Preliminary Ecological Appraisal Report

3 Moat Lane

Prepared for:	Chris Bowmer
Issue date:	10/09/2026
Version:	1
Reference:	AE0435/1/1

Summary

Site Address:	3 Moat Lane, Perry, Cambridgeshire, PE28 0SY
Type of structure:	Residential Dwelling
Survey effort:	- Preliminary Ecological Appraisal (PEA) Survey
Survey date:	- PEA Survey – 12/08/2026
Surveyors:	Daniel Howgego (NE GCN & Bat licence), Rebecca Cattell
Evidence of protected species found?	- No evidence of protected species - No PRFs for bats within the section being extended - Limited suitable terrestrial habitat for transitional badger, reptile & GCN individuals
Further survey required?	- **No further surveys required.** - The **Avoidance Measures** (Section 4.4) must be adhered to during the development to mitigate any impacts.
National Planning Policy Framework (NPPF) 2025, Paragraph 186	- **No significant harm to biodiversity will occur because of the development.** - **No impacts to an SSSI will occur because of the development.** - **No irreplaceable habitats will be lost or damaged because of the development.** - **Biodiversity will be enhanced on the site (see below).**
Has there been any Habitat Degradation On-Site?	- **No**
Are there Irreplaceable Habitats On-Site?	- **No**
Impacts on protected species?	- No impact on protected species.
Licence from Natural England required?	**No**
Opportunities for ecological enhancement:	- 1x External bat box - 1x Bird box - 2x Swift boxes

Document Control

Status	Version	Name of Author/Reviewer	Date
Draft	V1	Rebecca Cattell	28/08/2026
Technical Review	V1	Daniel Howgego BSc (Hons), MSc, ACIEEM	10/09/2026
Final	V1	Daniel Howgego BSc (Hons), MSc, ACIEEM	10/09/2026

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The recommendations in this report represent Aware Ecology Ltd's professional opinions regarding the duty of care required of an experienced Ecological Consultant. The information has been prepared using industry-accepted ecological resources, academic background, and professional expertise; no specific warranty is provided regarding the precision of the background data.

Aware Ecology Ltd does not guarantee that the site is free of protected species or that the proposed client works will not negatively impact protected species or designated sites within or outside the site boundary. This report's recommendations aim to minimise any impact on protected species or designated sites and provide advice on the steps required to complete the work legally.

The findings in this report are based on conditions observed during the survey. **Updated advice should be sought if more than two years have elapsed.**

Table of Contents

1 Introduction 6
1.1 Background 6
1.2 Site Description 6
1.3 Legislative / Planning Context 6
1.4 Scope of Use 7
2 Methods 7
2.1 Zone of Influence (ZOI) 7
2.2 Desk Study 7
2.3 Site Inspection 7
2.3.1 Habitat 7
2.3.2 Bats 7
2.3.2.1 Daytime Survey 7
2.3.3 Birds 8
2.3.4 Great Crested Newts 8
2.3.4.1 Habitat Suitability Index (HSI) 9
2.3.5 Reptiles 9
2.3.6 Badgers 9
2.3.7 Other Protected Species 9
2.3.8 Invasive Non-Native Species (INNS) 9
2.4 Limitations of this Evaluation 9
2.5 Survey Team 10
3 Results 10
3.1 Desk Study 10
3.1.1 Designated Sites 10
3.1.2 Watercourses and Waterbodies 10
3.1.3 Priority Habitats 10
3.1.4 Species Records 10
3.2 Daytime Site Inspection 11
3.2.1 Habitat 11
3.2.1.1 Vegetated Garden (u1 828) 11
3.2.1.2 Developed Land (u1b) 11
3.2.1.3 Individual Trees (u1 200) 11
3.2.1.4 Habitat Degradation 11
3.2.1.5 Irreplaceable Habitats 11
3.2.2 Bats 11
3.2.2.1 Daytime Survey 11
3.2.3 Birds 11
3.2.4 Great Crested Newts 12
3.2.5 Reptiles 12
3.2.6 Badgers 12
3.2.7 Other Species 12
3.2.8 INNS 12
4 Evaluation and Recommendations 12
4.1 Likelihood of Use by Protected Species 12
4.1.1 Bats 12

4.1.2 Birds 12
4.1.3 Great Crested Newts 13
4.1.4 Other Species 13
4.2 Predicted Impacts of the Proposed Development 13
4.2.1 Bats 13
4.2.2 Birds 13
4.2.3 Great Crested Newts 13
4.2.4 Other Species 13
4.3 Further Surveys and EPS Licensing 13
4.4 Mitigation / Avoidance Measures 13
4.4.1 Protected Species 13
4.4.1.1 Bats 13
4.4.1.2 Birds 14
4.4.1.3 Great Crested Newts 14
4.4.1.4 Reptiles 14
4.4.1.5 Badgers 15
4.4.1.6 Other Species 15
4.4.2 Precautionary Measures 15
4.5 Ecological Enhancement 15
4.5.1 Species Enhancements 15
5 Legislation 16
5.1 Bats 16
5.2 Birds 16
5.3 Great Crested Newt 16
5.4 Reptiles 17
5.5 Badger 17
5.6 INNS 17
6 References 17
7 Appendix 18
7.1 Site Photos 18
7.2 Designated Sites 19
7.3 Priority Habitats 20
7.4 Pond Locations 21
7.5 Recommended Bat Boxes 22
7.6 Recommended Bird Boxes 23
7.7 Other Biodiversity Enhancements 24
7.8 BCT Survey Guidelines 25

1 Introduction

1.1 Background

Aware Ecology Ltd was commissioned by Chris Bowmer to undertake a Preliminary Ecological Assessment (PEA) survey at '3 Moat Lane, Perry, Cambridgeshire, PE28 0SY' (hereafter referred to as 'the site' or 'site'). This aims to assess the likelihood that any Protected Species will be affected by the proposed works, so that the Local Planning Authority can consider potential impacts in their decision-making process.

From a discussion with the client, it is understood that planning approval is being sought to extend the existing dwelling within the site.

1.2 Site Description

The site is at national grid reference TL 14846 66399 in Perry, Cambridgeshire. It is situated in a semi-rural landscape, surrounded by a few neighbouring dwellings, extensive gardens and agricultural land. The broader landscape comprises arable and pastoral fields, mature native hedgerows, and woodland. Grafham Water is located 850m north of the site. The priority habitats of deciduous woodland and lowland fens are within 1km of the site. There are 10 water bodies within 500m of the site.

Figure 1. Location and red line boundary of the proposed development

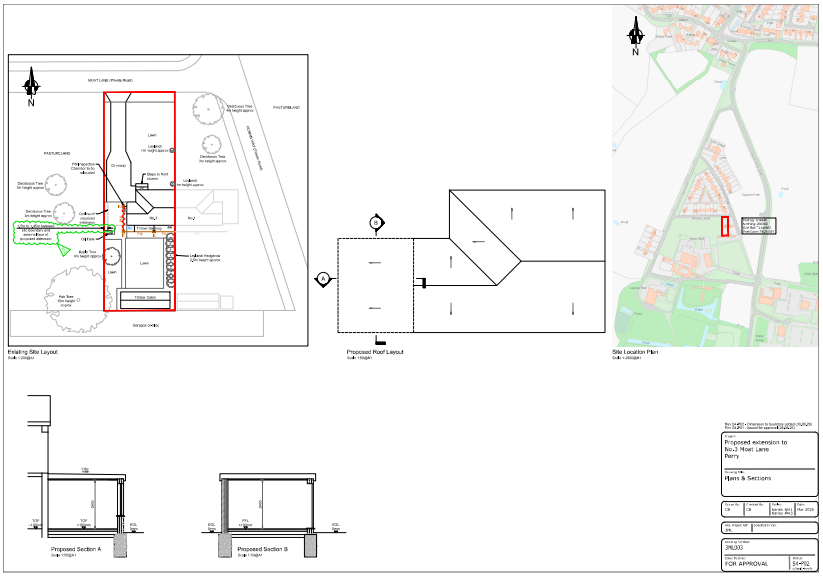

Figure 2. External overview of the site



1.3 Legislative / Planning Context

The legislation (outlined in Section 5), combined with the *National Planning Policy Framework (NPPF) 2025* and local councils' planning policies (including their BAPs), places a further obligation on Local Planning Authorities (LPAs) to consider biodiversity impacts when assessing development proposals. Specifically, they need to ensure that impacts on any protected species are adequately evaluated and, where necessary, addressed with suitable avoidance, mitigation, or compensatory measures to maintain the favourable conservation status of the species. So, to avoid an offence under the *Conservation of Habitats and Species Regulations 2010*. This means sufficient data are required to categorise the type and size of any roost, sett, breeding, or resting area (etc.) affected by the development proposal before seeking planning consent, so that the LPA can consider this in their decision-making process.

