will also use this pond. No marginal or aquatic vegetation was visible and the surface of the pond was covered with duckweed *Lemna* sp. Despite the likely lack of egg-laying vegetation, leaf litter from overhanging vegetation is likely to provide some egg-laying opportunities. A Habitat Suitability Index (HSI) score was calculated at 0.60, which equates to 'Average' suitability; predicted great crested newt presence 55 %.



Plate 3.21: Waterbody 1 (duck pond) – on site



Plate 3.22: Waterbody 2 (ditch)



Plate 3.23: Waterbody 3 (ditch) – on site



Plate 3.24: Waterbody 4 (ornamental pond)

Table 3.2: Habitat Suitability Index Assessment of Waterbodies 1-4

Suitability Indices	Waterbody 1		Waterbody 2		Waterbody 3		Waterbody 4	
National Grid Reference	SP 1974 6649		SP 1975 6648		SP 1972 6646		SP 1977 6645	
Sl ₁ Geographical location	Optimal	1	Optimal	1	Optimal	1	Optimal	1
Sl ₂ Pond area	400 m ²	0.8	150 m ²	0.3	100 m ²	0.2	100 m ²	0.2
Sl ₃ Permanence/drying	Never	0.9	Annually	0.1	Annually	0.1	Never	0.9
Sl ₄ Water quality	Poor	0.33	Poor	0.33	Moderate	0.67	Moderate	0.67
Sl ₅ Level of shade	60 %	1	70 %	0.8	90 %	0.4	80 %	0.6
Sl ₆ Waterfowl	Major	0.01	Minor	0.67	Minor	0.67	Minor	0.67
Sl ₇ Fish population	Possible	0.67	Absent	1	Absent	1	Possible	0.67
Sl ₈ Ponds within 1 km	c. 40	1	c. 40	1	c. 40	1	c. 40	1
Sl ₉ Terrestrial habitat	Moderate	0.67	Moderate	0.67	Moderate	0.67	Moderate	0.67
Sl ₁₀ Macrophyte cover	5 %	0.35	20 %	0.5	80 %	1	0 %	0.3
HSI Score	0.45		0.53		0.55		0.60	
Pond suitability	Poor		Below average		Below average		Average	
Predicted presence	3 %		20 %		20 %		55 %	

3.3.5 Reptiles

WBRC holds records of four reptile species within the 1 km search radius, with all records made in or close to Yarningale Common. There are three records of grass snake, made between 1963 and 1998; three records of slow worm made between 1966 and 1973; two records of common lizard, dated 1966 and 1975; and a single undated record of adder.

The habitats within the footprint of the proposed works, to include the footprint of the new extension and the proposed access route and storage/parking areas comprise short mown lawn and hardstanding, and are considered to have negligible suitability for reptiles. The habitats in the wider site provide some foraging and refuge opportunities, especially the areas of longer grassland at the edges of the site and the pond and ditch (which may provide foraging opportunities for grass snake).

3.3.6 Other Priority Animals

Common amphibians

WBRC holds single records of common frog *Rana temporaria* (2019), common toad *Bufo bufo* (1975) and smooth newt *Lissotriton vulgaris* (1998), as well as records of indeterminate newt efts (2004) within a 1 km radius of the site; all records were made at or near to Yarningale Common.

Mammals

WBRC holds single records of brown hare *Lepus europaeus* (2000), hedgehog *Erinaceus europaeus* (1975), water shrew *Neomys fodiens* (undated) within a 1 km radius of the site; all records were made at Yarningale Common. The habitats within the proposed development provide limited opportunities for priority mammals; however, habitats in the wider site may provide foraging and refuge habitat for hedgehog and possibly water shrew.

Invertebrates

WBRC holds 18 records of priority butterflies and moths within the 1 km search radius, with all records made at Yarningale Common between 1971 and 1997.

The habitats within the proposed development area and its immediate surroundings are predominantly managed ornamental habitats and whilst they will have some value for common invertebrates, they are unlikely to support rarer and priority species.

3.3.7 Priority Plants and Fungi

WBRC holds 57 records of priority plants within the 1 km search radius, dated between 1874 and 2010, along with some undated records; only seven of these records were made in or after 2000. The site comprises a well-established and maintained garden and thus it is unlikely to support any priority species. No priority plants or fungi were recorded during the survey.

3.4 Invasive Non-Native Species

WBRC holds five records of two invasive non-native plant species with legal controls (Himalayan balsam *Impatiens glandulifera* and variegated yellow archangel *Lamium galeobdolon* subsp. *argentatum*) within a 1 km search radius. These records are from Yarningale Common (over 450 m from the site at its closest point) and Lawsonford Alder Wood (roughly 830 m to the north-

west). An absence of records does not mean that a species is not present, merely that it has not been recorded. Species records are not always obtainable and the presence of such a species in the study site or in the local area may not have been detected.

No invasive, non-native species were recorded on site during the survey, although January is not an optimal time of year to identify many plant species.

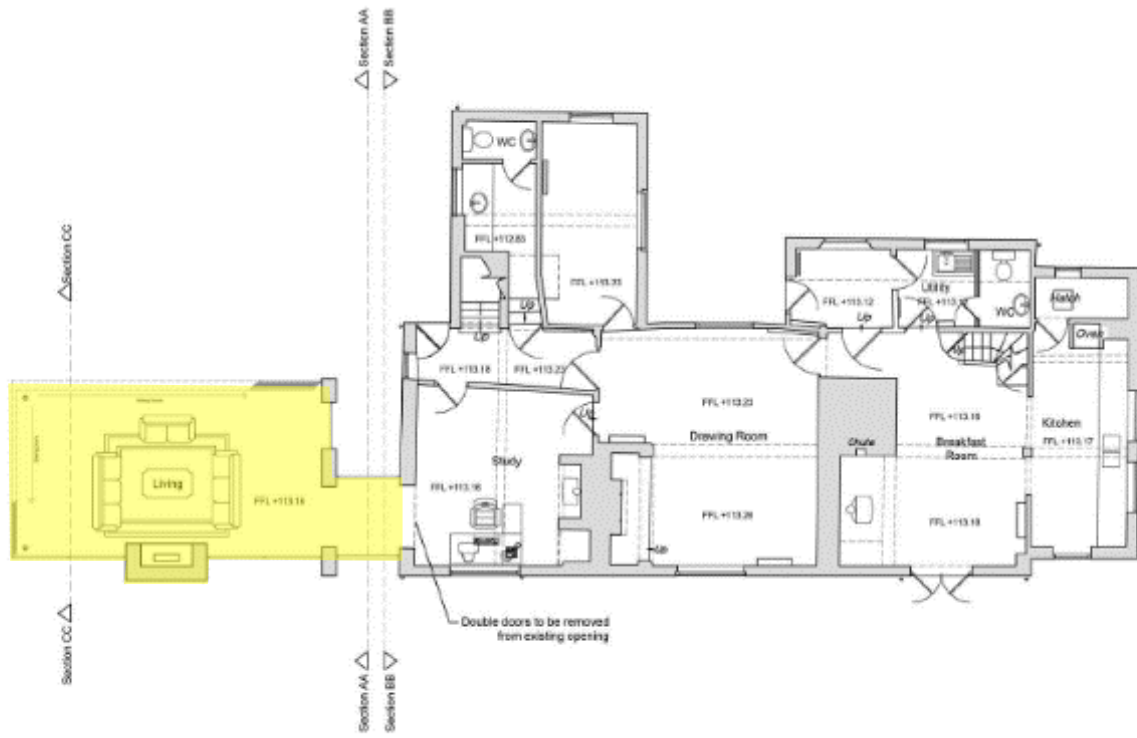
4 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development will comprise the erection of a single-storey extension on the western elevation of the property, see Figures 4.1 and 4.2. The new extension will have a footprint of approximately 37 m², with an associated patio area and pathways covering an additional c.20 m².

