
Ecological Impact Assessment Report

Guysfield Care Home, Letchworth

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- Appendix D – Great Crested Newt eDNA Results

1 Non-technical Summary

This Ecological Impact Assessment report has been prepared by Sweco UK Ltd. for Oliver and Robb Architects LLP on behalf of Caring Homes. It relates to the proposed partial demolition and reconstruction of the existing Guysfield Care Home, with refurbishment of the retained section of the structure.

Ecological surveys undertaken between June and September 2024 include an initial UK Habitat Classification survey, bat preliminary roost assessment, and habitat suitability index assessment and eDNA survey of ponds for great crested newt. Subsequent bat emergence surveys and badger sett monitoring was also carried out, following the initial assessments as well as a desk study for designated sites.

The desks study found there to be five locally designated sites within 2 km of the development site boundary, none of which are expected to be affected by the proposed scheme. The UK Habitat Classification survey found the site to be comprised of the main care home building, surrounding developed sealed surfaces and suburban mosaics of developed and natural surfaces, modified, broadleaved woodland, and small patches of scrub and ornamental hedgerow. The site is considered to be suitable for widespread reptiles and terrestrial amphibians, nesting birds, roosting and foraging bats, badger and hedgehog.

The habitat suitability index assessment of ponds screened out all but two ponds near to the site, both ponds were visited, and the closest waterbody was eDNA surveyed for great crested newt. The result of which was negative, indicating great crested newt are not likely present in the area. The preliminary roost assessment for bats found the building to have Moderate roosting suitability, however as 2018 surveys found a soprano pipistrelle day roost, at the time it was considered a confirmed roost. Subsequently three emergence surveys were carried out in August and September 2024. No bats were recorded emerging from the building during these updated surveys and as such the buildings is no longer considered to be an active roost. However, numerous pipistrelle and noctule bats were observed foraging around the building during emergence surveys. Trail cameras at the badger sett recorded badger activity between during the monitoring period confirming an active sett on site.

Precautionary avoidance and mitigation measures are detailed herein for amphibians, reptiles, nesting birds, roosting and foraging bats, badger, and hedgehog and it is recommended that a Biodiversity Method Statement or Precautionary Method of Works document for roosting bats and badger is conditioned. It is anticipated that if badger sett exclusion buffers cannot be maintained, a mitigation licence may be required. A bat mitigation licence is not expected to be required however, a precautionary Biodiversity Method Statement should be conditioned to guide demoliition phase mitigation. If any roosting bat is found, a mitigation licence should be sought.

Ecological enhancements, including installation of swift and tawny owl nest boxes, bat roosting boxes, and use of native seed mixtures in landscaping, have been recommended.

2 Introduction

2.1 Purpose

This Ecological Impact Assessment (EclA) report has been prepared by Sweco UK Ltd. for Oliver and Robb Architects LLP on behalf of Caring Homes. It relates to the proposed partial demolition and reconstruction of the existing Guysfield Care Home, with refurbishment of the retained section of the structure (hereafter 'the development') (Appendix A). Guysfield Care Home is located at Willian Road, Letchworth, Hertfordshire, SG6 2AD (grid ref.: TL 221 307) (hereafter 'the site'), as shown on figure 65213299-SWE-XX-XX-D-J-0001.

The site covers an area of ~980 m² and is located in Willian village on the south edge of Letchworth, with a residential estate to the north, Letchworth gold club to the west, and a mix of grassland, woodland, arable land, and scattered buildings to the south and east.

The site currently comprises the existing care home building, areas of modified grassland, mixed woodland, scrub, and small mosaics of urban sealed and ornamental planting areas.

The purpose of this report is to:

- Detail the methodology of surveys undertaken;
- Establish baseline ecological conditions at the site;
- Assess likely significant impacts on important ecological features within the site boundary and its Zone of Influence;
- Recommend avoidance and mitigation measures to reduce effects on important ecological features;
- Identify any residual significant effects after avoidance and mitigation measures have been integrated, from the project alone and in combination with other nearby developments;
- Recommend compensation measures required to offset residual effects;
- Provide recommendations for how avoidance, mitigation, and compensation may be secured and monitored;
- Set out details of ecological enhancement measures to be included within the proposed development; and
- Provide sufficient information to determine whether the project adheres to relevant nature conservation policies and legislation and, where appropriate, to allow conditions or obligations to be proposed by the relevant authority.