The ODPM Circular 06/2005 guides the application of the law relating to planning and nature conservation in England, complementing the NPPF.

Policy LP30 of Huntingdonshire's Local Plan to 2036 also outlines that development proposals should conserve, restore, and enhance the county's biodiversity and geodiversity assets. The policy has the following strategies:

- A proposal will be required to demonstrate that all potential adverse impacts on biodiversity and geodiversity have been investigated.
- All possible efforts must be taken to avoid adverse impacts. If it is demonstrated that adverse impacts are unavoidable, they must be minimised as far as possible and then mitigated. Only where this process of avoidance, minimisation and then mitigation is insufficient to fully address adverse impacts will consideration be given to compensation measures. Following this process, a proposal will only be supported subject to a hierarchy where:
    - A site of international importance, being a Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar site would be affected there has to be exceptional overriding reasons of human health, public safety or environmental benefit.
    - A site of national importance, such as a Site of Special Scientific Interest (SSSI) or National Nature Reserve (NNR) would be affected there has to be exceptional circumstances where the need for, and the benefits of, the proposal significantly outweigh both the potential impacts on the features of the site that make it of national importance and any broader impacts on the national network of such sites,
    - A protected species, a priority habitat or species, a site of local or regional importance, the achievement of water body good ecological potential, or the biodiversity value of the proposed development site as part of the wider network would be affected, the need for and the benefits of the proposal must clearly outweigh the assessed impacts.

1.4 Scope of Use

Aware Ecology has prepared this document for the sole use of the commissioning client and their client. It may not be reproduced or relied upon by any other party without the prior and express written permission of Aware Ecology.

The findings in this report are based on conditions observed during the survey. **If more than two years have passed, updated advice should be sought.** The survey and report follow the CIEEM Guidelines for Preliminary Ecological Appraisal, 2nd Edition, December 2017, and BS 42020.

2 Methods

2.1 Zone of Influence (ZOI)

The zone of influence of a project refers to the area beyond the site boundary that may be affected by the work being carried out. Due to the limited scope of work, the project's impacts will not extend beyond the site boundary.

Survey work concentrated on the habitats within the red line boundary. Desktop data checks were assessed up to 2km from the site.

2.2 Desk Study

The MAGIC website was reviewed to obtain records of any statutory and non-statutory designated sites within 2 km of the development, as well as any priority habitats within 1 km.

In addition, the following sources were consulted to gather ecological information on habitats such as waterbodies and woodlands within 1km of the site:

- Ordnance Survey 1:25,000 mapping
- Aerial imagery (Apple Maps)
- MAGIC Maps

2.3 Site Inspection

On 12 August 2026, a daytime site visit was conducted. This visit included a thorough assessment of the habitats present on the site and the recording of any evidence of protected species or suitable habitats supporting them.

2.3.1 Habitat

A habitat survey was completed within the red line boundary of the plot, based on the Phase 1 Habitat Survey approach (Joint Nature Conservation Committee 2003) and UK Habs, the standardised methodology for surveying habitat types. It is worth noting that introduced species and garden varieties are not always accurately identified.

2.3.2 Bats

2.3.2.1 Daytime Survey

Any suitable buildings were visually inspected using binoculars and, where necessary, a high-powered torch to facilitate a more detailed inspection of individual features.

Details of any potential roost features (PRFs), such as holes, crevices or internal voids that roosting bats could use, were recorded and photographed. A search was also made for any evidence of bat presence, such as droppings or feeding remains, and any such field signs were noted.

The assessment of suitability for bats was based on the ecologist's professional judgement and experience in recognising evidence of bats and features that provide suitable roosting conditions, and followed the framework set out in the current good practice guidelines published by the Bat Conservation Trust (Collins (ed.), 2023). This framework is based on the number, location, and type of any potential roost features found, as well as the surrounding habitat. The categories for structures include **none, negligible**, **low**, **moderate,** or **high potential,** or **confirmed roosts** with direct evidence of bats (Table 1).

Table 1. Bat Roost Suitability Assessment Criteria for buildings (*Collins (ed), 2023*)

Suitability for Bats in Buildings	Description	Habitat Description
None	No features on-site likely to be used by a roosting bat at any time of the year	No habitat features on-site likely to be used by foraging/commuting bats at any time of the year
Negligible	A structure with no obvious features suitable for use by roosting bats. However, a small uncertainty remains as bats can use small and apparently unsuitable features on occasion	No obvious habitat features on-site are likely to be used as flight paths by foraging bats. However, some uncertainty remains to account for the non-standard behaviour of bats
Low	A structure with one or more potential roost features that could be used by individual bats opportunistically, but without sufficient shelter or connectivity to foraging habitats to be used regularly by large numbers of bats *(Not suitable for maternity or hibernation use.)*	Isolated habitat that could be used by a small number of bats as flight paths (gappy hedgerows/unvegetated stream) Suitable but isolated habitat that could be used by foraging bats (lone tree/scrub patch).
Moderate	A structure with one or more potential roost features that could be used by bats but is unlikely to support a roost of high conservation status *(Unlikely to support maternity or hibernation use.)*	Continuous habitat connected to the wider landscape providing suitable flight paths or foraging (lines of trees/scrub, back gardens, water course, grassland)
High	A structure with one or more potential roost features that provide conditions that are obviously suitable for use by larger numbers of bats and potentially for long periods *(i.e. suitable for maternity or hibernation)*	Continuous high-quality habitat that is well connected to the wider landscape, which is used regularly by foraging/commuting bats (river valleys, streams, hedgerows, lines of trees, woodland edges, grazed parkland) The site is close to/connected to known roosts.
Confirmed Roost	A structure with direct evidence of bat presence, or an existing record of a roost	

2.3.3 Birds

The site was assessed for potential nesting habitat, and any signs of nesting activity were recorded.

Bird species use a variety of habitats, including buildings, trees, shrubs, undergrowth, or open fields, for nesting. Therefore, all these features were taken into consideration. Along with these nesting features, any features that may provide shelter for overwintering birds and/or foraging for Schedule 1 birds were also considered.

2.3.4 Great Crested Newts

The suitability of any aquatic and terrestrial habitat on or near the site was assessed for use by Great Crested Newts (GCN) (*Triturus cristatus*). GCN travel up to 500m between breeding ponds using suitable terrestrial habitats. Therefore, ponds within a 500m radius of the site were identified using OS maps and aerial imagery, and connectivity to the site was also considered.

A suitable terrestrial habitat offers cover and foraging opportunities and includes meadows, rough grassland with tall sward height, scrub, woodland, or mature gardens. Hedges, ditches, stone walls, old farm buildings, piles of loose stone or rock, rabbit burrows, and small mammal holes contribute to a 'good' terrestrial habitat.