The total footprint of the development (including some temporary ground disturbance outside of the final footprint) will be less than 100 m² and will result in the loss of some amenity grassland and hardstanding. The new extension is outside of the canopy of the nearest trees (two cherry trees) to the west of the proposed extension. At the most, some arboricultural works (crown lifting/reduction) may be necessary to ensure the trees do not impact on the new structure in the future, but no tree removal is required.

The existing site layout offers a number of constraints to construction. Mature garden surrounds the house and is a significant constraint to access as the client wishes to retain and protect the mature garden. The construction will be undertaken in a sensitive manner, as follows:

- All contractor parking and storage of building materials will occur on existing hard surfaces to the north-east of the house. Construction materials will be moved by hand along the existing paths to the construction site as required.
- The extension is a lightweight glass structure with a steel frame, and as a result minimal foundations will be required. As a result, construction will take roughly 3 months.
- It will be possible to construct the extension with only small machinery (e.g. a mini-digger) and it will not be necessary to remove any hedgerows or trees to facilitate access to the construction area.



Proposed Ground Floor Plan
1:100 @ A1

Figure 4.1: Proposed extension – plan view (new extension highlighted in yellow). Taken from: Brownhill Hayward Brown Chartered Architects drawing – Proposed Plans and Elevations, 3742-200 Rev E. Dated October 2021.



Datum 110.00 Proposed South-East Elevation
1:100 @ A1

Figure 4.2: Proposed extension, as viewed from south-eastern elevation. Taken from: Brownhill Hayward Brown Chartered Architects drawing – Proposed Plans and Elevations, 3742-200 Rev E. Dated October 2021.

5 ASSESSMENT OF EFFECTS

5.1 *Designated Sites*

Potential Impacts

The survey area has no designation for nature conservation and so no designated sites will be directly affected by the development. The site is located within the SSSI Impact Risk Zone for Oak Tree Farm Meadows SSSI; however, the development does not fall within any of the development categories considered to represent a potential risk to this designated site. As such, no impacts upon this SSSI are considered likely as a result of the proposals.

The closest Ecosite is Hobbs Hole Lane; whilst part of this site is designated a potential LWS (roughly 100 m from the development footprint), the part of the Ecosite that abuts the boundary of Manor Farm has an ungraded nature conservation status. Due to the limited extent of the proposed development, no direct or indirect impacts on Hobbs Hole Lane Ecosite or other designated sites within the local area are predicted.

Mitigation Measures and Significance of Residual Effects

No impacts are predicted and so no mitigation measures are proposed and no residual effects will occur.

5.2 *Habitats*

Potential Impacts

There are no irreplaceable habitats on site. The habitats within footprint of the proposed extension (amenity grassland and hardstanding) are species-poor and ubiquitous in the wider area and the loss of less than 100 m² of these habitats will not significantly impact upon the biodiversity of the local area. However, to ensure that the development results in a net gain to biodiversity, in line with legislation and planning policy, the development will be sensitively designed to mitigate for this loss.

The proposed working areas for the development (to include contractor parking, access and material storage) will also predominantly occur in areas hardstanding. There is also some potential for disturbance of adjacent habitats: amenity grassland, ornamental planting (including a mature yew hedge) and scattered trees. Due to the sensitive way the works will be undertaken, it is considered that impacts on these habitats will be unlikely, but in the absence of mitigation measures the possibility of accidental damage to the mature yew hedges and scattered trees cannot be ruled out. Measures to protect these features from accidental damage during construction are required.

Within the wider garden there are the following habitats that may qualify as priority habitats.

- Pond: Ponds may qualify as a priority habitat if they meet certain criteria, e.g. if they support a species of high conservation importance. The pond on site supports a large population of ducks and the level of associated disturbance means it is unlikely it will qualify as a priority habitat. The proposed works will not directly impact on the pond. Due to the distance of the pond from the construction area and the limited impact of the

proposed development, no indirect impacts (such as accidental pollution or sedimentation) are predicted.

- Fruit trees: There are five mature fruit trees near the western edge of the garden, which are of a similar age and planting configuration to the trees within the adjacent field that are classified as 'Traditional Orchard' priority habitat, and it is possible they form part of the same orchard. These trees are over 20 m from the development footprint and associated working area and no impact is predicted upon this potential priority habitat.

In the absence of mitigation, the possibility of accidental damage to these habitats cannot be ruled out. In addition, works may also impact on the water quality of the ditches on/adjacent to the site. Measures to protect these features from accidental damage during construction are required.

Mitigation Measures

Habitat loss

- To mitigate for the small amount of habitat loss, existing grassland along the western edge of the site, which is subject to infrequent mowing (total area c.100 m²) will be enhanced through the addition of native, shade-tolerant bulbs and perennial wildflowers (see Appendix 3). This area will be managed with an annual hay cut.

Sensitive working practices

- All retained hedges and trees will be protected in accordance with British Standard *BS 5837:2012: Trees in relation to design, demolition and construction. Recommendations*. The protection will be installed prior to the commencement of the proposed works.
- To avoid indirect impacts on the water quality of the pond/ditches the following measures will be implemented:
 - Implement standard measures to limit pollution and run-off during the site clearance and construction phases.
 - Design the development to prevent pollution/run off into these waterbodies during the operational phase.

