11 Clay Close Lane, Histon

Ecology Report

Produced for Tom Hill

By Applied Ecology Ltd

February 2024

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1 Introduction

Background

1.1 Applied Ecology Ltd (AEL) was appointed by Tom Hill, in February 2024, to undertake a Preliminary Ecological Appraisal (PEA) of an area of land at 11 Clay Close Lane, Histon. The survey area, incorporates the Application Site ("the Site") and an area of adjoining land to the north which is under the ownership and control of the Applicant, and is intended to be used for off-Site ecological enhancement as part of Biodiversity Net Gain (BNG) delivery. A plan showing the location of the Site is provided in **Figure 1.1**.

1.2 The Site contains an existing dwelling house, garage, studio, a block of modern agricultural barns and small outbuildings. With the exception of the Studio, these buildings were subject to a Preliminary Bat Roost Assessment (PBRA) by AEL in July 2023, together with follow-up bat activity survey of the dwelling house in August 2023. The findings of these surveys are summarised in the results section of this report, and the full bat survey reports are provided in **Appendix A**.

Purpose of this Report

1.3 The current appraisal was required to identify any ecological constraints associated with a proposal to demolish the existing buildings, and to build a new single dwelling with the Site ("the Development"), and to establish the scope of further, more detailed ecological surveys which may be needed to support a future planning application.

1.4 Biodiversity Net Gain (BNG) calculations using the Statutory Biodiversity Metric have been undertaken and are presented.

Legislation and Planning Policy

Legislation

1.5 The Wildlife and Countryside Act 1981 (as amended) provides the main legal framework for nature conservation and species protection in the UK. The Site of Special Scientific Interest (SSSI) is the main statutory nature conservation designation in the UK. Such sites are notable for their plants, or animals, or habitats, their geology or landforms, or a combination of these. Natural England is the key statutory agency in England for advising Government, and for acting as the Government's agent in the delivery of statutory nature conservation designations.

1.6 Designation of a SSSI is a legal process, by which sites are notified under the Wildlife and Countryside Act 1981. The 1981 Act makes provision for the protection of sites from the effects of changes in land management, and owners and occupiers receive formal notification specifying why the land is of special scientific interest, and listing any operations likely to damage the special interest.

1.7 The Countryside and Rights of Way Act 2000, and The Natural Environment and Rural Communities (NERC) Act 2006, provide supplementary protected species legislation.

Specific protection for badgers *Meles meles* is provided by the Protection of Badgers Act 1992.

Habitats and Species of Principal Importance in England

1.8 The Natural Environment and Rural Communities (NERC) Act came into force on 1 October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

1.9 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Habitats of Principal Importance

1.10 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and sub-tidal sands and gravels.

Species of Principal Importance

1.11 There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier *Circus cyaneus* has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.

1.12 In accordance with Section 41(4) the Secretary of State will, in consultation with Natural England, keep this list under review and will publish a revised list if necessary.

National Planning Policy Framework

1.13 The National Planning Policy Framework (NPPF) was published in March 2012 (and replaced previous planning policy guidance (PPS 9) on biodiversity. The NPPF was updated in July 2018, February 2019, July 2021, and in September and December 2023 and states the following in relation to biodiversity and planning:

1.14 *"To protect and enhance biodiversity and geodiversity, plans should:*

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

1.15 *When determining planning applications, local planning authorities should apply the following principles:*

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

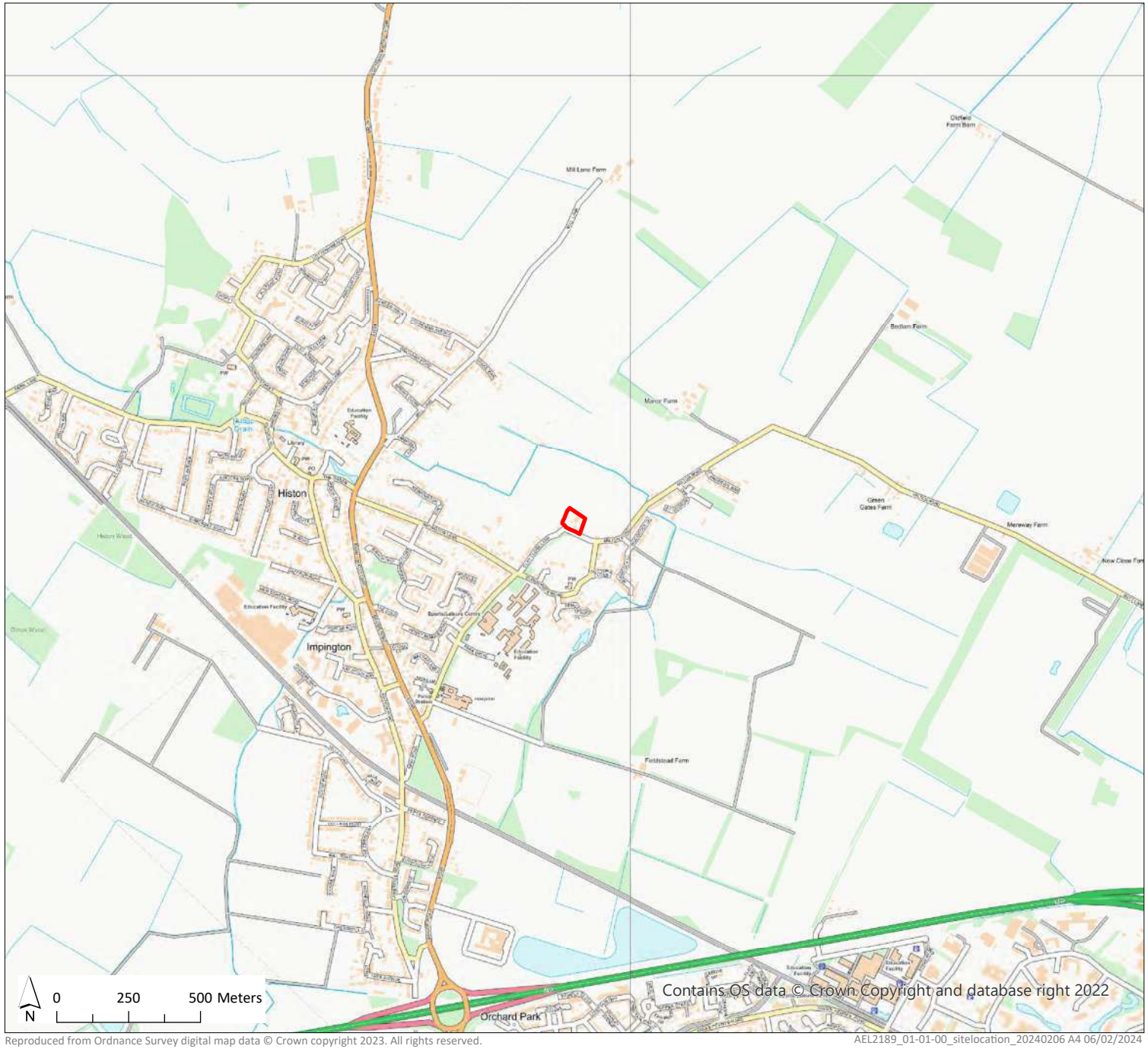
1.16 *The following should be given the same protection as habitats sites:*