Three ponds are located within 250m of the site (there are 7 more within 250 – 500m of the site). Two of the ponds within 250m were subjected to a Habitat Suitability Assessment (HSI) to determine whether they could support Great Crested Newts (GCN).

2.3.4.1 Habitat Suitability Index (HSI)

The Habitat Suitability Index (HSI) for GCN was developed by Oldham et al. (2000) and is referenced in ARG UK Advice Note 5 (2010). HSI scoring systems were initially developed by the US Fish and Wildlife Service to evaluate habitat quality and quantity. An HSI is a numerical index ranging from 0 to 1. Values close to 0 indicate unsuitable habitat, and 1 represents optimal habitat. Ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to conclude that any pond with a high score will support newts, or that any pond with a low score will not.

The HSI for GCN used ten factors (suitability indices (SI) 1 to 10), which are thought to affect the presence of GCN; these are:

- SI1 = Geographic Location
- SI2 = Surface Area
- SI3 = Hydrology (pond drying)
- SI4 = Water Quality
- SI5 = Shade
- SI6 = Presence of Waterfowl
- SI7 = Presence of Fish
- SI8 = Number of Adjacent Ponds
- SI9 = Terrestrial Habitat
- SI10 = Macrophyte Cover

Each factor is scored using desk-based and field-based data and is then converted to SI scores using a scale from 0.01 to 1, following the graphs outlined in Oldham et al. (2000). The result is then calculated using the following formula:

$$HIS = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$$

The pond can then be put into one of the following categories depending on its final score:

- HSI >0.8 = Excellent
- HSI 0.7-0.79 = Good
- HSI 0.6-0.69 = Average
- HSI 0.5-0.59 = Below Average
- HSI <0.5 = Poor

2.3.5 Reptiles

During the site visit, any features that reptiles may use for basking (e.g., south-facing slopes), hibernation (e.g., walls, piles of hardcore/wood), and foraging (e.g., rough grassland/scrub) were assessed. Many common reptiles have similar requirements for all the above features (Beebee and Griffiths, 2000).

2.3.6 Badgers

Checks were undertaken to identify any areas within the site or the surrounding land that may be used by Badgers (*Meles meles*) for foraging and sett digging. These signs may include setts, foraging pits, pathways, and latrines (The Mammal Society 2024).

2.3.7 Other Protected Species

Any other protected species (e.g., hazel dormouse, otter, water vole, white-clawed crayfish) were not surveyed because the works were not expected to impact their suitable habitats. There are no watercourses (e.g. rivers, streams) on the site or within 500m of the site.

2.3.8 Invasive Non-Native Species (INNS)

The site was checked for signs of invasive non-native species (INNS), including flora and fauna.

2.4 Limitations of this Evaluation

The surveys were undertaken by an experienced ecologist, following industry-standard good-practice methodology. The survey was conducted during the optimal period for habitat surveys, from April to September. Therefore, most plant species (including INNS) would be visible during the survey. However, some may still have been missed because they were not in evidence (i.e., present only as seeds or underground parts), were inconspicuous, or were impossible to identify. Sufficient plant species were visible to assess the ecological value of the present habitats confidently.

The survey timings were suitable for identifying active nesting birds and other protected species, while evidence of protected species could also be recognised throughout the year.

Based on the conditions encountered during the fieldwork and the results achieved, the survey presents a robust assessment of the likelihood of protected species. It is sufficient to inform of the mitigation requirements for the current proposals. The overall impact on biodiversity will likely be localised and of low significance. It is doubtful that the development will have any effect outside the works' footprint.

However, it should be noted that, while every effort has been made to provide a comprehensive description and survey of the site, no investigation can ensure the complete characterisation and prediction of the natural environment during a 'snapshot' study.

2.5 Survey Team

Daniel Howgego ACIEEM, an ecologist with seven years of experience in the ecological consultancy industry, led the survey and assessment. He has a Natural England (NE) Class 1 GCN and Bat licence, is accredited under the NE Class 2 survey licence for bats and is an experienced ecologist. Rebecca Cattell, an ecologist with experience in ecological surveying, assisted with the PEA survey.

As a member of the Chartered Institute of Ecology and Environmental Management (CIEEM), he is bound by its professional standards and code of conduct, and he is appropriately experienced for the assigned tasks, as assessed against the CIEEM competency framework (CIEEM, 2013).

3 Results

3.1 Desk Study

3.1.1 Designated Sites

The data search revealed two Statutory Designated Sites within the 2km search radius; these are outlined in Table 2.

Table 2. Summary of the statutory designated sites within 2km from the site

Designated Site	Distance from Site (km)	Reason(s) for Designation
Perry Woods SSSI	0.4km NW	The site is of the ash-maple ancient woodland type characteristic of the heavy Oxford and Boulder Clays. It represents a habitat type which has become increasingly scarce in the county and over its natural range in lowland England.
Grafham Water SSSI	0.8km N	Grafham Water is an extensive reservoir situated approximately seven kilometres south-west of Huntingdon. In recent years this site has held nationally important numbers of wintering great crested grebe Podiceps cristatus, tufted duck Aythya fuligula and coot Fulica atra. The site is also of national importance for the numbers of moulting mute swan Cygnus olor present in late summer. Additionally, it is one of the most important sites for diversity of passage migrants and wintering species of birds in the East Midlands.

3.1.2 Watercourses and Waterbodies

There are no watercourses (i.e. rivers) within 1km of the site. There are ten water bodies (i.e. ponds) within 500m of the site, three of which are within 250m (150m NE, 185m S and 190m SW).

3.1.3 Priority Habitats

The priority habitats of deciduous woodland and lowland fens are located within 1 km of the site. Some of the woodland is classed as ancient woodland, including Perry/Ash Wood.

3.1.4 Species Records

The notable species records from NBN Atlas within 2km of the site include Hedgehog, Soprano Pipistrelle, Natterer's, Common Pipistrelle, Brown Long-eared, Grass Snake, Sand Lizard, Adder, Great Crested Newt, Swift and House Martin.

Within 2km of the site, the MAGIC website listed one EPS-licensed project, although it is unclear how up-to-date this database is. The EPS licences are shown in Table 3 below.

Table 3. Granted EPS licences within 2km of the site

Distance from Site	Orientation from Site	Date	Species Impacted	Roost Types Impacted
0.2km	Southwest	2020	BLE, C-PIP, S-PIP	Resting Place (Damage)

The planning portal search returned no bat roost records for sites within the same postcode area as the proposed development, as shown in Table 4 below.

Table 4. Bat roost records within the same postcode area of the site

Planning Number	Date	Species	Roost Type
None	-	-	-

3.2 Daytime Site Inspection

3.2.1 Habitat

3.2.1.1 Vegetated Garden (u1 828)

The vegetated gardens comprise front and rear managed gardens with lawns which have a short, uniform sward height and introduced/native shrubs.

3.2.1.2 Developed Land (u1b)

The developed land comprises the existing dwelling and associated infrastructure, including paved areas and the driveway.

3.2.1.3 Individual Trees (u1 200)

There is a single Apple (*Malus sp*) tree within the garden.

Figure 3. Baseline habitat map of the site



3.2.1.4 Habitat Degradation

No action was taken prior to the survey that would have caused any degradation of the on-site habitats.

3.2.1.5 Irreplaceable Habitats

There are no irreplaceable habitats (as set out in *column 1 of the Schedule to the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024*) within the redline boundary.

3.2.2 Bats

3.2.2.1 Daytime Survey

The building (B1) comprises a modern brick-built two-storey semi-detached house in good condition, with a slate-tiled roof and loft space. There are solar panels on the south face of the roof. Some small potential roost features (PRFs) under roof tiles, mainly under ridge tiles. PRF between roof tiles and roof liner and beams. PRF under solar panels on south face of roof. The soffits, door, and window frames here were tight-fitting. There were four small, shallow holes in the mortar on this aspect, approximately 2cm deep, and unsuitable as PRFs. The loft was inspected from the hatch due to stored materials; it comprises a timber-framed roof with a roof liner, which has some tears. No evidence of bats was found on the exterior of the house or in the loft. Although there are some low-potential external PRFs on the building, the western elevation (the location of the proposed single-storey extension) has no PRFs, and the extension will not impact the roof or loft space.