Significance of Residual Effects

Providing the above mitigation is implemented, no residual impacts are anticipated.

The final development must demonstrate that it has achieved biodiversity net gain, in accordance with the Environment Act (2021) and planning policy; this is further discussed in Section 5.5, taking into account all mitigation and compensation measures discussed in Sections 5.2 and 5.3.

5.3 Protected and Priority Species

5.3.1 Bats

Potential Impacts

There are numerous records of bats within the local area, including records of confirmed roosts.

The western elevation of the house is two storey and the proposed single-storey extension will join to the house via a low corridor/linking feature, thus minimising the impact on the extension.

There are no potential roosting features at the point where the new extension will join and the extension will not impact upon the roof, which may provide suitable roosting locations for bats.

Two trees are likely to require some arboricultural works, but neither supports any potential roosting features. No other potential bat roosting features are present within the development footprint.

The presence of bat roosts within the wider house and the traditional barn cannot be ruled out, and whilst these roosts will not be lost and it is unlikely they would be damaged/disturbed by the works, any increase in nocturnal illumination on site once the construction is completed has the potential to adversely impact any bats that may roost in these buildings if it is insensitively installed. An increase of artificial lighting may also have an adverse impact on bats foraging and commuting on site, especially if it illuminates key commuting or foraging habitats, e.g. scattered trees and the pond. Mitigation measures are required to avoid any impacts as a result of artificial lighting.

No construction works will occur at night and there will be no nocturnal illumination of the site during this phase of the project, and no impacts are predicted.

Vegetation loss will be limited to a small area of amenity grass with limited value for foraging bats, and thus no impact on foraging bats will occur. No trees or hedges on site will be removed and thus the development will not impact habitat connectivity.

Mitigation Measures

- Any new lighting will be designed and sited so as to avoid illumination of sensitive features, including the roofs of the house and traditional barn, and potential bat commuting/foraging habitat within the garden and wider area.
- Lighting of the site will be kept to an absolute minimum, and will incorporate mitigation measures such as: appropriate luminaire specifications⁵, downward pointing lighting, sensitive site configuration, screening, glazing treatments, motion-activated luminaires and part-night lighting. Please refer to '*Bats and artificial lighting in the UK; Guidance Note 08/18*' (Miles *et al.*, 2018) and '*Domestic exterior lighting: getting it right!; Guidance Note 09/19*' (Institute of Lighting Professionals, 2019) for further information.
- Sensitive lighting will also minimise the impacts on other species groups, such as invertebrates.

Significance of Residual Effects

It is considered that there will be no residual effects provided all the mitigation measures outlined above are put in place.

⁵ LED luminaires should be used due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. All luminaires should lack UV elements when manufactured. A warm white spectrum (ideally <2700 Kelvin, but 3000 Kelvin as a maximum) should be adopted to reduce blue light component. Luminaires should feature peak wavelengths higher than 550 nm to avoid the component of light most disturbing to bats.

5.3.2 Badger

Potential Impacts

There was no evidence of badger usage on site and no badger setts were recorded. There are numerous records of badger from the local area and their occasional presence on site cannot be ruled out. The site supports some suitable foraging habitat, but it is considered the proposed loss of a small area of mown grassland and any slight increase in nocturnal illumination will have a negligible impact on badgers when compared to the amount of undisturbed and unlit habitat that will remain on site and in the wider area. The possibility that individuals pass through the site cannot be ruled out. Precautionary mitigation measures are required to prevent any breaches in legislation.

Mitigation Measures

Proposed measures in Section 5.3.1 will avoid light pollution from impacting on badgers in the local area. In addition, the following precautionary measure will prevent harm to badgers during the construction phase:

- Any excavations during construction, including deep trenches or holes that will be left overnight, will be fitted with suitable ramps at either end to allow badgers a means of escape. Open pipework will be blocked off at the end of each day to ensure that badgers do not enter, or become trapped, within newly installed pipework. This would also prevent harm to other species, such as hedgehog.

Significance of Residual Effects

It is considered that there will be no residual effects provided all the mitigation measures outlined above are put in place.

5.3.3 Birds

Potential Impacts

Within the development footprint, the overhanging cherry trees may provide nesting opportunities for some tree nesting species, and the proposed arboricultural works may result in breaches in legislation in the absence of mitigation. The other habitats to be lost or impacted (amenity grassland, hardstanding, part of the house's western elevation) offer no nesting opportunities. Loss of potential nesting habitat will be negligible when compared to the amount of nesting opportunities present in the wider site and no compensation will be required.

Habitats along the works access route (predominantly introduced shrub and mature hedge) will provide nesting opportunities for other bird species; however, as none of this habitat will be lost and the work will be undertaken sensitively, disturbance is likely to be limited and no impacts on nesting birds are anticipated.

Mitigation Measures

As the future presence of nesting birds in habitats adjacent to the development is possible, the following working measures will be following to avoid breaches of legislation:

- To avoid committing an offence, the proposed arboricultural works to 2no. cherry trees that might be used by nesting birds should be undertaken outside the bird breeding season (March to August inclusive). If this is not possible, the trees must be checked immediately prior to works commencing by a suitably qualified ecologist. If there are nesting birds

present, works that might disturb the nest cannot continue until the chicks have fledged and left the nest.

- In the unlikely event any other potential nesting habitat requires removal, the above measures will be followed.
- Should a nest be identified in habitat adjacent to the working area, a suitably qualified ecologist will be contacted for advice on how to modify working, to ensure that work can proceed without disturbing the nest.

Significance of Residual Effects

It is considered there will be no residual effects provided all the measures outlined above are implemented.

5.3.4 Great Crested Newt

Potential Impacts

Records of great crested newt were provided by the local records centre within a 1 km radius of the site. The development footprint is small and the habitats present (amenity grassland and tight-fitting paving) offer limited suitability for great crested newt. Work will result in the loss of less than 100 m² of poor-quality terrestrial habitat.

There are two waterbodies within the site, with a further two waterbodies within 100 m. Waterbody 1 (20 m from development footprint) was assessed as having ‘poor’ suitability. Waterbodies 2 (20 m from development footprint) and 3 (15 m from development footprint) were assessed as having ‘below average’ suitability. Waterbody 4 (55 m from development) has ‘average’ suitability.