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

1.17 *The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."*



11 Clay Close Lane, Impington

Site location

Site boundary

Figure 1.1

Map Scale @ A4: 1:20,000

Surveyed by: n/a	
Survey date: n/a	
Drawn by: RJH	
Checked by: DP	
Status: Final	

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2 Existing Information

Sources of Information

2.1 The Cambridgeshire & Peterborough Environmental Records Centre (CPERC) was commissioned by AEL to complete a search of its database for existing biological records, including details of statutory and non-statutory wildlife sites, ancient woodland, and protected and notable species both on the Site and within 1 km of the Site's central point.

2.2 The government's MAGIC[1] online mapping tool has been used to gather additional information on statutory wildlife sites and associated Impact Risk Zones located beyond the CPERC search area.

Designated Wildlife Sites

2.3 The locations of statutory wildlife sites and ancient woodland in relation to the Site are shown in **Figure 2.1**.

Statutory wildlife sites

2.4 The closest statutory wildlife site with additional Natura 2000 designation is **Wicken Fen Site of Special Scientific Interest** (SSSI), **Ramsar** site, and part of the **Fenland Special Area of Conservation** (SAC) and is located 11.3 km northeast of the Site. The closest nationally important statutory site is **Histon Road SSSI** (2.3 km to the north) which is a site of geological importance. The closest biological SSSI is **Madingley Wood SSSI** which is 5.7 km to the southwest.

2.5 The Site is located within a Natural England SSSI Impact Risk Zone (IRZ) that relates to Histon Road SSSI, albeit the development types that are identified as being of potential concern are restricted to large infrastructure projects (airports, helipads and other aviation proposals) and minerals, oil and gas extraction. The Development of a single dwelling is not therefore considered a risk to local SSSIs.

Non-statutory wildlife sites

2.6 No non-statutory wildlife sites or ancient woodland are located in the CPERC 1 km data search buffer.

Protected and notable species

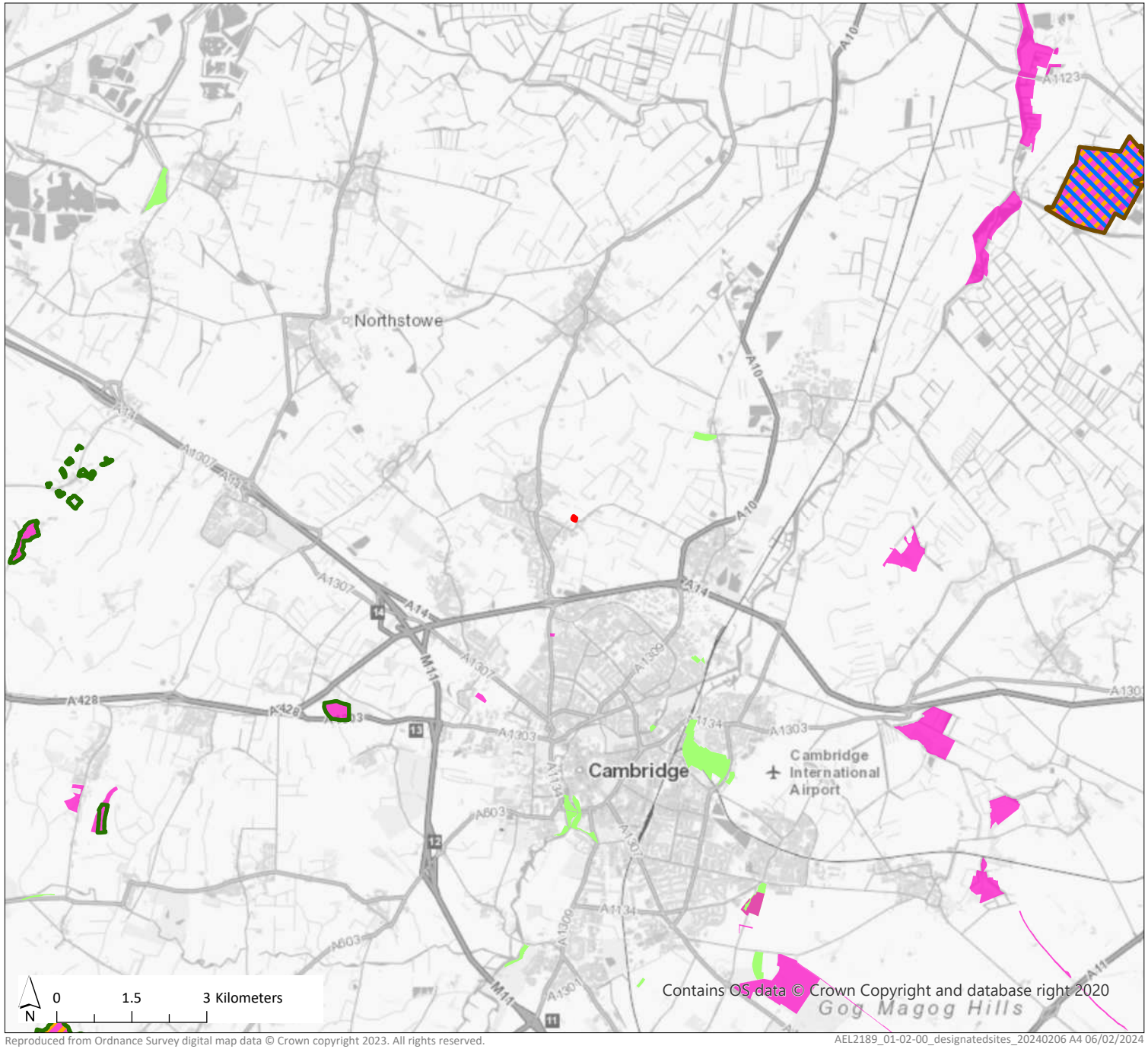
2.7 A total of 419 species records were provided by CPERC. These records can be broken down into birds (335 records), insects (18 records, mostly moths), bats (17 records of common and soprano pipistrelle), flowering plants (16 records, mostly plants of arable land and disturbed calcareous soils), hedgehog (10 records), amphibians (nine records of common