Two other garden buildings are present; however, these won't be impacted by the proposed work.

The site collectively provides a low-quality roosting habitat for bats, while the surrounding landscape offers a moderate-quality foraging and commuting habitat.

Four bat species have been recorded within 2km of the site, including Soprano Pipistrelle, Natterer's, Common Pipistrelle, and Brown Long-eared.

3.2.3 Birds

The garden shrubs, apple tree and building within the site provide nesting opportunities for birds. However, no active nests were located during the survey.

3.2.4 Great Crested Newts

There are three bodies of water within 250 meters of the site; none of them is present on the site, so there is no suitable habitat available for breeding. The closest pond is located 150m NE (P1 - an agricultural roadside pond in an arable field), the second is 185m S (P2), and the third is 190m SW. P1 & P2 were assessed during the survey, and both were recorded as being dry. Therefore, they wouldn't provide any suitability for breeding GCN, as they don't hold water during the entire breeding season (i.e. juveniles don't emerge from their breeding ponds until August and October after completing metamorphosis).

The ponds have some vegetative connectivity to the site; however, this is limited by minor dispersal barriers caused by urban development.

Within the site, the terrestrial habitat is suboptimal for GCN, with transitional and foraging individuals utilising the garden vegetation. However, the footprint of the proposed works is concrete, without any cracks or fissures in which amphibians might shelter. There is a large skate ramp within the footprint, slightly raised off the ground, along with a few pieces of garden furniture and play equipment. There is a low likelihood that GCN (if present in any of the ponds) would shelter under any of the items within the footprint.

There are 26 GCN records within 2 km of the site.

Figure 4. Overview of P1 (left) and P2 (right)



3.2.5 Reptiles

The site provides limited suitable habitats for dispersion, basking, and foraging within the grassland vegetation. However, much of the grassland is at a low sward height, limiting its suitability for reptiles.

There are limited records of reptiles within 2km of the site, with three records of Grass Snakes and one record of Adder. Despite the limited records, their presence cannot be discounted given the suitability of the habitat in the surrounding landscape.

3.2.6 Badgers

No evidence of badgers (e.g., setts, latrines, hair, and footprints) on or adjacent to the site was recorded during the survey visit. The site's development would also cause minimal damage or disturbance to any areas used by badgers, as the garden would provide only a small foraging area. Although badgers are highly mobile, setts can appear at any time and be created under buildings. The area within the works footprint is unsuitable for badgers (concrete patio). There are no badger records within 2km of the site.

3.2.7 Other Species

No other notable species were recorded as present on-site during the survey visit. The development would also cause no damage or disturbance to any areas used by hazel dormouse, otters or water voles.

3.2.8 INNS

There was no evidence of invasive non-native flora or fauna on the site.

4 Evaluation and Recommendations

4.1 Likelihood of Use by Protected Species

4.1.1 Bats

Based on the survey results, the section of the building where the extension will be installed lacks suitable features that could provide roosting potential for bats. Therefore, it is unlikely that roosting bats will be present within the zone of impact.

However, it is surrounded by moderate-quality habitat in the broader landscape; therefore, foraging/commuting bats may pass through it.

4.1.2 Birds

No active nests were located during the survey. However, the vegetation and building on site would provide suitable nesting habitat for various species, and nesting birds are considered likely.

4.1.3 Great Crested Newts

Based on the survey results, the two ponds are classified as 'poor' according to the HSI score because they were dry at the time of the survey. This means GCN will be unlikely to use the pond for breeding (no breeding ponds have been confirmed nearby). The pond is connected to suitable habitat areas and mature hedgerows, which would provide a corridor for transitional individuals. Although suitable habitats within the site are limited, GCN presence is considered low.

4.1.4 Other Species

During the daytime survey, no other field signs were identified to indicate the presence of any other protected species within the vicinity of the site. However, there is a chance that transitional animals (e.g. reptiles, badgers) may pass through the site.

4.2 Predicted Impacts of the Proposed Development

The proposal involves an extension to the existing building on the site, resulting in minor changes to land use (as the extension's footprint comprises largely developed land) and minor alterations to the existing structure (not affecting the roof).

4.2.1 Bats

The survey evidence suggests that no bat roosts would be lost, damaged or disturbed, and no foraging/commuting linear features would be impacted. Only a small section of the existing building will be impacted. However, this scale isn't large enough to create any negative impacts, and no PRFs will be impacted.

Should additional lighting be erected, it may indirectly affect foraging/commuting bats. However, these impacts can be mitigated by implementing an appropriate lighting strategy.

Due to the size of the site and the extent of the proposed works, the predicted effects on bats at a local and regional scale are considered low. Similar roosting features are present in the broader landscape, and any foraging and commuting corridors are retained.

4.2.2 Birds

Nesting birds may be affected. If work occurs during the nesting period (March to August inclusive), an experienced ecologist will inspect the site (including the grassland and hedgerow) before work commences.

4.2.3 Great Crested Newts

Despite the distance between the pond and the proposed development site, the predicted impact on GCN is low, as the habitat being removed consists of regularly mown, modified grassland and developed land, which provide poor terrestrial habitat for GCN. The Avoidance Measures (Section 4.4) must be followed, which would reduce the risk to GCN, with the NE rapid risk assessment indicating 'Green: offence is highly unlikely'. This is because the ponds are not affected by the work (they are being retained), and there is a minimal chance of individual newts being disturbed.

4.2.4 Other Species

The proposed work is expected to have a minimal impact on hedgehogs, badgers, and reptiles due to the removal of habitat, which consists of regularly mown, modified grassland and developed land. The rest of the site will be maintained at its current status. Whilst no hedgerows or watercourses are being impacted, there will be no effect on hazel dormice, otters, or water voles.

4.3 Further Surveys and EPS Licensing

No further surveys for protected species are required before work commences; however, the **Avoidance Measures** (Section 4.4) must be followed during the work. If any protected species is found at unsupervised times, work will stop immediately, and the ecologist will be called for advice *(***Aware Ecology 07470433712**).

All contractors working on the proposed development must read this report to ensure they know about the legal protection afforded to protected species and their places of shelter, and how to proceed if anything is discovered during the work (*if any protected species are found at unsupervised times, work will stop immediately, and the licensed ecologist will be called for advice*).

4.4 Mitigation / Avoidance Measures

4.4.1 Protected Species

4.4.1.1 Bats

The building has no confirmed roosts, and the western elevation (location of the proposed extension) has no suitable PRFs; however, there are PRFs on other elevations that would be suitable for bats in the future. Therefore, the following avoidance measures must be followed during the work:

- **Any potential roosting features that may have formed since the PRA survey (e.g., slipped tiles) should be removed with caution (e.g., by hand), and the underside checked for bats. If bats are found, the work must STOP, and an ecologist must be contacted** (**Aware Ecology – 07470433712**).
- A bat box should be fitted to an appropriate location before work commences. This will provide provisional roosting space for any bats encountered during the works. If a bat is discovered at unsupervised times, work will stop immediately, and a licensed ecologist will be called for advice. This advice may include leaving the bat to disperse on its own accord or waiting for a licensed handler to move it before work proceeds.