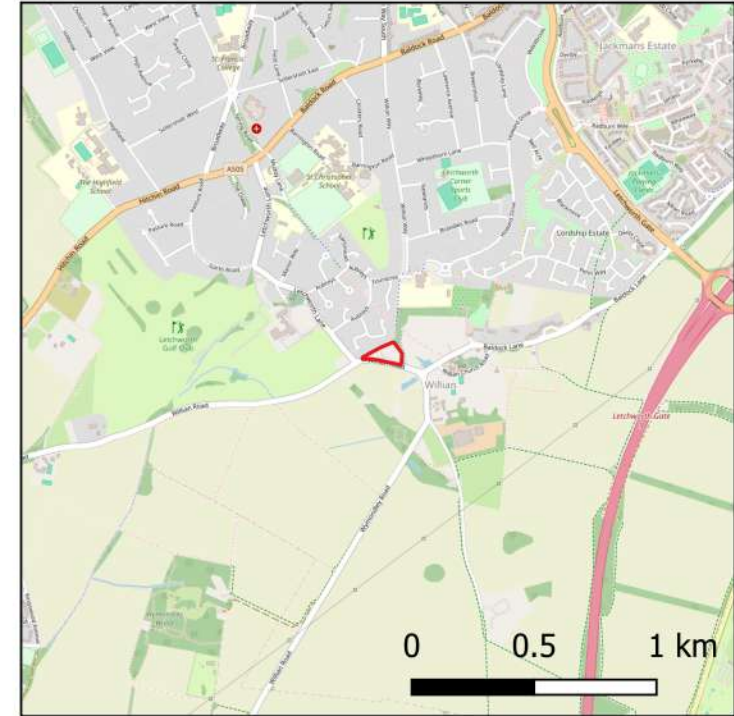
2.2 Ecological Background

This EclA report updates a previous, and now lapsed, EclA report produced by MLM Group (now Sweco) in 2019-2020 [1]. This report found the site to provide High potential for roosting bats, with droppings found in three roof voids. Dusk emergence surveys undertaken in 2019 recorded a single soprano pipistrelle (*Pipistrellus pygmaeus*) day roost present in the building.



Legend

Site Boundary



C01	07.10.24	For Information	DS	CF	JS
Rev.	Rev. Date	Drawing Suitability	Drawn	Checked	Appr'd

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Client

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Project
Guysfield Care Home, Letchworth

Drawing Title
Site Location Plan

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3 Legislation and Planning Policy

3.1 Legislation

Relevant legislation includes the following. The reader is directed to the original texts for details.

- The Conservation of Habitats and Species Regulations 2017 (as amended)
- The Wildlife and Countryside Act 1981 (as amended)
- The Protection of Badgers Act 1992
- The Natural Environment and Rural Communities Act 2006
- The Environment Act 2021

3.2 Planning Policy

3.2.1 National Planning Policy Framework 2021

The National Planning Policy Framework 2021 (hereafter 'NPPF 2021') [2] sets out planning policy guidance to inform Local Plans set out by Local Planning Authorities. Paragraphs 174 to 182 address conservation and enhancement of the natural environment, habitat, and biodiversity.

Paragraphs 174 and 179 in particular emphasise the need for developments to contribute to the protection and enhancement of sites of biodiversity value; to identify, map, and safeguard local wildlife rich habitats and wider ecological networks, and; to promote the conservation, restoration, and enhancement of priority habitats, ecological networks, and priority species.

Paragraph 180 emphasises that development applications that result in significant harm to biodiversity, or that result in loss or deterioration of irreplaceable habitats (e.g. ancient woodland, veteran trees) should be refused.

3.2.2 ODPM Circular 06/05

The Office of The Deputy Prime Minister Circular 06/05 (hereafter 'ODPMC 06/05') [3] is a document published to provide guidance on application of law relating to planning and nature conservation in England.

3.2.3 North Herts Local Plan 2011-2031

The North Hertfordshire Local Plan [4] includes the following relevant policies:

3.2.3.1 *Policy SP9 – Design and sustainability*

As part of policy SP9 the council requires strategic masterplans and planning applications for strategic housing sites and significant developments to; create accessible multi-functional green infrastructure that provides a high-quality integrated network to support ecological connectivity, biodiversity net gain, climate adaptation and mitigation linking to the wider ecological network.

3.2.3.2 *Policy SP12 - Green infrastructure, landscape and biodiversity*

As part of policy SP12 the council will, though accommodating growth; protect, identify, manage, and enhance a strategic multi-functional network of green

infrastructure; protect, enhance, and manage designated sites (international, nationally, locally, and non-designated important habitats and species); protect, enhance, and manage biodiversity networks including wildlife corridors, ancient woodlands and hedgerows, wetland and riverine habitats, protected species, priority species and habitat, and non-designated sites of ecological value, and ensure measurable gains for biodiversity.

3.2.3.3 *Policy NE1 – Strategic green infrastructure*

Planning permission will be granted provided that development; protects, conserves, and where possible enhances the strategic green infrastructure network; avoids the loss, fragmentation, severance, or negative impact on the function of the strategic green infrastructure network; creates new strategic green infrastructure where appropriate and is accompanied by a long-term maintenance and management plan; has suitable mitigation measures or appropriate replacement to satisfactorily address adverse impacts on the strategic green infrastructure network.

3.2.3.4 *Policy NE4 - Biodiversity and geological sites*

Planning permission will only be granted for development proposals that appropriately protect, enhance and manage biodiversity in accordance with the hierarchy and status of designations and features listed in Policy SP12. All development should deliver measurable net gains for biodiversity, contribute to ecological networks and the water environment, and/or restore degraded or isolated habitats where possible.

Applicants should, having regard to the status of any affected site(s) or feature(s); submit an ecological survey that is commensurate to the scale and location of the development and the likely impact on biodiversity, the legal protection or other status of the site, and; demonstrate that adverse effects can be avoided and / or satisfactorily minimised having regard to the hierarchy of mitigation.