[1] http://www.magic.defra.gov.uk/MagicMap.aspx accessed 27/07/2023.

frog and common toad), brown hare (five records), reptiles (five records of grass snake and common lizard), and badger (three records).

2.8 The species records appear to be widely disturbed across the search area, with none appearing to relate to the Site itself. The most relevant records based on their proximity to the Site, the presence of potentially suitable on-Site habitats, or the lack of records for certain key species, can be summarised as follows:

- A wide range of **birds** have been recorded locally, including species associated with buildings and gardens such as swift, house sparrow, song thrush, and starling.
- **Hedgehogs** have been recorded widely in built up areas of Histon, including in recent years.
- Very few **bat** records were provided, and these were restricted to in flight records of common and soprano pipistrelle.
- There are no records of **great crested newt** in the search area, and the closest records of **reptiles** (grass snake and common lizard) are 420 m to the west of the Site.



11 Clay Close Lane, Impington

Statutory wildlife sites and ancient woodland

- Site boundary
- Special Area of Conservation (SAC)
- Ramsar
- National Nature Reserve (NNR)
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- Ancient woodland

Figure 2.1

Map Scale @ A4: 1:115,000

Surveyed by: n/a	
Survey date: n/a	
Drawn by: RJH	
Checked by: DP	
Status: Final	

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3 Survey Approach and Findings

Survey Approach

Habitat survey

3.1 An extended Phase 1 habitat survey of the study area was undertaken on 31 January 2024 by Rob Hutchinson MCIEEM in dry and bright conditions. Rob is a Principal Ecologist at AEL and holds a Level 5 Field Identification Skills Certificate (FISC) for plant identification from the Botanical Society of Britain & Ireland (BSBI), and Natural England survey licences for great crested newt (Level 2), bats (Level 1) and dormouse.

3.1 The methodology adopted followed the JNCC approach to Phase 1 habitat survey (JNCC, 2016[2]) by which all habitats present within the study area were classified and mapped according to standard categories. The habitats present were also converted to those defined by the Statutory Biodiversity Metric, with habitat condition assessed in the field using the appropriate habitat condition assessment sheets. The locations of individual trees have been aligned to the detailed tree survey plans and schedules[3]. The dominant plant species were recorded, including any species considered to be invasive and notifiable, and their abundance was noted using the DAFOR[4] scale. The habitat map was subsequently digitised using a Geographical Information System (ArcGIS Pro).

3.2 While the survey was undertaken outside of the normal plant recording period, the habitats present were simple and commonplace, and dominated by a limited range of common and widely distributed species. The timing of the survey is not considered to have significantly constrained the survey findings.

Animal species walkover survey

3.3 The standard Phase 1 habitat survey was "extended" to include a search for evidence of or potential for the presence of protected species or species of nature conservation interest within and close to the Site. This was not a detailed survey for such species, but included noting the presence of habitats suitable to support specific protected species, and where seen, any evidence of presence such as droppings, mammal tracks and footprints, shelters (or nests/roosts), hair caught on fence-wire, foraging signs, and so on.

Preliminary bat roost assessment

3.4 Preliminary bat roost assessments (PBRA) of existing on-Site buildings, except for the Studio, were undertaken by AEL in July 2023, and where required follow-up bat emergence surveys were undertaken in August 2023. The full survey reports are provided in **Appendix A**, and confirm that no evidence of roosting bat use was recorded in association with any of the surveyed buildings.

[2] JNCC (2016) *Handbook for Phase 1 Habitat Survey – A technique for Environmental Audit*. JNCC, Peterborough.

[3] Hayden's Arboricultural Consultants (2024) *11 Clay Close Lane, Impington, Cambridgeshire, CB24 9NE*. 30/01/2024.

[4] DAFOR: whereby species occurrence may be classified as being **d**ominant, **a**bundant, **f**requent, **o**ccasional or **r**are. Rare in the context of a DAFOR score should not be confused with species rarity in the more widely accepted meaning of general scarcity.

3.5 A PBRA of the Studio and all trees scheduled for removal was undertaken in conjunction with the Site visit on 31 January 2024. The inspection of buildings and trees to assess their roosting use and suitability for bats can be conducted at any time of year according to best practice survey guidance (Collins, 2023[5]). However, finding evidence of bats (e.g., their droppings) on external surfaces that are unprotected from rainfall may be restricted if undertaken outside the main bat active season (May to September) and/or after periods of wet weather.