- These boxes will be installed at approximately 5 metres above the ground, facing south-west or south-east, to receive full sunlight for at least part of the day, have open flight access, and be protected from nighttime illumination. The bat box mentioned above typically lasts about 25 years and should be left in place after development is complete.
- As the building has no confirmed roost, there is no seasonal restriction on the work. However, it is advisable, but not a requirement, that work be undertaken within spring or autumn to avoid the full maternity or hibernation season, as per Mitchell-Jones (2004) Bat Mitigation Guidelines.
- There is a likelihood that bats roosting in the surrounding landscape will forage and/or commute over and around the site. The surrounding trees should be maintained/enhanced to ensure flyways are available for bats, and a lighting plan should be implemented that aligns with the guidance of the Bat Conservation Trust's Bats and Lighting in the UK (2018). This includes ensuring the new dwelling is not directly lit, particularly at the eaves or roof level. If new lighting is required, it is good practice to use low-level lamps, such as hooded or cowled lamps, to minimise unnecessary light spillage. Additionally, incorporating motion sensors or timers can limit illumination to essential periods, as Brown long-eared bats are particularly susceptible to artificial lighting. As long as artificial lighting is used appropriately during and after development, the proposals are considered small-scale and will not impact habitats (or dark sky sites) beyond the site boundaries.
- **Any new external lamps will be PIR-activated and 40 W max (8 W LED equivalent), with ~500 to 700 lumens (warm white, 2700 K, to avoid blue-white wavelengths). They will be set to deactivate after 2 minutes at most, with a cowl to direct light downward (no more than 70°). The lights should face away from the retained vegetation to maintain a dark corridor for commuting/foraging bats.**
- Breathable roofing membrane must not be used in any part of the roof accessible to roosting bats due to the significant risk of bat entanglement in the material's fibres and associated mortality from entrapment. Only traditional Type 1F felt must be used.
- Bats will likely fly around buildings at night in late spring, summer, and early autumn, and they may investigate any new crevices or cavities exposed on walls or roofs during building work. Any such holes or gaps must be securely covered/blocked at the end of each day's work to prevent bats from having the opportunity to use them for shelter.

Following English Nature (Natural England) guidance Mitchell-Jones (2004), if these guidelines are followed, we would consider that, on balance, a disturbance to bat species which could be contrary to the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Wildlife and Countryside Act (1981) (as amended) is unlikely. If a bat is encountered, work in that area must **STOP** immediately, and advice must be sought from a licensed bat ecologist before resuming (**contact Aware Ecology on 07470433712**).

4.4.1.2 Birds

Any on-site work should be completed outside the breeding bird season (March to August inclusive) or after a pre-works survey/search by a suitably experienced ecologist. However, as the broader landscape contains other suitable nesting habitats, any negative impacts on nesting birds are unlikely to extend beyond the site. The presence of nesting birds on site is considered likely.

If any active nests are found, work in that area must **STOP** immediately, and advice must be sought from an ecologist before resuming (**contact Aware Ecology on 07470433712**). The nests and a 10 m buffer zone will be protected until the nesting is complete and the young have fledged.

4.4.1.3 Great Crested Newts

The site has limited suitable terrestrial habitats, and the waterbodies within 250m have 'poor' GCN quality; the likelihood of GCN discovery during construction is low. However, safe working methods should be implemented to prevent harm or disturbance to individuals.

Any building materials will be stored off the ground (on pallets or similar) to prevent crushing any animals that might seek refuge under them when they are lifted.

Any excavations should be done between mid-November and February and filled before the end of February. If this isn't possible and trenches are created after February, earth ramps will be constructed in each trench, in consultation with the consultant, to allow newts to escape. The trenches will then be inspected each morning before being filled.

De-vegetation work will be completed using a two-cut method. After a fingertip search, the first cut should be down to 300mm and left for 24 hours. An experienced ecologist will then complete a second fingertip search to ensure no GCN are present. The next cut can then be done down to ground level. The cutting should also be directed towards an area of retained habitat, providing individuals with a safe place to move.

If a GCN is discovered around the work site, work will **STOP** in that area, and a licensed great crested newt worker (**Aware Ecology 07470433712**) will be contacted immediately for advice.

4.4.1.4 Reptiles

There is a chance that reptiles could pass through the site. Therefore, safe working methods should be implemented to discourage reptiles from occurring on-site. These methods should include maintaining the habitat at a low level (approximately 300 mm during winter) to reduce the suitability of the site's reptile habitats.

During construction, piles of materials and excavated earth should be stored away from the boundaries to deter reptiles from using them for temporary cover.

If a reptile is discovered around the work site, work will **STOP** in that area, and an experienced ecologist (**Aware Ecology 07470433712**) will be contacted immediately for advice.

4.4.1.5 Badgers

No direct impact on badgers is predicted during the works. To ensure that any foraging badgers do not become trapped within excavation works, the excavations should either not be left uncovered overnight or ways of escape for Badgers should be provided (e.g., wooden planks at least 60cm wide at no greater than 30° or graded earth banks). This methodology is also beneficial to hedgehogs. Before construction, any exposed pipes and trenches must be checked for trapped wildlife each morning.

4.4.1.6 Other Species

Under the *Wild Mammals (Protection) Act 1996*, it is an offence to intentionally inflict unnecessary suffering on any wild mammal, as specified by the Act. This legislation may need to be considered where the hedgerows may be encountered. Precautionary working methods (such as cutting above 300mm and checking possible refugia) should be implemented for any vegetation removal/removal of refugia to account for the potential presence of notable species, including hedgehogs. If any hedgehogs are recorded, they should be left in situ, and vegetation clearance within 5m of the hedgehog (or suspected hedgehog) must be avoided.

4.4.2 Precautionary Measures

The proposed groundwork must be confined to areas that will not affect the root systems of existing and retained trees within the grassland and boundary hedgerows. An appropriate buffer (as detailed in BS5837:2012) must be established and maintained throughout the works.

Construction work should be limited to daylight hours. Prohibiting night-time work will protect the site from the potential adverse effects of noise, activity, and lighting.

4.5 Ecological Enhancement

The enhancements outlined in this report aim to meet *Policy LP30 of Huntingdonshire's Local Plan to 2036*, which requires enhancing existing biodiversity and creating new biodiversity features on site.

4.5.1 Species Enhancements

The site will be enhanced for nesting birds and roosting bats by the erection of one artificial bird box, two swift bricks and one bat box on suitable features at the perimeter of the site or on the buildings themselves. These will consist of various durable, woodcrete bat and bird boxes, including maintenance-free boxes suitable for trees (see Appendix).

The bat boxes will be placed on the south-east to south-west aspects, ideally, with linear features nearby, to allow bats to disperse undisturbed to local foraging habitat and in positions where the entrance is not artificially illuminated at night (enabled by the provision of the 'dark corridor'). Boxes will be positioned at least 3m from the ground.

The bird boxes will also be in secluded positions, ideally within dense cover and at a minimum height of 3 metres from ground level. Other nest boxes, such as swift, house sparrow, and house martin-specific boxes, should be placed according to their guidelines, ideally around the eaves of the buildings. Artificial swallow cups could also be installed high up inside a building, such as a garage or outbuilding, allowing constant, easy access.

It is also recommended that insect bricks (or similar) be incorporated into the design or placed within the site, along with hedgehog highways along any closed-boarded fencing sections. Hedgehog boxes should also be placed within the scrub planting areas along the eastern hedgerow.

Table 5. Compensation enhancement measures for biodiversity

Species	Enhancement Type
Bats	- 1x External bat box[1]
Birds	- 2x Open fronted & enclosed boxes - 2x Swift brick[2]
Other Species	- Invertebrate habitat features (e.g. bug hotel, solitary bee boxes) - Wildlife friendly planting (i.e. wildflowers good for nighttime flying insects)
Lighting	- Keep it to essential lighting only that is directional rather than floodlights - Use motion sensors/timers and hoods to limit unnecessary illumination

[1] To be placed following guidance from Bat Conservation Trust Bat Box Information Pack (2018) e.g. at least 4m high facing south, southeast or southwest. Summer maternity roosts in the Northern Hemisphere often face south or west for maximum solar heating. Male roosts and hibernation sites typically have a northerly aspect (BCT 2020)

[2] House Martin cups should be placed at the gable apex or under the eaves/soffit where there is a deep overhang, this should be facing north, east or west at a minimum height of 2m. Integral swift nest boxes to follow BS 42021:2022. Swallow nest cups should be sited high up, inside a building such as a garage or outbuilding, which allows constant, easy access.