The acceptability of approach(es) to avoidance, mitigation and compensation will be commensurate with the status of the asset(s) likely to be affected by the application; Compensation is unlikely to be an appropriate solution for proposals affecting nationally or internationally designated sites other than in the most exceptional circumstances.

Applications should include appropriate measures to manage construction impacts by demonstrating how existing wildlife habitats supporting protected or priority species will be retained, safeguarded and managed during construction; integrate appropriate buffers of complimentary habitat for designated sites and other connective features, wildlife habitats, priority habitats and species into the ecological mitigation and design. The appropriateness of any buffers will be considered having regard to the status of the relevant habitat. 12 metres of complimentary habitat should be provided around wildlife sites (locally designated sites and above), trees and hedgerows. It may be necessary to exceed this distance for fragile habitats such as ancient woodland or to provide appropriate root protection for mature trees; and provide a long-term management and monitoring plan including mitigation measures as necessary.

4 Methodology

4.1 Background

This assessment has been produced following the CIEEM guidelines for Ecological Impact Assessment [5]. As such, the work required has been carried out in accordance with the key principles of the National Planning Policy Framework [2] and Government Circular 05/06 [3]. Common names and binomial scientific names of plant species identified are as they appear in Stace [6].

The conclusions and recommendations are in accordance with current legislation and guidance.

4.2 Personnel

This report was produced by Senior Ecologist Darren Storey MZool (Hons) MSc ACIEEM. It was reviewed by Consultant Ecologist Claudia Ferreira BSc (Hons) and approved by Principal Ecologist Joshua Stafford BSc (Hons) MRSB.

4.3 Scope of Assessment and Zone of Influence

Important ecological features considered for this assessment includes statutory and non-statutory designated sites, Habitats and Species of Principal Importance for the Conservation of Nature (i.e. 'Priority Habitats' and 'Priority Species' listed on Section 41 of the NERC Act 2006), other habitats which may, at the ecologist's discretion, provide ecological value or functionality, species protected by wildlife legislation, and non-native invasive species which require control.

The study area used for the assessment differs between ecological features. For habitats and most fauna the study area is restricted to the site boundary and immediately adjacent habitats. For statutory and non-statutory designated sites, and for great crested newt (*Triturus cristatus*) the study area is given in the respective methodology subsections.

The Zone of Influence of a site is the distance at which the proposed development, including construction and operational phases, may impact features beyond the site boundary itself. The Zone of Influence will depend on the nature of the development as well as the nature of the ecological feature under consideration.

4.4 Desk Study

4.4.1 Designated Sites

The Multi-Agency Geographic Information for the Countryside (MAGIC) [7] online database was searched on 18 June 2024 to obtain geographic information on internationally designated sites within 10 km, nationally designated sites within 5 km, and locally designated sites within 2 km of the site.

Biological record data, including that for locally designated sites, were ordered from the Hertfordshire Environmental Records Centre (HERC) on 11 June 2024, and were received the same day.

4.4.2 Ancient Woodlands and Priority Habitats

The Multi-Agency Geographic Information for the Countryside (MAGIC) [7] online database was searched on 18 June 2024 to obtain geographic information on areas of Ancient Woodland within 1 km of the site and Priority Habitats within 500 m of the site.

4.4.3 Biological Records

Biological record data for species were ordered from HERC on 11 June 2024, and were received the same day, for a 2 km buffer around the site boundary.

4.5 **UK Habitat Classification Survey**

A UK Habitat Classification (UKHab) survey of all land within the development site was undertaken on 28 June 2024 by Assistant Ecologist Eleanor Unsworth BSc (Hons), supported by Senior Ecologist Darren Storey Mzool (Hons) MSc ACIEEM, in accordance with best practice guidance [8]. Weather conditions at the time of the survey were dry and sunny.

A list of plant species was compiled in accordance with methodology required to establish UK Habitat Classification Primary Habitat types up to level 4 of the habitat hierarchy. Habitats at level 5 of the hierarchy were recorded wherever possible, with care to accurately record all Priority Habitats¹ (if applicable).

Secondary codes were added to Primary Habitat polygons where it was deemed appropriate, which provide additional information on habitat mosaic, complex, management, and origin.

The survey was undertaken at the fine scale minimum mapping unit (MMU) of 25 m² (for polygons) and 1 m / 5 m (W x L) (for polylines). Key ecological features below the MMU in either area or length were mapped as Secondary Code points.

4.5.1 Habitat Condition Assessment

A Habitat Condition Assessment was undertaken as part of the UK Habitat Classification survey, following guidance of the Defra Statutory Biodiversity Metric Condition Sheets [9].

This involved assessing the condition of each parcel of primary habitat type(s) on site against criteria specific to the broad habitat type for which the primary habitat falls into. Points are scored against each criterion and summed to give a habitat condition of either Poor, Moderate, or Good which then feeds into separate Biodiversity Metric baseline calculations and Biodiversity Net Gain calculations.