Whilst the proposals will not result in the loss of any breeding habitat, there will be a loss of some (low-quality) terrestrial habitat close to potential breeding habitat. Natural England’s GCN method statement risk assessment has been used to assess the risk of impacts on great crested newts, where the proposed development has an approximate footprint of <0.01 ha. The result of this assessment are given in Table 5.1 below.

Table 5.1: Natural England’s Great Crested Newt Risk Assessment Results

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.05
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

It can be seen from the above assessment that it is considered highly unlikely that an offence will be committed as a result of unmitigated development. Natural England’s general advice in such circumstances is as follows:

"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see Non-licensed avoidance measures tool) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest."

In accordance with the above advice, the proposals were examined in detail and it is considered that offences are unlikely to be committed, due to:

- the low suitability of the nearest waterbodies for great crested newt breeding;
- the small footprint of the works;
- the short duration of the works;
- the limited suitability of habitats within the footprint for great crested newts;
- the low-impact construction methods to be used; and,
- the desire of the client to maintain the character of the existing mature garden, which require sensitive construction methods to be implemented.

Whilst the likelihood of an offence being committed is low; due to the proximity of the site to waterbodies, precautionary mitigation measures will be implemented to avoid/minimise the risk of any offences occurring.

Mitigation Measures

Measures in Section 5.2 regarding habitat enhancement, will provide enhanced terrestrial foraging habitat for great crested newt and will mitigate for the loss of poor quality habitat. Proposed measures in Section 5.3.1 will prevent light pollution impacting on great crested newt use of the site and adjacent habitats. In addition, the following precautionary measures are required to ensure the development does not result in any breaches in legislation:

- The construction methods will be modified using strict reasonable avoidance measures to minimise any potential impacts upon this species, and to satisfy legislative requirements.
- These measures are detailed in full within the Reasonable Avoidance Method Statement in Appendix 4, and include the following elements:
 - Appointment of an ecological clerk of works/ecologist to ensure the details of the method statement are complied with.
 - Timing constraints to avoid the most sensitive periods for great crested newt.
 - Toolbox talk for contractors.
 - Sensitive working methods during clearance of any suitable habitats and features.
 - Storage of materials above ground level (i.e. on pallets) so that newts, if present, are unable to shelter among them.
 - Procedures to be followed in the event of discovering a great crested newt during works.

Significance of Residual Effects

It is considered that there will be no residual effects provided all the measures outlined above are implemented in full.

5.3.5 Reptiles

Potential Impacts

There are records of four reptile species within the 1 km search radius; however, all records are 20 years or more old and the record of an adder is undated. The footprint of the proposed extension and access route/site storage area have very limited value for reptiles due to the intensive management of the grassland and the limited opportunities offered by the hardstanding for refuge (because it is well set into the ground). However, the shrubs and trees may provide some potential refuge/hibernation features and the pond and wet ditch may provide foraging opportunities for grass snake, if they supports any amphibian populations. Whilst it is unlikely that the proposed development would result in any adverse impacts on reptiles, due to its small size and the short duration of the works, their occasional presence on site cannot be ruled out and precautionary measures are required to avoid any breaches of legislation.

Mitigation Measures

Measures in Sections 5.3.2 and 5.3.4 to prevent harm to badger and great crested newt will also prevent harm occurring to reptiles, in the unlikely event they are present. The following additional precautionary measure will be adopted to ensure they are not adversely impacted by the proposed development:

- If a reptile is discovered at any point during works, all work must stop and a suitably qualified ecologist must be consulted for advice on how to proceed. Telephone numbers of such will be held on site.

Significance of Residual Effects

It is considered there will be no residual effects provided all the measures outlined above are implemented in full.

5.3.6 Other Priority Animals

Potential Impacts

It is likely other species will occasionally forage or pass through the development area. Due to the small footprint and limited duration of the works, impacts are considered to be minimal, but precautionary measures are required to avoid any breaches of legislation.

Mitigation Measures

Measures in Sections 5.3.2 and 5.3.4 to prevent harm to badger and great crested newt will also prevent harm occurring to other priority animals, should they be present. No further mitigation measures are considered necessary.

Significance of Residual Effects

It is considered that there will be no residual effects provided all the measures outlined above are implemented.

5.3.7 Priority Plants and Fungi

Potential Impacts

Due to the nature of the habitats within the survey area, no protected or priority species are predicted to occur within the development area; as such no impacts are predicted.

Mitigation Measures and Significance of Residual Effects

No mitigation measures are required and no residual impacts are predicted.

5.4 Invasive Non-Native Species

Potential Impacts

No such species were recorded on site and thus no impacts are predicted.

Mitigation Measures and Significance of Residual Effects

No mitigation measures are required and no residual impacts are predicted.

5.5 Biodiversity Net Gain

The Environment Act (2021), Natural Environment White Paper (2011) and National Planning Policy Framework (2021) require that development results in net gains for biodiversity, with the Environment Act requiring a minimum of a 10% net gain in biodiversity value of the site post-development. Mandatory biodiversity net gain (as set out in the Environment Act 2021) will only be implemented fully through amendment of the Town & Country Planning Act and is likely to become law in 2023. Therefore current biodiversity net gain requirements may vary according to local planning policy.

Biodiversity net gain is normally demonstrated using an appropriate biodiversity metric; however, as the proposals will result in the loss of a very small area of low value habitats (i.e. hardstanding and amenity grassland), the use of a biodiversity metric is not considered appropriate in this case. Instead, biodiversity net gain will be achieved by incorporating the following species-specific measures into the development proposals:

- 1 no. bat box – to be installed either on one of the existing outbuildings or a suitable tree in the wider garden (3 m or more above ground level).
- 1 no. swallow nest cup (to be installed in the open-fronted barn by the driveway).
- 1 no. invertebrate refuge feature – to be installed on an existing outbuilding or a suitable tree.
- 1 no. habitat/log pile – to be created in a quiet and shaded area of the garden, ideally near to the ditches/pond. This will provide a refuge and hibernation location for amphibians.

Appendix 3 provides details of suitable boxes/refuge designs. The client has agreed to these measures.

5.6 Cumulative Effects

Reference to the local planning portal identified few planning applications within the local area within the last five years. The nature and small scale of these proposals, all homeowner developments, mean it is unlikely there will be any cumulative effects associated with the development on site that would have an adverse impact on designated sites, priority habitats, or protected or priority species in the local area.