5 Legislation

5.1 Bats

All species of British bat are protected by The '*Wildlife and Countryside Act 1981'* (as amended) extended by the '*Countryside and Rights of Way Act 2000' (CRoW Act).* This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *Schedule 2* of the '*Conservation of Habitats and Species Regulations 2017'* under *Regulation 41.* This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Where it is necessary to carry out an action that could result in an offence under the '*Conservation of Habitats and Species Regulations 2017'* it is possible to apply for a European Protected Species (EPS) licence from Natural England (NE). Three tests must be satisfied before this licence (to permit otherwise prohibited acts) can be issued:

- *Regulation 53(2)(e)* states that licences may be granted to "preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment."
- *Regulation 53(9)(a)* states that a licence may not be granted unless "there is no satisfactory alternative".
- *Regulation 53(9) (b)* states that a licence cannot be issued unless the action proposed "will not be detrimental to the maintenance of the population of the species concerned at a favorable conservation status in their natural range".

5.2 Birds

All species of bird are protected under *Section J* of the '*Wildlife and Countryside Act 1981'* (as amended). The protection was extended by the '*CRoW Act'.*

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species of bird are listed on *Schedule 1* of the '*Wildlife and Countryside Act 1981'* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the '*CRoW Act'.* The legislation confers special penalties where the above-mentioned offences are committed for any such bird and makes it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependent young; or
- disturb the dependent young of such a bird.

5.3 Great Crested Newt

Great Crested Newt is listed on *Schedule 5* of the '*Wildlife and Countryside Act 1981'* (as amended) and receives full protection under *Section 9.* These species are also listed as European Protected Species on *Schedule 2* of the '*Conservation of Habitats and Species Regulations 2017'* which gives them full protection under *Regulation 41.* Protection was extended by the '*CRoW Act'.*

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or

- sell or attempt to sell any such species.

The Great Crested Newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the '*CRoW Act*'.

5.4 Reptiles

Common Lizards, Grass Snake, Slow-worm and Adders 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)*. This protection was extended by the '*CRoW Act*'.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

5.5 Badger

Badger is protected in Britain under the '*Protection of Badgers Act 1992*' and *Schedule 6* of the '*Wildlife and Countryside Act 1981*' (as amended).

The legislation affords protection to Badgers and Badger setts and makes it a criminal offence to:

- willfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

5.6 INNS

INNS are on *Schedule 9* of the '*Wildlife and Countryside Act 1981*' (as amended)

Under this legislation, it is illegal:

- to plant, or otherwise cause to grow in the wild, any plant listed in Schedule 9 to the Act;
- to release, or allow to escape into the wild, any animal not ordinarily resident in Great Britain and not a regular visitor to Great Britain in a wild state or is listed in Schedule 9.

Plant INNS are also listed under the '*Environmental Protection Act 1990*' which requires soil or other waste containing Schedule 9 plant species material (live biomass, seeds, fruits, flowers) to be classified as Controlled Waste and must be disposed of at a landfill site that is authorised to accept it.

6 References

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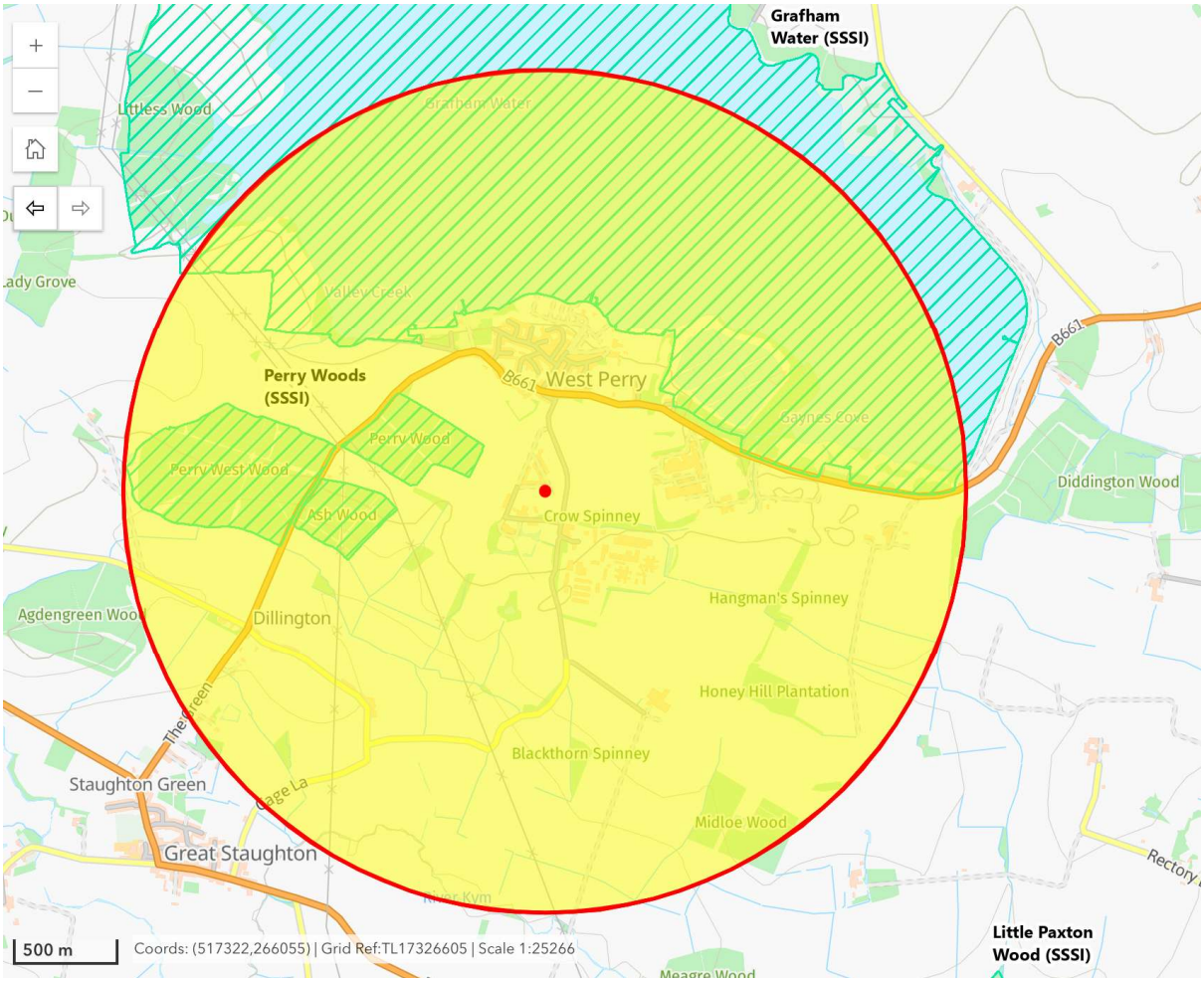
7 Appendix