4.6 **Species Scoping Survey**

The following was searched for and recorded if present during the survey:

- Field signs of protected species or those of conservation interest, including burrows, droppings, footprints and hairs;
- Refuges and particular habitat types to be used by certain classes of fauna;
- Any mammal paths if found were noted and followed where possible;

¹ Habitats of principal importance for the conservation of nature, listed on Section 41 of the NERC Act 2006.

- Entry points for fauna along fence and/or hedgerow boundaries if present; and
- Incidental sightings of invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Habitats were classified and assessed in terms of both their conservation importance and potential to support notable and/or protected species (based on habitat suitability and/or field signs).

4.6.1 Amphibians

4.6.1.1 *Habitat Suitability Index Assessment*

A study area comprising the proposed development site red line boundary and a buffer of 500 m was assigned and a search was carried out using MAGIC Map [7] and Ordnance Survey maps for waterbodies within this area. Waterbodies were scoped out at this stage if they were:

- Separated from the project site by a significant ecological barrier (e.g. a busy road, a river, large expanses of arable land, or a large, urbanised area) but not if ecological corridors (e.g. culverts, hedgerows) through that area exist;
- Greater than 2 ha in area;
- Clearly saline;
- Clearly artificial (e.g. swimming pools, reservoirs); or
- Clearly in use as fishing ponds.

Where ponds were scoped in at the desk study stage, they were visited and a field based aspect of the Habitat Suitability Index (HSI) assessment was undertaken by Darren Storey (Natural England CL08 great crested newt survey licence no. 2018-34788-CLS-CLS).

This included assessment of ten suitability indices, based on published guidance [10]. These include; geographic location, pond area, pond permanence, water quality, shade, water fowl effect, fish presence, pond density, terrestrial habitat, and macrophyte cover.

Each suitability indices is given a value from 0.01 to 1.0, which are multiplied together, and the tenth root of the sum is calculated. The resulting HSI Score for each pond corresponds to a suitability category, including; poor, below average, average, good, and excellent.

4.6.1.2 *eDNA Analysis*

During the HSI field assessment, water samples were collected from pond P1 for eDNA analysis by Darren Storey (Natural England CL08 great crested newt survey licence no. 2018-34788-CLS-CLS) and Eleanor Unsworth.

The methodology followed eDNA kit supplier guidance, as follows; water samples (30 ml) are collected from 20 points around the pond perimeter; samples are mixed; 15 ml water sample is extracted and pipetted into a sterile tube of 35 ml of ethanol to preserve DNA samples (repeated for 6x replicates); samples are immediately posted to the laboratory for analysis; DNA is extracted and qPCR procedure is run following WC1067 technical note guidelines.

Results are returned from the laboratory indicating positive or negative result for presence of great crested newt.

4.6.2 Roosting Bats

4.6.2.1 *Preliminary Roost Assessment*

As part of the Preliminary Ecological Appraisal survey, a Preliminary Roost Assessment (PRA) of buildings (external and internal) and Ground Level Tree Assessment (GLTA) on site was undertaken by Darren Storey (Natural England CL17 bat survey licence no. 2020-44388-CLS-CLS), using a Clulite torch and binoculars.

The surveyor assigned a level of Bat Roosting Potential (BRP) to each building and tree based on the presence, or absence, and level of suitability of Potential Roosting Features (PRFs) and the building or tree's context within the landscape (Table 4-1, Table 4-2). The survey was undertaken in line with current survey guidance [11] [12].

Table 4-1. Suitability of roosting habitats for bats (structures).

BRP	Description
None	No habitat features likely to be used by any roosting bats at any time of the year.
Negligible	No obvious habitat features likely to be used by roosting bats; however a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. 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 numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure 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.
High	A structure 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.
Confirmed	A structure with one or more confirmed roosts.

Table 4-2. Suitability of roosting habitats for bats (trees).

BRP	Description
None	No potential roosting features, or highly unlikely to be.
FAR	Further Assessment Required (e.g. climbing inspection).
PRF	A tree with one or more potential roosting features. Further subdivided to PRF-I or PRF-M:
PRF-I	Potential roosting feature only suitable for individual or very small number of bats due to size or lack of suitable surrounding habitats.
PRF-M	Potential roosting feature suitable for multiple bats and may be used by a maternity colony.

Where PRFs were identified, the following data were recorded:

- The building or tree reference on which the PRF is located
- The location of the PRF
- The elevation and orientation of the PRF
- The internal size of the PRF (if known)
- A description of the PRF

During the PRA survey evidence of bats was also searched for. This includes:

- Bat droppings (if found these were collected for eDNA analysis)
- Staining around PRF entrances
- Feeding remains (such as moth wings)
- Scratch marks around PRF entrances
- Live/dead bats

If evidence of bats in or around a PRF was found, then the structure or tree was recorded as a confirmed roost.

4.6.2.2 Emergence Surveys

Following the PRA and GLTA, a series of dusk emergence surveys were carried out. Surveys were led by Darren Storey, with four other surveyors supported by infra-red and thermal cameras. Weather and personnel details are given in Table 4-3.

Table 4-3: Dusk emergence survey weather and surveyor details.