3.6 The Studio and trees were surveyed externally from ground level using binoculars and a high powered torch, as necessary, to search for evidence of bats and features that could offer suitable places for bats to roost. Their suitability for roosting bats was classified according to the categories and descriptions provided by Collins (2023).

Survey Findings

Habitats and plants

3.7 The Phase 1 habitat map for the study area is shown in **Figure 3.1**, and a breakdown of the habitat types present, their condition and area, both within the Site and in the off-Site land area, is provided in **Table 3.2**. A selection of representative habitat photographs is shown by **Figure 3.2**.

Table 3.1: Habitat types present within the study area.

Phase 1 habitat type	Statutory Biodiversity Metric		Area (ha)
	Habitat type	Habitat condition	
On-Site			
Amenity grassland	Modified grassland	Poor	0.040
Bare ground	Bare ground	N/a	0.008
Buildings	Developed land, sealed surface	N/a	0.069
Dense scrub (bramble)	Bramble scrub	N/a	0.009
Ephemeral / short perennial	Ruderal/ephemeral	Poor	0.004
Hard-standing	Developed land, sealed surface	N/a	0.080
Improved grassland	Modified grassland	Poor	0.192
Poor semi-improved grassland	Modified grassland	Moderate	0.002
Tall ruderal	Ruderal/ephemeral	N/a	0.016
Individual trees (10 small, 2 medium trees)	Urban trees	Moderate	-
Total (area excludes trees)			**0.420**
Off-Site			
Improved grassland	Modified grassland	poor	0.148
Hard-standing	Developed land, sealed surface	n/a	0.001
Total			**0.149**

[5] Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn).* The Bat Conservation Trust, London.

Buildings, hard-standing and bare ground

3.8 The Site contained a number of **buildings**, including a residential house, a detached garage and Studio, a block of modern agricultural barns and small outbuildings. A large area of concrete **hard-standing** was present at the front of the barns and to the side of the house, and around the Studio. Small areas of **bare ground** mostly associated with shaded or disturbed ground were also present.

Grassland

3.9 Small areas of **amenity grassland** lawn were present around the buildings, with the wider field characterised by short and species-poor **improved grassland**. The sward throughout was dominated by perennial rye-grass *Lolium perenne*, with a mix of other common grasses and forbs, including Yorkshire-fog *Holcus lanatus*, red fescue *Festuca rubra*, creeping buttercup *Ranunculus repens*, daisy *Bellis perennis*, dove's foot-crane's-bill *Geranium molle*, and a few coarse tufts of tall fescue *Festuca arundinacea*.

3.10 Several areas of bare damaged ground were present across the grassland. Three quadrat samples were recorded from the grassland and the average number of species present was five.

Bramble scrub, tall ruderal and ephemeral vegetation

3.11 A few patches of **bramble scrub** and nettle *Urtica dioica* dominated **tall ruderal vegetation** were present, typically where log piles, fallen trees or other debris has prevented cutting. A small area of **ephemeral vegetation** had established over a patch of degraded tarmac with species including wall screw-moss *Tortula muralis*, sticky mouse-ear *Cerastium glomeratum*, and Yorkshire-fog.

Trees and hedgerows

3.12 **Individual trees** were largely confined to the south-western boundary and included occasional sycamore *Acer pseudoplatanus*, field maple *Acer campestre*, and a single ivy-clad ash *Fraxinus excelsior*. A small group of coppiced sycamore was present in the garden north of the Studio.

3.13 The northern and part of the western boundary supported an overgrown **species-poor hedgerow** of blackthorn *Prunus spinosa*, field maple, and elm *Ulmus* species.

Animal species

Overview

3.14 The Site was dominated by buildings, hard standing and improved grassland of limited value to protected animal species in overall terms. No badger setts were present within the Site, and the grassland was too short and uniform to be of value to reptiles. No ponds are shown to be located within 250m of the Site based on online 1:2,500 and 1:25,000 scale Ordnance Survey maps. Further discussion in relation to bats and breeding birds is provided below.

Bats

3.15 The findings of previous bat surveys undertaken by AEL are provided in **Appendix A**, and confirm that no evidence of roosting bat use was found in July and August 2023.

3.16 The Studio consisted of a single storey brick built mono-pitched building with interlocking roof tiles. No features potentially suitable for use by roosting bats were seen and no evidence of past bat use was found. The building was assessed as being of negligible suitability for roosting bats.

3.17 None of the trees scheduled for removal possessed any obvious bat roost features, with the ivy-clad ash of very limited value due the lack of thick ivy stems and the barrier created by dense leggy horizontal growth.

3.18 The trees and hedgerow along the western and north boundaries of the Site could be used by bats for foraging or commuting, but are being retained as part of the proposal.

Birds

3.19 Scrub, trees and the hedgerow within the Site are likely to provide nesting and foraging habitat for a small range of birds, but not in an assemblage of any particular ornithological significance.

Impact Avoidance and Mitigation

3.20 Based on the findings of the current PEA and the previous surveys the only identified protected species constraint in relation to the Development being proposed relates to the possible presence of nesting birds in areas of scrub, trees and hedgerow. To avoid impacts on breeding birds, the clearance of any trees or hedgerow will need to be undertaken outside of the bird breeding period (i.e., during September to February, inclusive) or immediately following an inspection of the Site by an experienced ecologist that confirms their absence.

3.21 A watching brief for hedgehogs and other animal species should also be maintained during Site clearance, with any log piles to be removed by hand.