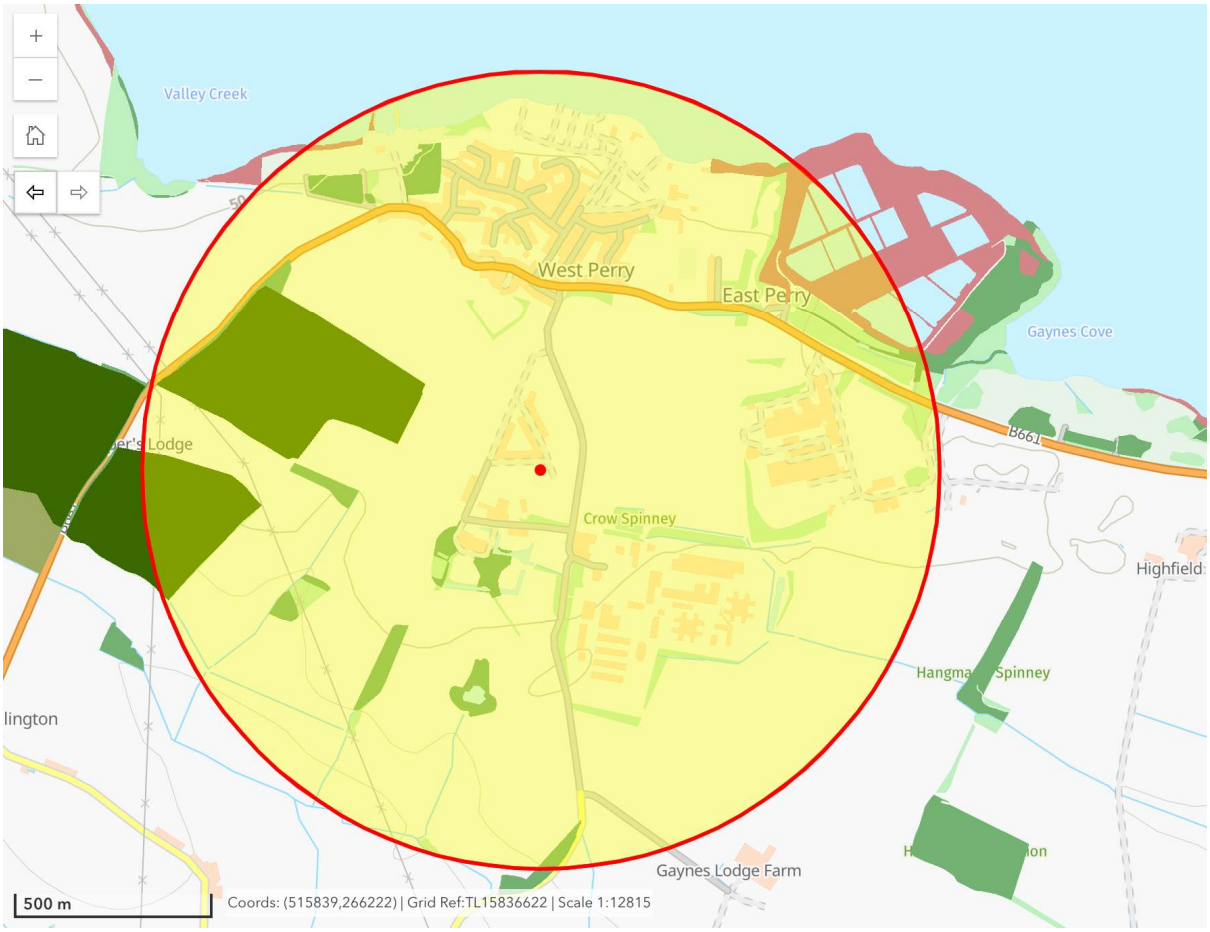
7.1 Site Photos

Photo 1 – Overview of the site		**Photo 2 –** Overview of the site showing the western elevation (location of the proposed extension)	
Photo 3 – Overview of the site		**Photo 4 –** Overview of the site	
Photo 5 – Overview of the site		**Photo 6 –** Overview of the site showing the apple tree	

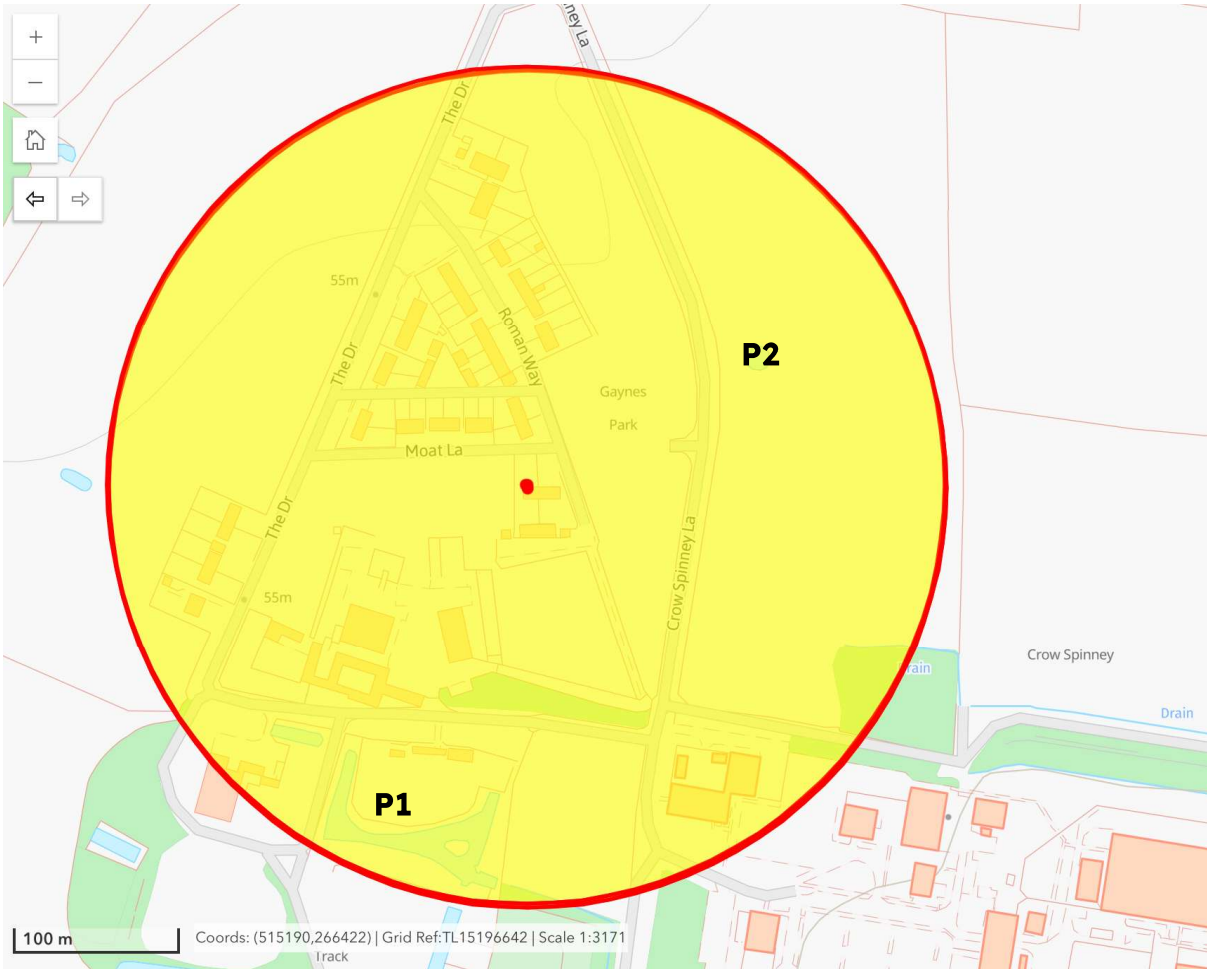
7.2 Designated Sites



7.3 Priority Habitats



7.4 Pond Locations



7.5 Recommended Bat Boxes

Bat boxes should be provided to enhance the site's biodiversity and replace any lost roosts during construction.