Detail / Date	01.08.2024	21.08.2024	19.09.2024
Start time	20:40	19:56	18:50
Sunset time	20:49	20:11	19:05
End time	22:20	21:46	20:35

Detail / Date	01.08.2024	21.08.2024	19.09.2024
Temp. (start – end)	24°C - 20°C	20°C - 18°C	17°C - 15°C
Cloud (start – end)	4 – 1 Oktas	3 – 2 Oktas	0 - 0 Oktas
Wind (start – end)	2 – 2 Beaufort Scale	1 – 2 Beaufort Scale	4 - 3 Beaufort Scale
Rain	Moderate rain between 20:55-21:10.	None.	None.
Surveyor details	• Darren Storey MZool (Hons) MSc ACIEEM (Natural England CL17 bat survey licence) • Josh Stafford BSc (Hons) MRSB • Sophie Barrell MEdol (Hons) ACIEEM • Eleanor Unsworth BSc (Hons) MSc • Emma Howarth BSc (Hons)	• Darren Storey MZool (Hons) MSc ACIEEM (Natural England CL17 bat survey licence) • Josh Stafford BSc (Hons) MRSB • Eleanor Unsworth BSc (Hons) MSc • Claudia Ferreira BSc (Hons) • Charlotte Hoskyns BSc (Hons)	• Darren Storey MZool (Hons) MSc ACIEEM (Natural England CL17 bat survey licence) • Josh Stafford BSc (Hons) MRSB • Sophie Barrell MEdol (Hons) ACIEEM • Eleanor Unsworth BSc (Hons) MSc • Leonora Hunt MSc • Charlotte Hoskyns BSc (Hons)

4.6.3 Foraging and Commuting Bats

Value of habitat for foraging and commuting bats was also assessed by Darren Storey against the criteria detailed in Table 4-4 [11].

Table 4-4: Commuting and foraging value of habitats for bats.

Commuting and Foraging Value	Description
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.

Commuting and Foraging Value	Description
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses, and grazed parkland. Site is close to and connected to known roosts.

Bat activity surveys were not deemed necessary for the site and were not undertaken.

4.7 Badger

Three trail cameras were set up to monitor a badger sett on the site on 22 August 2024. Cameras were collected on 20 September 2024 after recording for 30 nights. Footage was analysed by Graduate Ecologist Emily Chubb with any recordings including badger activity noted and reported herein.

4.8 Limitations

Some small areas of roof voids were bricked off and inaccessible, though could be seen. This is not considered a significant limitation as visible roofing material matched that elsewhere in accessible roof voids, and as no evidence of bats was visible in those areas further surveys covered the externals of the buildings; if an emergence occurred it would likely have been detected.

4.9 Impact Assessment and Mitigation Hierarchy

The combined effects of the demolition, construction, and operational phases of the development on important ecological features were considered within the impact assessment. Given that the lifespan of the proposed development is currently unknown, the decommission phase of the development was not assessed.

Likely impacts of the development on important ecological features were assessed to determine whether an impact is likely to be significant or not.

Where significant impacts were found likely to occur, the mitigation hierarchy was followed with suitable recommendations given. The mitigation hierarchy prioritises avoidance of significant adverse impacts first through scheme design. Where impacts cannot be avoided, mitigation measures are recommended for implementation. Where residual adverse impacts are present following mitigation, compensation measures are recommended.

4.9.1 Important Ecological Features

Important ecological features include those features which are legally protected at the international or national level, identified within law or planning policy as being of principal importance for the conservation of nature (e.g. Biodiversity Action Plan and NERC Act 2006 priority habitats and species), and populations of important size at the

geographical scale. Important ecological features may also include those which perform important ecological functions at the landscape scale (e.g. ecological corridors) or that provide ecosystem services.

The geographic level of importance of each of important ecological feature was assessed, based on CIEEM guidance [5] using the criteria in Table 4-5 below.

Table 4-5: Assessment of conservation value of important ecological features

Geographical Scale	Important Ecological Feature
International	• Areas of habitat, or species assemblages, which meet criteria for a Ramsar, SAC or SPA site but are not designated as such. • A designated Ramsar, SAC, or SPA. • A species present in internationally important numbers (>1% of international population). • Notable species which are part of the noted feature(s) of an SPA or SAC, and which regularly occurs in internationally or nationally important numbers.
National	• Habitats that meet criteria for SSSI or National Nature Reserve, but are not designated as such. • A designated SSSI or National Nature Reserve. • A species present in nationally important numbers (>1% of UK population). • A species which is part of the cited interest of a SSSI and which regularly occurs in internationally or nationally important numbers. • Rare breeding species (e.g. birds with <300 UK breeding pairs).
Regional	• A locally designated site (e.g. Local Wildlife Site) with regionally important habitats or significant populations of priority species as listed under Section 41 of the NERC Act 2006. • Species present in regionally important numbers (>1% of regional population). • Population(s) of priority species, which are not covered above, and which regularly occur in regionally important numbers. • Sustainable populations of a species that is rare or scarce within a region. • Species on the Birds of Conservation Concern Red List, and which regularly occur in regionally important numbers.
County	• A locally designated site with a habitat that is characteristic of the county or rare on a county scale, or with significant populations of locally important species.