6 ECOLOGICAL ENHANCEMENT

The Environment Act (2021), Natural Environment White Paper (2011) and National Planning Policy Framework (2021) require that development results in net gains for biodiversity. A variety of species measures could be implemented at the site, in addition to those required to achieve biodiversity net gain (as detailed in Section 5.5). These features could include:

- Planting new fruit trees or native trees within the garden and wider site.
- Install at least one bat box (additional to the box required to achieve biodiversity net gain).
- Install at least one additional bird nest box (additional to box the required to achieve biodiversity net gain).
- Install at least one additional invertebrate refuge box (additional to the box required to achieve biodiversity net gain).

Examples of suitable features are detailed in Appendix 3.

7 CONCLUSIONS

The site has no designation for nature conservation within its boundary or nearby. Due to the limited extent of the proposals, no adverse impacts on nature conservation within the local area are predicted.

The site is dominated by habitats of generally low ecological value. The proposed scheme will result in the loss of <100 m² of habitats with limited ecological value (i.e. mown grass and paving). The development will be designed sensitively to mitigate/compensate for this loss.

The site has limited value to fauna, but the presence of several waterbodies in close proximity means the possibility of harm to individual great crested newts cannot be ruled out; works will be undertaken under strict reasonable avoidance measures to ensure compliance with legislation and planning policy. In addition, measures will be required to avoid and minimise impacts on retained habitats and protected and priority species that may be present on or occasionally pass through the site.

A summary of mitigation, compensation and enhancement measures is provided in Table 7.1, and given in detail within Section 5. Providing these measures are appropriately implemented, the proposed development will result in overall beneficial impacts to biodiversity.

Table 7.1: Summary of Mitigation, Compensation and Enhancement Measures

Feature	Mitigation, Compensation and Enhancement Measures	How will Measure be Secured?
<i>Mitigation and compensation measures</i>		
Habitat enhancement	<ul style="list-style-type: none"> Existing grassland along the western edge of the site (c.100 m²) will be enhanced through the addition of native, shade-tolerant bulbs and perennial wildflowers and managed with an annual cut in late summer. 	Planning Condition
Trees and Hedgerows	<ul style="list-style-type: none"> All retained trees and hedgerows will be protected in accordance with British Standard BS 5837:2012: Trees in relation to design, demolition and construction. Recommendations. 	Planning Condition/ Part of Proposals
Ponds/ditches	<ul style="list-style-type: none"> Standard measures to limit pollution and run-off will be implemented during the site clearance, construction and operational phases. 	Planning Condition
Bats	<ul style="list-style-type: none"> Scheme lighting during and after construction must avoid increase in illumination of retained garden habitats which provides suitable foraging/commuting habitat. 	Planning Condition
Badger	<ul style="list-style-type: none"> Precautionary measures to be installed during construction period (cover holes/pipework at night or install ramps). 	Planning Condition
Nesting birds	<ul style="list-style-type: none"> Undertake arboricultural works/remove nesting habitat outside of nesting season. If this is not possible, potential nesting habitat will be checked immediately prior to works commencing by a suitably qualified ecologist. If nesting birds are found, works cannot continue until the chicks fledge and leave the nest. Consult with a suitably qualified ecologist if a nest is found in habitat adjacent to the working areas, to ensure work can proceed without disturbing the nest. 	Planning Condition
Great crested newt	<ul style="list-style-type: none"> Undertake site clearance and construction under a strict Reasonable Avoidance Method Statement (see Appendix 4). 	Planning Condition/ Part of Proposals
Reptiles	<ul style="list-style-type: none"> If at any time a reptile is discovered, all work must stop and an ecologist must be consulted. 	Planning Condition
<i>Enhancement measures</i>		
Species	<ul style="list-style-type: none"> Provide at least 1 roost box for bats, either on existing outbuilding and or a tree. Provide at least 1 nest box for swallow in open barn. Install at least 1 invertebrate refuge feature in an appropriate location within the garden. Create at least 1 habitat pile in shady, undisturbed area of garden. 	Planning Condition

8 RELEVANT LITERATURE

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APPENDIX 1 – LEGISLATION AND PLANNING POLICY

A1.1 Introduction

This section briefly lists legal protection/planning policy applying to designated sites, species or habitats mentioned in this report. It does not comprehensively reflect the text of the legislation/policy and it should not be relied upon in place of it. The following documents are relevant:

- The Local Government Act 1985;
- The Wildlife and Countryside Act 1981 (as amended);
- The Environmental Protection Act 1990;
- The Countryside and Rights of Way (CROW) Act 2000 (in England and Wales);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- EU Regulation 1143/2014 on Invasive Alien Species, as amended by The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019;
- Environment Act 2021;
- The Natural Environment White Paper (England) (DEFRA, 2011);
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011), which underpins the UK Post-2010 Biodiversity Framework (JNCC and DEFRA, 2012);
- National Planning Policy Framework (MHCLG, 2021); and
- Warwick District Local Plan (Adopted 2017).

A1.2 Habitats of Principal Importance

Habitats designated as being “*of principal importance for the purpose of conserving biodiversity in England*” as listed under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006 are priority habitats for the UK Post-2010 Biodiversity Framework and form a key component of the Biodiversity Strategy for England. They are material considerations in the planning process.

A1.3 Protected Species

A1.3.1 Dormouse, great crested newt, otter, and all species of British bat

The dormouse *Muscardinus avellanarius*, great crested newt *Triturus cristatus*, otter *Lutra lutra*, and all species of British bat (*Vespertilionidae* and *Rhinolophidae*) are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receive some limited protection under Section 9. These species are also all listed as protected species in Schedule 2 of The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which gives them full protection under Regulation 43.

It is also an offence to set and use articles capable of catching, injuring or killing such species (for example a trap or poison), or knowingly cause or permit such an action.

The dormouse, great crested newt, otter and seven species of British bat are listed as species of principal importance for the purpose of conserving biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A1.3.2 White-clawed crayfish

The white-clawed crayfish *Austropotamobius pallipes* is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receives protection under Section 9 parts 1, from killing, taking or injury, and Part 5, which prevents their sale. They are also listed under Annexes II and V of The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019; Annex II listing requires that Special Areas of Conservation (SACs) be established specifically to conserve the species.