- *Ecostyrocrete Crevice and Hollow Bat Boxes*. These should be installed where they are sheltered from the wind but unshaded for most of the day at a mix of heights from 3m-5m. Summer maternity roosts should be on a south-easterly to south-westerly aspect. There should be a clear flight line into the box, so ensure nothing is impeding the entrance to the box. Different bat species prefer different boxes, so a mix would provide more chances for use. (https://www.greenwoodsecohabitats.co.uk/shop)
- *Schwegler or Vivara Pro Bat Boxes.* These should be installed as above. (https://www.nhbs.com/en/4/bat-boxes)
- *Bat Block*. These should be positioned within the wall during construction. Aim to position South or West facing for a summer maternity roost or north-facing for a winter hibernation roost.
- *Kent Bat Box.* Boxes are best fixed as high as possible in sheltered/shaded locations with a clear flight to the box entrance. Exposure to the sun for part of the day is acceptable. Several boxes may be placed together.
- *Soffit Bat Box.* Boxes are placed within the soffit, and access is created via a 20mm slot in the back of the soffit board against the external wall.
- *Pole Mounted Bat Box.* These are an ideal solution when no suitable building or tree is available to mount a bat box. It can come in one or two boxes and have a 4-, 5- or 6-metre metal pole. (https://www.nestbox.co.uk/products/pole-mounted-bat-box)

HALF AND HALF BAT BOX



£50

Individually Handmade - Specifications are in cm and approximate.
External: 44 high x 22 wide x 10 deep
Internal: Vertically, one half of the box is a Two Crevice design, the other half of the box has the Small Hollow design.
Weight approx. 8kg
For where the bat species is unknown or to be suitable for a wider range of species.

MEDIUM HOLLOW BAT BOX



£66

Individually Handmade - Specifications are in cm and approximate.
External: 44 high x 22 wide x 13 deep
Internal: 41 x 17 x 7.5
Weight approx. 9kg
Designed for larger groups of bats who prefer a wider cavity - described as **Hollow**, such as Brown Long Eared, Noctules, Myotis Sp.

TWO CREVICE BAT BOX



£53

Individually Handmade - Specifications are in cm and approximate.
External: 44 high x 22 wide x 10 deep
Internal: 41 x 17 x 1.8 crevices @ 2
Weight approx. 8kg
Designed for small groups of crevice dwelling bat species, such as Common and Soprano Pipistrelles.

https://www.greenwoodsecohabitats.co.uk/shop

7.6 Recommended Bird Boxes

The provision of bird boxes is a recommendation as they enhance biodiversity on the site and replace any lost nests during the construction phase. Ideally, these should be either swift boxes, house martin nests or sparrow terrace nest boxes due to the declining populations of these species, but other nest boxes can be used, as discussed below.

- *Schwegler and Manthorpe Swift bricks* (this would be the preferred option). These should be installed in sheltered locations (such as under the eaves of a suitable building), installed at a minimum height of 2m and orientated in a southerly/ westerly direction.
- *WoodStone Swift Nest Boxes* should be installed in sheltered locations (such as under the eaves of a suitable building), at a minimum height of 2m, and orientated southerly/ westerly.
- *Schwegler Single & Double House Martin Nests.* These should be installed in sheltered locations (such as under the eaves of a suitable building), installed at a minimum height of 2m and orientated in a southerly/ westerly direction (ensuring they have enough shade).
- *Schwegler 1SP Sparrow Terrace nest boxes.* These should be installed in a sheltered location upon a suitable building, at a height no less than 2m and orientated in a southerly or westerly direction.
- *Schwegler Woodcrete 1B nest boxes (for trees) and/ or Schwegler Bird House nest boxes (for buildings)* should be installed upon a suitably mature tree and/ or upon a suitable building at a height of no less than 2m and orientated in a southerly or westerly direction.
- *Wooden Barn Owl box.* These can be installed on trees or buildings more than 1km from motorways. They should be 3m above ground level with minimal obstructions leading to the opening. Trees should be mature with thick trunks and located within a hedgerow or woodland edge.
- *Little Owl box.* The Little Owl nestbox should be erected horizontally at least 3 metres (10 feet) above the ground on a wall top, beam or tree branch so that Little Owl owlets can walk in and out before fledging. Little Owls prefer nest boxes in open-sided or open-fronted buildings rather than enclosed places. A thin layer of untreated wood shavings or bark can be provided as a floor covering.



Apex Bird Box
£22.00 excl. VAT
£26.40 inc. VAT



Apex Robin Box
£22.00 excl. VAT
£26.40 inc. VAT



Eco House Martin Nest
£20.30 excl. VAT
£24.36 inc. VAT



Swift Nest Box
£36.60 excl. VAT
£43.92 inc. VAT



Sparrow Terrace Nest Box
£40.00 excl. VAT
£48.00 inc. VAT

https://www.nestbox.co.uk/collections/bird-boxes

7.7 Other Biodiversity Enhancements

- *Hedgehog Highways*. Minimum 150mm x 150mm gaps to be left in fencing/ boundaries between adjoining plots where suitable habitat exists or is created. (https://www.hedgehoghighway.co.uk/shop/)
- *Insect boxes/Bee Banks/Bee Bricks*. Good for a wide range of invertebrates. Can be prefabricated/off-the-shelf units or constructed using available materials. Bee banks can be constructed from a layer of turf, soils and sands to create low mounds / vertical faces with a sunny aspect—ideally 1 per property. (https://www.birdfood.co.uk/wildlife/bees-insects)
- *Habitat Pile*. Create a log pile by loosely arranging together old branches or pieces of log, leaving the bark on and using a variety of species if possible. Place the pile in a shady place, such as under a tree, at the foot of a hedge, at the back of the border or behind the shed.



Hedgehog Highway – 2 Pack

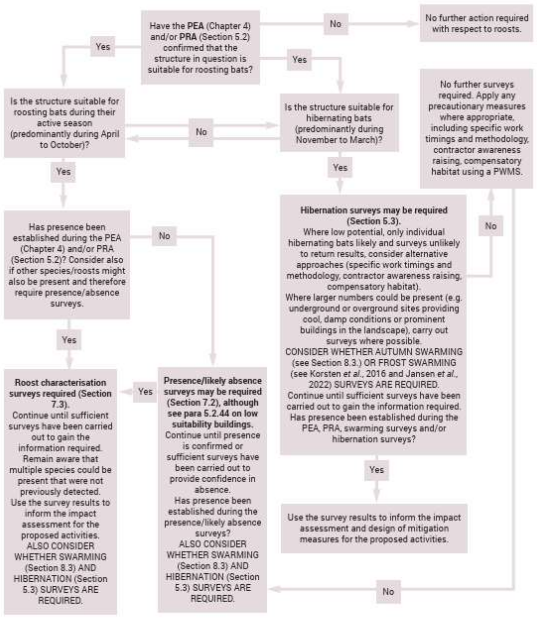


7.8 BCT Survey Guidelines

https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition

Bat Conservation Trust

Figure 5.1. Flow chart illustrating the process used to establish which types of surveys are necessary for roosts in structures, to be applied using professional judgement.



Note on Figure 5.1: In some situations, bats may use the same structure throughout the year and in these situations, both arms of the flow chart need to be fully considered.

Table 7.1. Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees where other methods such as PRF inspection are not possible, but unlikely to give confidence in a negative result). To be used in tandem with Table 7.2.

Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M
May to August (structures) No further surveys required (trees)	May to September[a], with at least one of surveys between May and August[b]	May to September[a], with at least two of surveys between May and August[b]

a September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. September surveys are likely to miss maternity roosts due to dispersal before this time, but may pick up mating roosts.

b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at **least three weeks apart**, preferably more. Survey timings **should consider the prevailing conditions in the year of survey, which will vary geographically**. In years with a cold spring, the surveys should not be started in early May or all completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the **optimum coverage includes the pre-parturition, post-parturition and mating periods**.

Table 7.2. Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M
One survey visit. One dusk emergence survey[a] (structures). No further surveys required (trees).	Two separate dusk emergence survey visits[b].	Three separate dusk emergence survey visits[b].

a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see para 5.2.44). In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more.