Geographical Scale	Important Ecological Feature
	• Species present in county important numbers (>1% of county population). • Priority species, which are not covered above, and which regularly occurs in county important numbers • Sustainable populations of a species that is rare or scarce within a county. • A locally designated site which is designated for its county important assemblage of birds, reptiles, invertebrates, etc. • Species on the Birds of Conservation Concern Red or Amber List, and which regularly occur in county important numbers.
Local	• Ecological corridors which areas likely to be essential to allow viable movement of species across the landscape, or which improve the biodiversity of the area. • Priority species which are rare in the locality. • Species present in numbers just under county importance (<1% of county population). • Sustainable populations of a species that is rare or scarce within the locality. • Species on the Birds of Conservation Concern Red or Amber List and which are considered to regularly occur in locally important numbers.

4.9.2 Characterisation of Effects

The following were used when categorising the ecological effects:

- Positive or Negative
- Extent
- Magnitude
- Duration
- Frequency and Timing
- Reversibility

4.9.3 Significance of Effects

The significance of an effect is evaluated simply as significant or not significant, where a significant effect is an effect which either supports or undermines the biodiversity conservation objectives for the important ecological features or for biodiversity in general. Effects will be considered significant at a geographic scale from local to international, in accordance with CIEEM guidelines [5] (Table 4-5).

4.9.4 Mitigation Hierarchy

Where impacts upon important ecological features are deemed to be significant, the mitigation hierarchy is used to make recommendations on how to negate that effect. The mitigation hierarchy is as follows:

- Avoid
- Mitigate
- Compensate

Following completion of the mitigation hierarchy ecological enhancements were recommended in order to adhere to national and local planning policies.

5 Ecological Baseline

5.1 Background

This section sets out the factual results of the surveys undertaken as detailed in Section 4 to establish the baseline conditions of the site. Assessment of the impacts on the important ecological features on site, and recommendations under the mitigation hierarchy, are given in Section 6.

5.2 Desk Study Results

5.2.1 Designated Sites

No designated sites are located on site. No internationally or nationally designated sites are present within 10 km or 5 km of the site respectively. Five Local Wildlife Sites (LoWS) are present within 2 km, which are detailed in Table 5-1 below, and shown in Appendix B.

Table 5-1: Designated sites.

Site Name	Designation	Size (ha)	Distance and Direction
Locally Designated Sites			
Letchworth Golf Course (21/011)	LoWS ²	42.9	0.07 km W
Keysheath Meadow (12/039)	LoWS	3.36	1.07 km W
Pryor Way Allotments and School Grounds (12/049)	LoWS	5.18	1.89 km NE
Lannock Spring (12/020)	LoWS	1.53	1.99 km E
Purwell Ninesprings (21/009)	WTNR ³ , LoWS	6.63	1.86 km SW

5.2.2 Ancient Woodlands and Priority Habitats

No areas of ancient woodland are present within 1 km of the site.

Five areas of Priority Habitat – deciduous woodland, within 500 m, were found through the MAGIC Map search. None of these are within the site boundary.

5.2.3 Biological Records

Biological records received from HERC are not included herein but are available on request. Records have been taken into account when considering likely presence and effects on protected and notable species.

² Local Wildlife Site.

³ Herts and Middlesex Wildlife Trust Nature Reserve.

5.3 UK Habitat Classification Results

The results of the UK Habitat Classification survey are listed below. Habitats are mapped on figure 65213299-SWE-XX-XX-D-J-0002.

Habitats are given as 'Primary Habitats' (an alphanumeric code denoting the main area or linear habitat present) with additional 'Secondary Codes' (a numerical code denoting additional information about the Primary Habitat) given in parentheses where applicable.

The following Primary Habitat types are present on site:

- g4 – Modified grassland
- w1h5 – Other woodland, mixed; mainly broadleaved
- h2b – Non-native and ornamental hedgerow
- h3h – Mixed scrub
- u1b5 – Buildings
- u1b6 – Other developed land
- u1d - Suburban mosaic of developed and natural surfaces
- u1e – Built linear feature

None of the habitats recorded on site classify as Priority habitats under Section 41 of the NERC Act 2006, nor are they listed on Annex I of the Habitats Directive.

A description of the habitats by individual habitat parcel is included below. Habitat conditions are given in Appendix C.

5.3.1 g4 – Modified grassland

5.3.1.1 *g4.1 (107 – mown and collected; 81 -ruderal or ephemeral)*

An extensive area of mown lawn (Photos 1,3) with a reasonable number of species present including daisy (*Bellis perennis*), small flowered Cranesbill (*Geranium pusillum*), Veronica sp., white clover (*Trifolium repens*), madder (*Rubia tinctorum*), deadly nightshade (*Atropa belladonna*), dandelion (*Taraxacum officinale*), self-heal (*Prunella vulgaris*), and yarrow (*Achillea millefolium*).

Two small patches of longer grassland exist and include ragwort (*Senecio jacobaea*), spear thistle (*Cirsium vulgare*), common nettle (*Urtica dioica*), cleavers (*Galium aparine*), Veronica sp., green alkanet (*Pentaglottis sempervirens*), oxeye daisy (*Leucanthemum vulgare*), spear thistle, lesser hop trefoil (*Trifolium dubium*), self-heal, white clover, madder, Timothy (*Phleum pratense*).