The white-clawed crayfish is listed as a species of principal importance for the purpose of conserving biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A1.3.3 Water vole

Water vole *Arvicola amphibius* is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receives full protection under Section 9. Water vole is listed as a species of principal importance for the purpose of conserving biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A1.3.4 Common reptiles

Common lizard *Zootoca vivipara*, grass snake *Natrix helvetica*, slow worm *Anguis fragilis*, and adder *Vipera berus* are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), in respect of Section 9(5) and part of Section 9(1). These species are included as species of principal importance for the purpose of conserving biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A1.3.5 Birds

All species of bird are protected under Section 1 (1) of the Wildlife and Countryside Act 1981 (as amended). Certain species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and receive protection under Section 1(5). There are special penalties where offences are committed for any Schedule 1 species.

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 includes 49 bird species which are of principal importance for the purpose of conserving biodiversity in England.

A1.3.6 Badger

The badger *Meles meles* is protected in Britain under the Protection of Badgers Act 1992. The legislation protects badgers and their setts.

The badger is also protected under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit.

A1.4 Species of Principal Importance

Various vertebrate, invertebrate, plant and fungal species potentially present in the area are listed as species “*of principal importance for the purpose of conserving biodiversity in England*” under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and form a key component of the Biodiversity Strategy for England. They are a material consideration in the planning process.

A1.5 Invasive Non-Native Species

Several invasive non-native animal and plant species are listed on Schedule 9, Parts I and II respectively, of the Wildlife and Countryside Act 1981 (as amended). Schedule 14 (1 and 2) makes it illegal to release or allow to escape (animals) into the wild, or to plant or cause to grow (plants) in the wild, any animal or plant species listed on schedule 9 (parts 1 and 2).

EU Regulation (1143/2014) on invasive (alien) non-native species, as amended by The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019, imposes restrictions on 49 animal and plant species. Strict restrictions (subject to certain exemptions) mean that these species cannot be imported, kept, bred, sold, used or exchanged, allowed to reproduce, grown or cultivated, or released into the environment. The Invasive Alien Species (Enforcement and Permitting) Order 2019 provides enforcement provisions, prescribes offences and penalties to comply with the requirements of the regulations.

APPENDIX 2 – DESIGNATED SITES WITHIN 1 KM

Table A2.1: Designated sites within 1 km of study site.

Name	Description/Approximate distance from site	Status
Statutory sites		
Oak Tree Farm Meadows SSSI	Supports nationally important floodplain meadows, with some of the last known fields in the county. The site mostly supports MG4 communities with smaller area of MG5b. It is situated on confluence of two streams, which are tributaries of the River Alne. <i>675 m west</i>	SSSI
Non-statutory sites		
Hobbs Hole Lane	This site supports hedges with several mature trees, ditches and verges either side of a narrow lane. <i>Ecosite abuts site to south; pLWS 100 m south-west.</i>	Part Ecosite, Part pLWS
Field at Hobbs Hole Lane	1997 survey data suggests the field supports MG5 grassland. The site also has hedges with several mature trees, ditches and verges. <i>130 m south</i>	pLWS
Holywell Meadow	Denotified as a SSSI in 1986 following agricultural improvement, it comprises permanent pasture on ridge and furrow with some interesting and herb rich areas, including areas of marshy grassland. <i>260 m north-west</i>	Part LWS, part Ecosite
Buttermilk Meadow	This Ecosite incorporates Oak Tree Farm Meadows SSSI (described above) and Alder Wood pLWS (two areas of even aged alder <i>Alnus glutinosa</i> woodland, with clearings and wet areas, roughly 630 m from the site at its closest point). The rest of this Ecosite has ungraded status. <i>400 m west</i>	Part SSSI Part pLWS, part Ecosite
Yarningale Common	A mosaic of broad-leaved semi-natural woodland, scrub, tall herb, semi-improved neutral and acid grassland, and several ponds. Has a number of county notable plants and invertebrates, although many more notable species associated with typical heathland and common habitats have been lost. <i>450 m south-west</i>	LWS
Kingswood/Preston Bagot Brook	Part of River Alne LWS. Includes tributaries of the river, osier <i>Salix viminalis</i> beds and adjacent marshy areas. <i>550 m west</i>	LWS
Meadow Croft	Three formerly unimproved meadows that have been agriculturally improved and possibly ploughed. <i>700 m north</i>	Ecosite
Cordison Fields S side of Kingswood brook	Several grassland fields, including a floodplain meadow, rush-dominated marshy grassland, dry semi-improved grassland and heavily-grazed pasture. <i>770 m west</i>	pLWS
Oak Trees Meadow	Improved grassland with boundary hedgerows. <i>800 m south-east</i>	pLWS
Stratford on Avon Canal	Important linear feature with species-rich aquatic and marginal vegetation. <i>840 m north-west</i>	pLWS
Pinley Green Meadow	Semi-improved grassland field. <i>940 m south-east</i>	pLWS

Name	Description/Approximate distance from site	Status
Flood Plain Meadows	Floodplain meadows along the Stratford on Avon canal. <i>955 m west</i>	LWS
<p>Key</p> <p>LWS: Local Wildlife Site Eco: Ecosite (ungraded status)</p> <p>SSSI: Site of Special Scientific Interest pLWS: Potential Local Wildlife Site</p>		

APPENDIX 3 – MITIGATION, COMPENSATION AND ENHANCEMENT

A3.1 Habitats

Shade tolerant native bulbs and herbaceous perennials will be planted along the western edge of the site, under existing trees. A suitable mix could include a mixture of the following:

- Betony *Stachys officinalis*
- Bluebell *Hyacinthoides non-scripta*
- Foxglove *Digitalis purpurea*
- Giant bellflower *Campanula latifolia*
- Hedge bedstraw *Galium album*
- Nettle-leaved bellflower *Campanula trachelium*
- Pignut *Conopodium majus*
- Primrose *Primula vulgaris*
- Red campion *Silene dioica*
- Selfheal *Prunella vulgaris*
- Sweet woodruff *Galium odoratum*
- Tufted vetch *Vicia cracca*
- Violet species, including *Viola canina* and *V. riviniana*
- Wood anemone *Anemone nemorosa*

The final species mix will be discussed and agreed with a suitably qualified ecologist.

A3.2 Species

All features to be installed in accordance with manufacturers' instructions. Final locations of features will be discussed and agreed with a suitably qualified ecologist.

Bats

Suitable bat box products to be installed onto an external wall of an existing building:

- Schwegler 1FQ bat box
- Beaumaris Woodstone bat box



Figure A3.1: Bat roost boxes, from left to right: Schwegler 1FQ bat box and Beaumaris Woodstone bat box.