11 Clay Close Lane, Impington

Habitat baseline

- Site boundary
- Off-Site land in Applicant's ownership
- buildings
- hard-standing
- tall ruderal
- ephemeral / short perennial
- dense scrub (bramble)
- bare ground
- SI poor semi-improved grassland
- improved grassland
- introduced shrubs
- A amenity grassland
- Species-poor hedgerow
- tree (medium)
- tree (small)
- x scattered scrub (bramble, shrubs/trees <7.5 cm dbh)

Figure 3.1

Map Scale @ A4: 1:750

Surveyed by: n/a	
Survey date: n/a	
Drawn by: RJH	
Checked by: DP	
Status: Final	

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Figure 3.2: Selection of habitat survey photographs.

(a) Residential house of low bat roost suitability that was subject to bat emergence survey in August 2023 and with no evidence of bat use found.

(b) Barns of negligible bat roost suitability.

(c) Studio of negligible bat roost suitability.

(d) Short and species-poor improved grassland dominated the Site and off-Site areas.

(e) Patches of damaged bare ground contribute to the poor condition of the existing grassland.

(f) Species-poor amenity lawn.

(g) Area of bramble scrub associated with log pile.

(h) Small patches of tall ruderal vegetation dominated by nettle with some sprawling stems of bramble.

(i) Ash tree densely clad in ivy..

(j) Species-poor overgrown boundary hedgerow.

4 Biodiversity Net Gain Calculations

Approach

4.1 A Biodiversity Net Gain (BNG) assessment of the proposed Development has been completed using the Statutory Biodiversity Metric calculator. The calculator compares the relative biodiversity value of the pre-Development habitats with the post-Development habitats with this comparison based on an assessment of habitat type, condition, and in the case of newly created post-development habitats, difficulty of creation. Linear habitat features, namely hedgerows, are assessed using a separate metric to area habitats.

On-Site Calculations

Habitat baseline

4.2 The habitats present within the Site (see **Chapter 3** of this report) have been converted to those used by the Statutory Biodiversity Metric and their condition assessed based on relevant condition assessment criteria. The habitat baseline used for the Metric calculations, together with their area, condition and associated biodiversity value is provided in **Table 4.1**.

4.3 The boundary hedgerow will be retained and protected as part of the Development and therefore separate Biodiversity Metric calculations for hedgerows have not be completed.

Table 4.1: Baseline habitats within the Site.

UKHab habitat	Distinctiveness (score)	Condition (score)	Area (ha)	Habitat unit value
Bare ground	Low (2)	Poor (1)	0.008	0.02
Developed land, sealed surface	V Low (0)	n/a	0.149	0
Bramble scrub	Medium (4)	n/a	0.009	0.04
Ruderal/ephemeral	Low (2)	Poor (1)	0.020	0.04
Modified grassland	Low (2)	Poor (1)	0.232	0.46
Modified grassland	Low (2)	Moderate (2)	0.002	0.01
Urban trees[6]	Medium (4)	Moderate (2)	0.073	0.59
Total (area excludes trees)			**0.420**	**1.15**

4.4 All existing on-Site land would be lost due to the Development. Of the 10 small and two medium-sizes trees present within the Site, seven small and one medium tree would need to be removed.

[6] Area of trees calculated using Biodiversity Metric Tree helper tool.

Post-intervention habitats

4.5 The post-Development habitat types and areas have been derived from the Outline Landscape Proposals plan (see **Appendix B**). The landscape plan has been interpreted against the Biodiversity Metric habitat types and guidance and has been digitised by AEL in GIS ArcPro (**Figure 4.1**). In line with Statutory Biodiversity Metric guidance all landscaping within the residential garden is included as 'Vegetated garden' and newly planted trees are not included.

4.6 The post-Development habitat areas for the Site can be broken down as follows:

- Developed land; sealed surface – 0.140 ha. V Low distinctiveness – 0 habitat units.
- Vegetated garden – 0.280 ha. Low distinctiveness, n/a condition – 0.54 habitat units.

4.7 The proposed Development would result in a reduction in habitat value from 1.15 habitat units before Development to 0.77 habitat units (0.23 retained trees and 0.54 ha new vegetated garden).

4.8 This represents an on-Site loss of **-0.38 habitat units** equivalent to a **-33.21% loss** in habitat value.

Proposed Off-Site Compensation

4.9 An opportunity exists to provide additional compensation and to offset the Development impact on adjoining land located to the north of the Site. This area of off-Site land is currently modified grassland (poor condition) and in the ownership of the Applicant.

4.10 The post-Development habitat types and areas for this area of off-Site land have also been derived from the Outline Landscape Proposals plan (**Appendix B**) and are shown in **Figure 4.1**. The enhancement proposals can be summarised as follows:

- Small areas (0.026 ha) of new mixed scrub (moderate condition) will be planted to satisfy habitat trading rules due to small scale scrub loss within the Development Site. This will deliver 0.17 habitat units.
- Other existing areas of modified grassland will be enhanced to wildflower grassland (other neutral grassland in good condition) through over sowing and meadow management. This will deliver 0.96 habitat units.
- A small area of hard standing will also be converted to wildflower grassland. This will deliver 0.01 habitat units.
- A total of 19 new trees will also be planted in this off-Site area. This will deliver 0.24 habitat units.

4.11 In total, these off-Site habitat creation and enhancement proposals will deliver a total of 1.38 habitat units.

Confirmation of BNG Outcome

4.12 The Development and the off-Site habitat compensation being proposed would result in a uplift of **+1.08 habitat units** equivalent to a **+60.85% BNG**. A small trading down deficit of -

0.12 habitat units remains in relation to individual trees. However, this very minor deficit is not considered significant compared to overall positive BNG outcome.

4.13 In addition, significant habitat creation, including new tree planting, will also be created within the Site itself and has not factored in to the on-Site BNG calculations to comply with Metric guidance.