5.3.1.2 g4.2 (107 – mown and collected)

An extensive area of mown lawn with a reasonable number of species present including daisy, yarrow, dandelion, white clover, birds foot trefoil (*Lotus corniculatus*), and ribwort plantain (*Plantago lanceolata*).



Photo 1: Modified grassland with ruderal vegetation (foreground) and broadleaved woodland belt (background).

5.3.2 w1h5 – Other woodland, mixed; mainly broadleaved

5.3.2.1 w1h5.1 (523 – non-native)

A woodland belt forming the east site boundary (Photos 1, 2), 10-15 m deep in places, mainly comprised of native species including field maple (*Acer campestre*), ash (*Fraxinus excelsior*), silver birch (*Betula pendula*), lime (*Tilia* sp.), English elm (*Ulmus minor*), common hawthorn (*Crataegus monogyna*), and elder (*Sambucus nigra*) as well as Norway maple (*Acer platanoides*). An extensive area of non-native invasive Russian vine (*Fallopia baldschuanica*) has infested the north end of the woodland.

5.3.2.2 w1h5.2

A small, wooded section adjacent to the site entrance with lime, ash, and non-native laurel (*Prunus* sp.).

5.3.2.3 w1h5.3

A belt of trees running around the west boundary of the site dominated by lime with holly (*Ilex aquifolia*), elder, field maple, ash, laurel, and an understorey of bramble (*Rubus fruticosus* agg.), common nettle, hemlock (*Conium maculatum*), common mallow (*Malva sylvestris*), box honeysuckle (*Lonicera nitida*), and ivy (*Hedera helix*).



Photo 2: Interior of broadleaved woodland belt on east boundary.

5.3.3 h2b – Non-native and ornamental hedgerow

5.3.3.1 h2b.1 (523 – non-native)

A laurel hedgerow with bramble scrub growing along the front of the property.

5.3.4 h3h – Mixed scrub

5.3.4.1 h3h.1 (523 – non-native; 847 – introduced shrub)

A predominately laurel section of shrub in the north-east corner of the site.

5.3.5 u1b5 – Buildings

5.3.5.1 u1b5.1 (818 – residential building)

Guysfield Care Home (Photo 3) is a roughly 'L'-shaped structure made up of the original 'Guys House' and old extension to the west being two stories in height plus the converted loft spaces, with new wing consisting of a single storey entry way and lounge area leading to a three-storey extension in the east of the site. The main buildings are constructed with brickwork walls and slate tile double-pitched roofs (with exception of a small flat-roofed area of the west extension) with brick chimney stacks, while the central single-storey lounge area is constructed fully with

glass window and doors, with PVC framing. A slab walkway and low fence runs around the front of the building.



Photo 3: Existing are home building with modified grassland and parking areas.

5.3.6 u1b6 – Other developed land

5.3.6.1 *u1b6.1 (804 – car park)*

Access off Willian Road and car parking bays at the front of the site.

5.3.7 u1d - Suburban mosaic of developed and natural surfaces

5.3.7.1 *u1d.1 (33 – line of trees; 828 – vegetated garden)*

Garden space to the rear of the building with slab walkway, raised beds, and semi-natural vegetated areas. Species include daisy, least-yellow sorrel (*Oxalis exilis*), common mallow, hedge woundwort (*Stachys sylvatica*), common nettle, and iris sp.

A line of leylandii (*Cupressus × leylandii*) trees runs along parallel to the property boundary.

5.3.7.2 *u1d.2 (523 – non-native; 828 – vegetated garden)*

Small patches of mown lawn and shrubs around the front of the building, including hawthorn and cotoneaster sp.

5.3.8 u1e – Built linear feature

5.3.8.1 *u1e.1 (612 – fence)*

A number of wire fences run around the site perimeter, and block access to the rear of the building.



Legend

UKHab Classifications:

- g4 - modified grassland
- h2b - non-native and ornamental hedgerow
- h3h - mixed scrub
- u1b5 - buildings
- u1b6 - other developed land
- u1d - suburban mosaic of developed and natural surfaces
- w1g - other broadleaved woodland



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Client		Oliver and Robb Architects LLP	
Project		Guysfield Care Home, Letchworth	
Drawing Title		UKHab Results Plan	

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5.4 Species Scoping Surveys Results

5.4.1 Flora

No notable botanical species were recorded, and therefore flora will no longer be considered in this report.

5.4.2 Invertebrates

The site has some value for local invertebrate assemblages in the areas of grassland, woodland, and brash piles.

5.4.3 Amphibians

5.4.3.1 *Habitat Suitability Index Assessment Results*

The desk search for waterbodies found six ponds within 500 m of the site boundary (figure 65213299-SWE-XX-XX-D-J-0003). These are given in Table 5-2 below with locations and scoping results when considering possibility of use by great crested newt.