Suitable bat box products to be installed on trees include:

- Schwegler 2F bat box
- Schwegler 1FF bat box
- Schwegler 2FN bat box

- Vivara Pro WoodStone bat box
- Bark Boxes – various designs

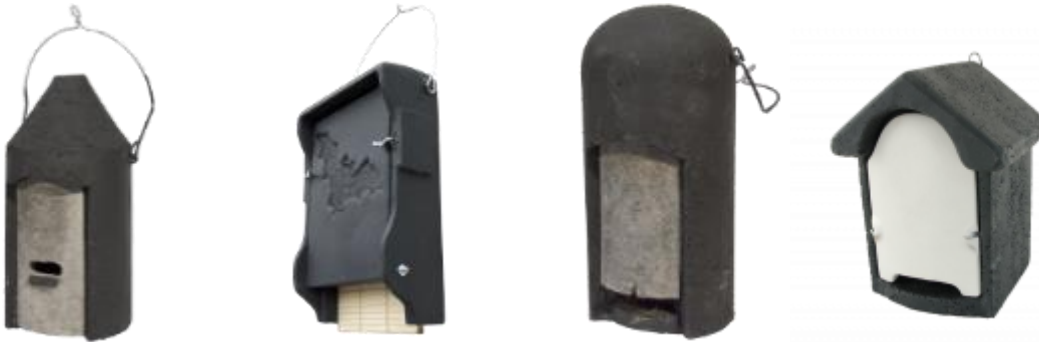


Figure A3.2: Bat roosting boxes, from left to right: Schwegler 2F, Schwegler 1FF, Schwegler 2FN, Vivara Pro WoodStone bat box



Figure A3.3: Bat roosting Bark Boxes range, from left to right: small crevice bat box, large twin crevice bat box

Birds

Suitable nesting features for swallows include:

- Schwegler 10 swallow nest box (with optional droppings board)



Figure A3.4: No. 10 Schwegler swallow nest (left) and Schwegler droppings board (right)

Other suitable nest boxes for species likely to occur in the area include:

- Schwegler 1B nest box (various entrance sizes)
- Schwegler 1SP Sparrow Terrace
- Vivara Pro Seville WoodStone nest box (various entrance sizes)

- Vivara Pro Barcelona WoodStone Open nest box
- Bark Boxes – various designs



Figure A3.5: Bird nesting boxes, from left to right: Schwegler 1B nest box, Schwegler 1SP Sparrow Terrace, Vivara Pro Seville WoodStone nest box, Vivara Pro Barcelona WoodStone open next box.



Figure A3.6: Bark Boxes bird box range, from left to right, examples are: blue tit 25 mm entrance, open-fronted nest box, sparrow terrace.

Invertebrates

Suitable insect chamber box products to be installed on the site include:

- Schwegler insect nesting aid, Woodcrete
- Schwegler clay and reed insect nest
- Bee Bricks
- Bee Blocks



Figure A3.7, from left to right: Schwegler Woodcrete insect nesting aid and Schwegler clay and reed insect nest.



Figure A3.8, from left to right: Bee Brick and Bee Block

Amphibians

Habitat pile to be created in shady/partially shaded and undisturbed area of the garden near to ditches/ponds; minimum size 1 m L x 1 m W x 0.5 m H. A variety of designs are available, including:

- Log pile, such as <https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/create-a-log-pile-for-wildlife/>
- Refuge feature created from a mixture of logs/brush/rubble capped with soil (see Figure A3.9).

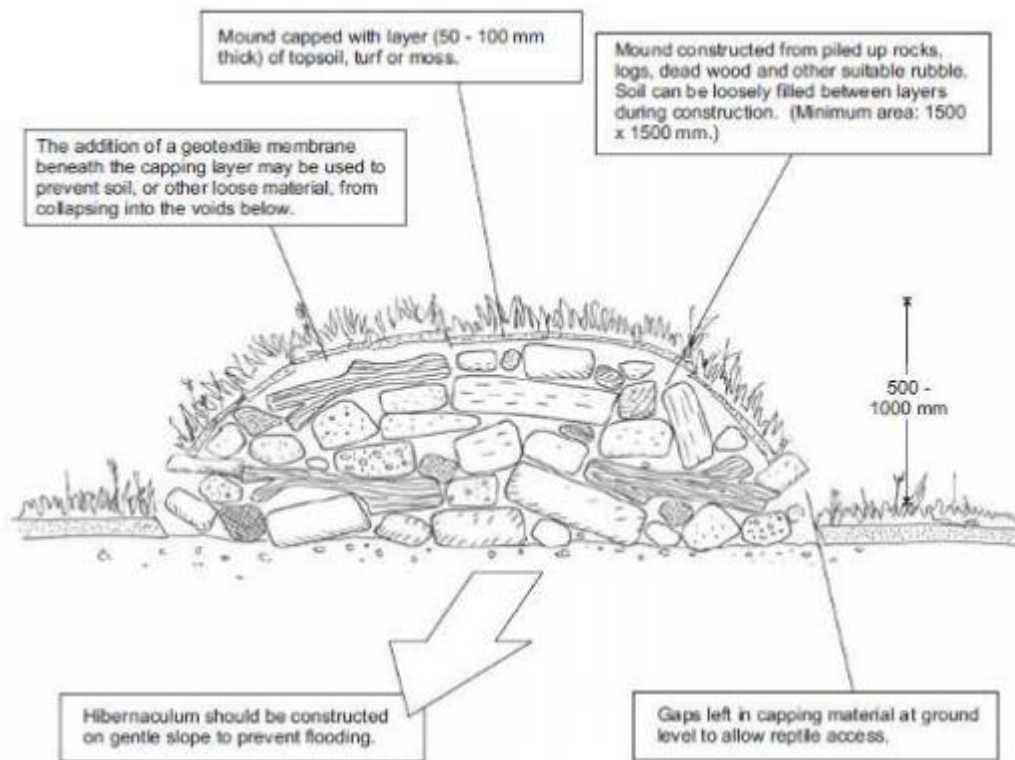


Figure A3.9: Example of above-ground habitat pile suitable for amphibians.

APPENDIX 4 – GREAT CRESTED NEWT REASONABLE AVOIDANCE METHOD STATEMENT

A4.1 Mitigation strategy introduction

This Mitigation Strategy outlines the strict reasonable avoidance measures that will be implemented during the development to modify working methods and thus minimise any potential impacts upon great crested newts (should they be present), and satisfy legislative requirements.

If a great crested newt is observed/found by any person during the works, the Site Manager must be informed immediately, all works must immediately cease and a suitably qualified ecologist must be immediately contacted. Natural England will be consulted, and a licence might be required before works can recommence.