11 Clay Close Lane, Impington

Post-Development habitats on and off-Site

- Site boundary
- Off-Site land in Applicant's ownership

On-Site (Private garden)

- developed land; sealed surface (building)
- developed land; sealed surface (hard standing)
- vegetated garden (low distinctiveness, n/a condition)

Off-Site enhancement area

- native scrub (mixed scrub - medium distinctiveness in moderate condition)
- wildflower grassland - general mix (other neutral grassland, medium distinctiveness in good condition)
- wildflower grassland - hedgerow mix (other neutral grassland, medium distinctiveness in good condition)
- new tree (small)
- retained tree

Figure 4.1

Map Scale @ A4: 1:750

Surveyed by: n/a	
Survey date: n/a	
Drawn by: RJH	
Checked by: DP	
Status: Final	

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5 Likely Development Impacts and Recommendations

Likely Development Impacts

Designated wildlife sites

5.1 Significant impacts on designated wildlife sites are not predicted given the proximity of such sites and the type and scale of Development being proposed.

Habitats and plants

5.2 The on- and off-Site habitat creation and enhancement proposals set out in Chapter 4 would result in a uplift of **+1.08 habitat units** equivalent to a **+60.85% BNG**.

Protected animal species

5.3 No significant protected species constraints have been identified in relation to the proposed Development. While significant impacts on breeding birds are not predicted, precautionary avoidance measures will need to implemented as part of Site clearance, as set out below.

Recommendations

Impact avoidance and mitigation

5.4 Based on the findings of the current PEA and the previous surveys the only identified protected species constraint in relation to the Development being proposed relates to the possible presence of nesting birds in areas of scrub, trees and hedgerow. To avoid impacts on breeding birds, the clearance of any trees or hedgerow will need to be undertaken outside of the bird breeding period (i.e., during September to February, inclusive) or immediately following an inspection of the Site by an experienced ecologist that confirms their absence.

5.5 A watching brief for hedgehogs and other animal species should also be maintained during Site clearance, with any log piles to be removed by hand.

Compensation and enhancement

5.6 In addition to a significant BNG, the following additional enhancements are recommended.

- A wildlife friendly lighting strategy to avoid the risk of impacting nocturnal wildlife, most notably retained existing boundary trees and hedgerow as dark corridors.
- Building boundary walls and fences to be hedgehog friendly by incorporating ground level gaps to allow animals to pass beneath.
- To incorporate bat and/or bird boxes into the new building and/or retained boundary trees.

Appendix A
AEL 2023 Bat Reports

24 August 2023

Dear Sirs,

Re: Ecology Report – 11 Clay Close, Histon, Impington, CB24 9NE - Conversion of Agricultural Barn to Dwelling planning reference S/2125/16/PA

I am writing to confirm that I completed a Preliminary Bat Roost Assessment of the above barn (grid ref TL 44814 63461) on 10 July 2023 in bright and dry weather conditions that were suitable for completing ecological survey. I am an ecologist with over 30 year professional experience and a licenced and experienced bat worker.

I searched the exterior and interior of the barn for evidence of bats using a high powered torch and binoculars and also recorded any evidence of nesting/roosting birds inside the building. The survey was completed in accordance with current good practice bat survey guidelines[1].

Exterior of the barn

[1] Collins, J (2016) *Bat Surveys for Professional Ecologists - Good Practice Bat Guidelines*. BCT, London

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Bats

The barn was a brick and steel portal framed building with an unlined shallow-pitched vaulted roof covered in corrugate cement sheets with cement sheet gables. The floor of the building was concrete and the interior was use for agricultural storage. There were no compelling places of bat shelter on the exterior of the building or inside it and no physical evidence of bats present inside or outside the building. The building was assessed as possessing negligible bat roost suitability in accordance with Collins 2016, and did not appear to support roosting bats

Birds

A home-made timber owl box was present on a steel support at the northern gable apex inside the barn, next to a hole in the gable that would allow birds in and out of the building. There was no evidence of nesting/roosting owls or other bird species associated with the owl box or within the wider barn.

Summary

The barn does not appear to be of importance for protected wildlife and could be removed without restriction in relation to bats. It is recommended that the owl box is removed by hand as part of the conversion, and an ecologist contacted in the unlikely event that it is found to be occupied by an owl.

Yours sincerely,

Dr Duncan Painter CEnv MCIEEM

Director
On behalf of Applied Ecology Ltd

djpainter@appliedecology.co.uk

11 Clay Close Lane, Impington, Cambridge – Bat Report

Background

1.1 Applied Ecology Ltd (AEL) was appointed to complete a preliminary bat roost assessment (PRA) and a follow-up bat roost emergence survey of a detached dwelling house with an address of 11 Clay Close Lane, Impington, Histon, Cambridge, CB24 9NE (grid reference TL 44812 63420). The survey was commissioned to inform the redevelopment of the Site involving the replacement of the existing house with a new detached dwelling.

1.2 The location of the property is shown by **Figure 1.1**.

Survey Approach

Preliminary Bat Roost Assessment

1.3 A preliminary bat roost assessment of the dwelling house and its associated detached garage was completed in dry and sunny weather conditions on 10 July 2023 by Dr Duncan Painter CEnv MCIEEM (DP). DP is a professional ecologist and bat surveyor with extensive bat field survey and mitigation planning experience in relation to bats and development across the UK[1].

1.4 The survey was completed in accordance with Collins 2016[2] to assess use or potential for use of the house by roosting bats.

1.1 A systematic externa and internal inspection was completed, assisted as necessary, by binoculars, ladders, and a high powered cree torch. Evidence of bats searched for included live bats, bat droppings on walls and other exposed surfaces, staining (caused by bat fur oils and/or urine spots) and the characteristic odour of accumulated bat droppings in confined (typically poorly ventilated) spaces.

1.2 The inspection of buildings to assess their roosting use/suitability for bats can be conducted at any time of year, according to the best practice survey guidance (Collins, 2016). However, finding evidence of bats (e.g. their droppings) on external surfaces that are unprotected from rainfall may be restricted if undertaken outside the main bat active

[1] Holds three separate licences pertaining to bat survey: WML-CL18; WML-CL21; and WML-CL32 and has been a registered bat roost volunteer visitor for Natural England (WML-CL15). Holds a class licences in relation to badger (WML-CL35) and great crested newt (WML-CL09 & WML-CL33), hazel dormouse (WML-CL10A), and native crayfish (WML-CL11). Trained in the use of thermal camera operation and analysis by Dr Kayleigh Fawcett Williams.

[2] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

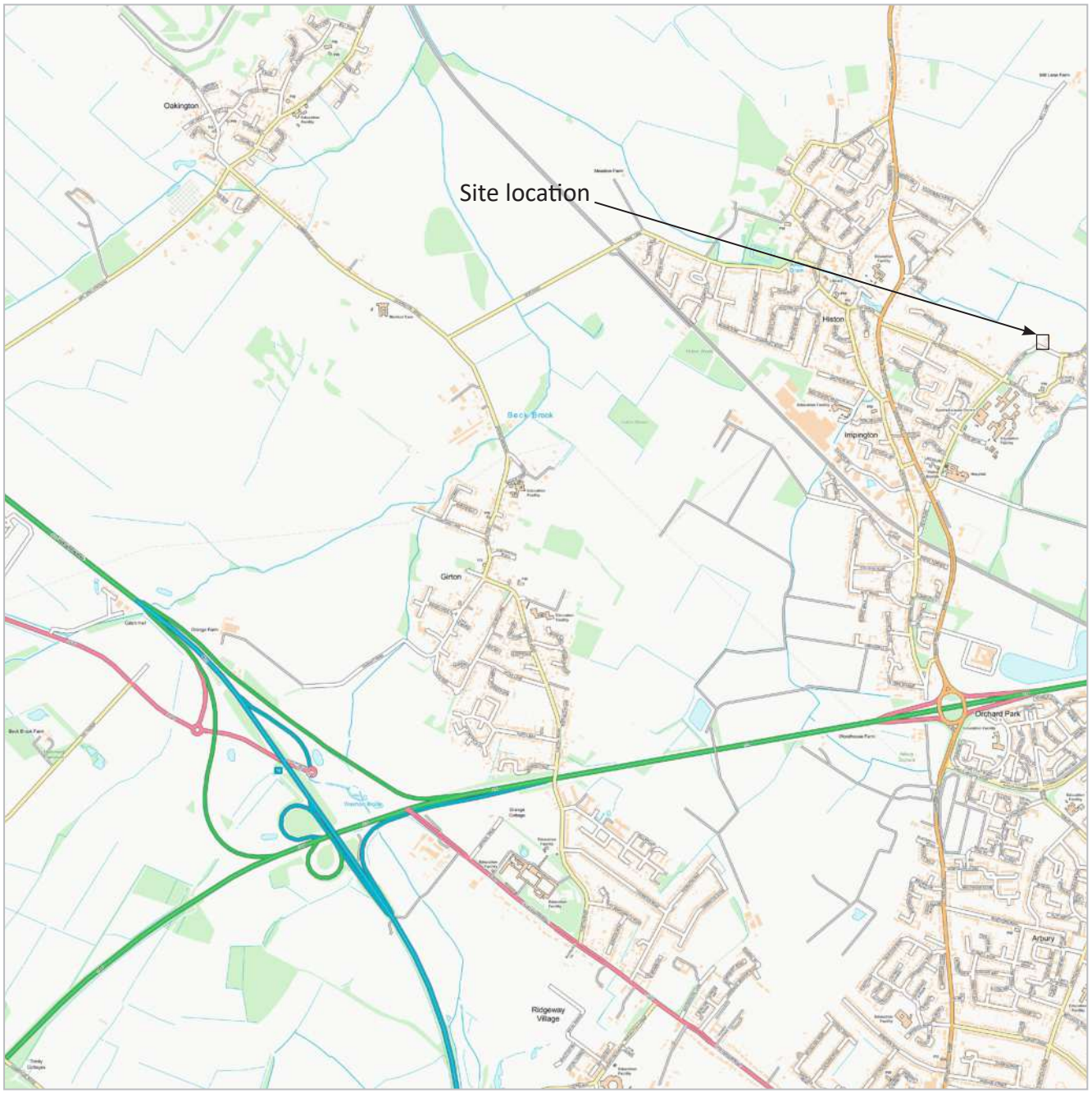

Figure 1.1
Site location

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season (May to September) and/or after periods of wet weather. Bat droppings inside buildings may also quickly disintegrate in damp conditions.

1.3 The survey was completed during the summer during the peak of the bat active season following a period of relatively warm and dry weather, when evidence of bats (droppings) would have been expected to be visible on unsheltered external surfaces.

1.4 The suitability of individual buildings for roosting bats was classified according to the categories and descriptions defined by Collins 2016 for roosting habitats, as summarised in **Table 2.1**.

Table 2.1: Guidelines for assessing the potential suitability of roosting habitats such as buildings and trees for bats (taken from Collins, 2016).

Suitability	Description of roosting habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Bat Roost Emergence Survey

1.5 Following completion of the PRA, that assessed the dwelling as having **low bat roost suitability** in accordance with Collins 2016, the dwelling was subject to a single bat roost emergence survey on the evening of 8 August 2023.

1.6 The survey was completed by a team of three surveyors led by DP using the following survey equipment:

- Hand-held Pettersson D230 electronic bat detectors with ear-phones set in frequency division mode (x3);
- Time synchronised tripod mounted Anabat Express electronic bat detectors (x5); and
- Tripod mounted FLIR thermal video camera (x3).

1.7 The survey set-up and thermal camera fields of view are provided in **Appendix 1**.

1.8 The tripod-mounted Anabat Express electronic bat detectors were set-up around the periphery of the dwelling to record bat calls from the start to the end of the survey. All bat calls recorded by the detectors were analysed on a PC using Analook software and were identified to the highest practical taxonomic level in accordance with Russ 2012[3].