The mitigation strategy contains the following elements, in order to ensure that great crested newts are not harmed during proposed works and there are no adverse effects on the favourable conservation status of this species:

- Responsible persons and lines of communication;
- Toolbox talk to site workers;
- Timing of works;
- Ground preparation;
- Sensitive working methods for the avoidance of killing, injury or disturbance to great crested newt;
- Sensitive working methods for the protection of retained habitats;
- Methods to be followed in the event of a great crested newt being discovered during works in the absence of an ecologist;
- Sensitive development design; and
- Biosecurity measures.

A4.2 Responsible persons and lines of communication

This document will be kept on site throughout the works and will be made available to contractors to ensure the requirements and mitigation measures are communicated effectively. All site workers will be briefed by a suitably qualified ecologist (hereafter referred to as ‘the ecologist’) prior to the start of works. The site owner and/or project manager will ensure that this method statement is complied with during works. Details of responsible parties and main contact details are provided below:

Site owner/Project manager: TBC

Contractors: TBC

Ecologists: Swift Ecology Ltd
Anna Dudley 07825 329028
Head office 01926 642541

A4.3 Toolbox talk

All staff/contractors will be given a tool box talk by the ecologist about great crested newt, which will cover:

- Identification and ecology of great crested newts;
- Habitat utilised by great crested newts;
- The high level of legal protection afforded to great crested newts and the criminal sanctions that can be imposed if the relevant law is broken, including fines and imprisonment;
- Measures to avoid and reduce impacts on individual great crested newts during work;
- A clear instruction that if any great crested newts is seen, or if any other animal which could be a protected species is seen, then the site owner/project manager is immediately informed and that they immediately stop all works and informs the ecologist.
- Which works must be undertaken under supervision of the ecologist; and
- The need for appropriate biosecurity measures.

A written record shall be kept of this training.

Identification sheets and this Method Statement will be issued to all staff attending this training and will be displayed in the site cabin. Any new worker or contractor who attends site but has missed the tool box talk will be required to sign a sheet to confirm that they have received and understood the identification sheet and the Method Statement.

A copy of the Method Statement will be made available on site at all times.

A4.4 Timing of works

One of the most important ways of avoiding harm to great crested newts is to carry out works that will result in damage or destruction of habitats when great crested newts are least vulnerable to disturbance (English Nature, 2001).

As such, the removal of potential refuge/hibernation features within the development footprint (i.e. paved area) will be undertaken during suitable weather conditions for great crested newt to be active, roughly March to October inclusive, with night temperature of 5°C or more.

A4.5 Ground preparation

Prior to the development commencing the lawn within the development footprint will be maintained in a short-mown condition so that it does not become suitable for amphibians.

The potential hibernation features (e.g. paved area) will be hand-searched by the ecologist before being dismantled during the active period for great crested newts (see Section A4.4).

A4.6 Sensitive working methods for the avoidance of killing, injury or disturbance to great crested newt

Works are permitted to proceed only in the defined working area, which will be identified on plans (i.e. the tree protection plan) and will be protected by appropriate fencing, with signs if necessary. No works will take place within any habitat that might support great crested newts (e.g. hedges, trees, long grass, shrub beds).

No artificial lighting will be installed or used anywhere on the site during construction.

Building materials that might offer shelter to protected species will be stored on pallets on areas of hardstanding i.e. on the existing driveway or within the open-fronted barn.

All trenches or holes will either be covered overnight or a ramp installed so that if animals fall in, they can escape. Open pipework will be covered to prevent animals entering and becoming trapped. On completion of trenches/holes, backfilling will be carried out to return the ground to a level condition with no cracks or crevices remaining.

During the period of construction, occasional site checks may be carried out by the ecologist to ensure the Method Statement is being followed.

The working area will be kept clear of vegetation and other potential features that might support protected species for the entire duration of the works, until development is complete. The completion of development is defined as the completed installation and construction of the extension and associated hard surfacing, along with any necessary pipework, cables, drainage and sewerage.

A4.7 Sensitive working methods for the protection of retained habitats

Appropriate measures, e.g. protective fencing, will be implemented to prevent damage and pollution/run-off entering any of the waterbodies on or adjacent to the site.

Any tree protection fence required will prevent harm to other retained habitats; refer to tree report for full details (BJ Unwin Forestry Consultancy Ltd., 2022).

A4.8 Procedure to be followed in the event of a great crested newt being discovered in the absence of an ecologist

If at any time during works a great crested newt is discovered when the ecologist is not present, all works will stop and the ecologist will be consulted (see Section A4.2) to determine the appropriate way to proceed. **Natural England will be consulted, and a licence might be required before works can recommence⁶.**

⁶ Because works are proceeding without a protected species licence, it would be an offence to move a great crested newt found during works. Thus in the unlikely event a great crested newt is found, the appropriate procedures will need to be followed.

Should any great crested newts be injured, they will be gently placed in a secure, damp, ventilated box and left in a cool dark place, until appropriate advice has been obtained from the ecologist.

A4.9 Sensitive development design

To minimise the impact of the development on great crested newt (if present on site/nearby), it will be sensitively designed to minimise the risk of great crested newts getting trapping in the built environment and drainage system. The final design of these elements has not yet been completed and final measures will be confirmed following discussions between the ecologist, client and contractor prior to works commencing.

- Kerbs: The new patio, pathways etc. will be flush with the existing ground level and there will be no raised kerbs that can present barriers to the movement of great crested newt, and/or lead them to get trapped.
- Drainage: There will be minimal requirement for drainage associated with the new extension, apart from a minimum of 2 no. rainwater downpipes. To minimise the impact of any necessary gully pots, the following measures will be implemented into the design:
 - Any gully pots must be fitted with amphibian-friendly grills to prevent amphibians falling in and becoming trapped (e.g. perforated covers with small round drainage holes, c.6 mm in diameter).
 - Gully pot covers will be set flush with the ground level, to prevent amphibians becoming trapped.

A4.10 Biosecurity measures

No works will occur within any of the waterbodies on/adjacent to site and measures in Section A4.7 will ensure these features are protected at all times during the works. As such, the risk of any disease spread is considered to be low.

Dead or sick amphibians found at any time during the works will only be handled if necessary. If wildlife disease is suspected, this will be reported to the Garden Wildlife Health⁷ project and appropriate advice sought.

⁷ <https://www.gardenwildlifehealth.org/>