[3] Russ, J (2012) *British Bat Calls – A Guide to Species Identification*. Pelagic Publishing

1.9 The manned thermal cameras were set to record radiometric video data at 30 frames per second, and were used by the surveyors to provide a live view of the building throughout the survey via a lap-top screen. The cameras were set up to record from 15 minutes before sunset to the end for the survey at 90 minutes after sunset. Video footage was checked the following day by DP against bat sightings and bat call recordings using FLIR Tools+ software.

Survey limitations

1.10 The dwelling was in occupation at the time of survey and internal access was not possible to complete a survey of the loft space. The PRA and emergence surveys were completed during the main 2023 bat activity period at a time when bats were active and not in torpor and weather conditions were suitable for bats to be active throughout the emergence survey[4]. The surveys were, therefore, not subject to any significant limitations.

[4] 8 August 2023: average air temperature 15.7^{0}C (start) 12.8^{0}C (end), still / light air, no rain, 40% cloud cover (start).

Survey Findings

Preliminary Bat Roost Assessment

Dwelling

1.11 No physical evidence of bats was present in any location on the exterior of the building.

1.12 The house was of brick construction with a gable ended east-west aligned pitched roof with a pitched roofed north projecting cross wing. The roofs were covered in concrete tiles, and thee three gable ends had timber facia boards. Two brick chimneys were present on the main roof and cross wing with lead flashings at their bases. A small single storey conservatory was present on the eastern elevation of the building.

Dwelling – south and east facing facades

1.13 The building was in a good state of structural repair with no missing or broken roof tiles, with tightly fitted facia boards and verges that were devoid of obvious holes and gaps.

1.14 The only obvious potential roost feature (PRF) were gaps below lifted lead flashing around the base of the two chimneys.

1.15 In overall terms the building was assessed as possessing **low bat roost suitability** in accordance with Collins 2016.

Garage

1.16 A single storey brick open fronted garage structure was present to the north-west of the dwelling house. The building was of brick construction with a mono-pitch felt covered roof and a timber framed lock-up structure lean-to on its southern side.

1.17 The building was devoid of physical evidence of bats and obvious bat roost features and was assessed as a building of **negligible bat roost suitability**.

Garage

Bat Roost Emergence Survey

1.18 No bats were seen or filmed emerging from the dwelling house during the bat roost emergence survey, and levels of bat activity around the property were very low throughout the survey.

1.19 Sunset was at 20.28, and the first recorded bat activity was a pass (east to west) of a single common pipistrelle *Pipistrellus pipistrellus*, along Clay Close Lane to the south of the dwelling at 21.04 (26 minutes after sunset). Thereafter single passes of single common pipistrelle bats were recorded very infrequently around all sides of the building with a single pass of a soprano pipistrelle *P. pygmaeus* at 21.29.

1.20 A single noctule bat *Nyctalus noctula* was recorded foraging high above the Site between 20.54 and 20.58, but the bat was no associating with the Site in any way.

1.21 No other bat species were recorded during the survey.

Conclusions

1.22 The dwelling house and its associated garage do not support roosting bats and could be removed without restriction in relation to bats.

1.23 The survey findings can be considered to be valid for 12 months from the date of the last survey (8.8.23).

Appendix 1
Bat survey set up

Key

N

Tripod mounted time synchronised Anabat Express electronic bat detector - arrow shows direction of microphone

Bat surveyor equipped with hand-held Pettersson D230 electonic bat detector with ear phones

Tripod mounted FLIR thermal camera - camera fields of view and bat in flight detection distances reported separately

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Bat roost emergence survey set up 8 August 2023

FLIR T1020 (1024 x 768 pixel resolution) with 45 degree lens = bat in flight detection distance of 104 m.
Camera located 24 m from furthest point of building

FLIR T860 (640 x 480 pixel resolution) with 42 degree lens = bat in flight detection distance of 66 m.
Camera located 21 m from furthest point of building

FLIR T540 (464 x 348 pixel resolution) with 42 degree lens = bat in flight detection distance of 51 m.
Camera located 18 m from furthest point of building

Appendix B
Outline Landscape Proposals

Softworks Key

- **Proposed Trees**
- **Proposed Native Hedgerow**
- **Existing Native Hedgerow and Scrub**
  To be retained
- **Proposed Native Shrub Planting**
- **Wildflower Seed Mix (Hedgerow)**
  Area to be seeded with a mix of native wildflowers and grasses suitable for the variable shade conditions adjacent to hedges and beneath trees.
- **Wildflower Seed Mix (General)**
  Area to be seeded with a mix of native perennial wildflowers and grasses.
- **Wildflower Seed Mix (Woodland)**
  Area to be seeded with a of native wildflowers and grasses suitable for areas shaded by trees.
- **Turf/seeded lawn**
- **Ornamental Planting Bed**

Boundary Key

- **2.4m High Brick Wall**
  To architect's specification
- **Low level post and wire fence**
- **Green wire mesh fence**

N

General Notes
Contractor must verify all dimensions, levels and existing service alignments on site before commencing any work or shop drawings.
Any discrepancy concerning the drawings/quantities should be referred to the Landscape Architect immediately.
Only figured dimensions to be taken from this drawing. Do not scale off this drawing.
All landscape drawings to be read in conjunction with the landscape specification and all relevant engineer's and architect's drawings/specifications.
Drawings should not be used to tender from without confirmation from the Landscape Architect.
This drawing is Copyright and must not be reproduced without consent of Guarda Ltd.

Rev	Date	Comments	Dr	Ch
P02	08/02/24	Revised to comments.	LS	CX
P01	07/02/24	First Issue.	LS	RM

guarda landscape

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Site
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Drawing Title
Outline Landscape Proposals

Scale		Status
1:200 @ A1		Planning
Project	Drawing Number	Revision
2344	GUA-DR-L-002	P02
Drawn	Checked	Date
LS	RM	January 2024

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