Table 5-2: HSI Scoping Results

Ref.	Grid ref.	Scoped in / out	Description
P1	TL22323066	In	Willian village pond, public access, fish present along with marginal macrophytes and coots.
P2	TL22253058	In	Affinity Water owned drainage pond with drainage ditch running from nearby road. Heavily shaded, dry when surveyed (Photo 4).
P3	TL22273024	Out	Scoped out due to distance and separation by two stretches of road.
P4	TL21553060	Out	Scoped out due to distance across golf course and separation by road.
P5	TL21753069	Out	
P6	TL21853068	Out	

Ponds scoped in were subject to a field HSI assessment, with results given in Table 5-3 below.

Table 5-3: HSI Assessment Results.

SI no.	SI Description	P1	P2
1	Geographic location	1.0	1.0
2	Pond area	0.8	0.05 ⁴
3	Pond permanence	0.9	0.1
4	Water quality	0.67	0.01
5	Shade	1	0.2
6	Waterfowl effect	0.67	1
7	Fish presence	0.33	1
8	Pond Density	0.85	0.85
9	Terrestrial habitat	0.67	0.67
10	Macrophyte cover	0.6	0.3
HSI Score		0.72	0.27
Suitability		Good	Poor



Photo 4: Dry pond P2.

⁴ Pond dry at the time of survey.

5.4.3.2 *eDNA Sampling Results*

Results received on 14 July 2024 are negative for presence of great crested newt within pond P1. Pond P2 was dry at the time of survey. The full report is given in Appendix D.

5.4.3.3 *Terrestrial Habitat Assessment*

Terrestrial habitat on site is suitable for widespread amphibians, such as common toad (*Bufo bufo*). Mown modified grassland and longer grassland both offer good foraging opportunities during appropriate weather conditions, while woodland and brash piles provide shelter and overwintering habitat.

5.4.4 Reptiles

Terrestrial habitat around the site boundaries, particularly along the east edge including woodland, grassland edges and ruderal vegetation, and brash pile all offer suitable habitat for slow worm (*Anguis fragilis*) and potentially grass snake (*Natrix helvetica*).

5.4.5 Nesting Birds

The site has suitability for nesting birds in both the woodland, hedgerow, and scrub habitats around the site boundary, as well as in any accessible areas of the structure (e.g. eaves) for certain species such as house sparrow (*Passer domesticus*). The mown modified and the grassland habitats both offer good foraging opportunities.

5.4.6 Roosting Bats

5.4.6.1 *Preliminary Roost Assessment*

Overall, the existing Guysfield care home building (Photo 5) was assessed as having Moderate suitability for roosting bats based on findings of the PRA. Suitable features include:

- Loose and slipped slate tiles on the east facing porch, and the east roof of the original old-wing building;
- Gaps between timber cladding on the underside of the east facing porch on the original old-wing building;
- Ridge ventilation tiles long the new-wing building;
- Gaps between timber cladding on the underside of the ground-floor overhanging wrap-around south-side porch;
- Gaps around downpipes on the south elevation of the old-wing, where downpipes go into soffit of the wrap-around porch; and
- Internal roof voids (Photo 6), with machine-cut rafter beams and PVC roofing membrane, lacking ridge beams, and brick internal and gable end walls;
- Areas of missing mortar under tiles (Photo 7) along gable rooflines on the east, north, and south sides of the building and on corners of the north gable of the new-wing building.

An internal inspection of the building was undertaken in 2024 as part of the PRA, no evidence of roosting bats (e.g. droppings) were found within roof voids. It has been noted that droppings were found during the PRA undertaken by MLM Group in July

2018. However, as six years have passed since this date it is possible that droppings have been cleaned out or have disintegrated.

While findings of the survey summarised the building as having Moderate roosting potential, MLM emergence surveys undertaken in 2019 confirmed use of the building as a day roost by soprano pipistrelle [1]. As no surveys have been undertaken since 2019 indicating discontinued use of the building as a roost, the precautionary principle was applied and the building was assessed as being a confirmed roost, until proven otherwise.

5.4.6.2 Bat Emergence Surveys

Bat emergence surveys were carried out on 1 August, 21 August, and 19 September 2024.

No bats were recorded emerging from any part of the building during these surveys. This indicates that, despite survey findings by MLM in 2018, the building is no longer in use as a bat roost.



Photo 5: View over care home new wing (east) from roof of old wing (west).



Photo 6: Interior of roof void.



Photo 7: Example damage to roof, suitable for roosting bats.

5.4.7 Foraging and Commuting Bats

The site is considered to have Moderate suitability for foraging and commuting bats, with grassland, hedgerow, and woodland habitats offering good foraging opportunities while hedgerow and woodland edges provide commuting opportunities.

Anecdotal records during emergence surveys indicated the highest degree of activity to be over modified grassland west of the existing care home building. Common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle were recorded in small numbers, along with individual noctule (*Nyctalus noctula*).

Bat activity surveys were not deemed necessary for the site given that the proposals mainly involve demolition and reconstruction of the new building on the existing footprint, with conversion of an area of modified grassland to the west to a new car parking area, with the majority of more valuable habitat (tree lines, grassland margins) retained.

5.4.8 Badger

A badger sett (Photo 8) was located along the east site boundary, with 3-5 entrance holes either side of the existing iron post fence between the grassland and adjacent mixed woodland. Moderately large spoil heaps were present, though spoil was not fresh indicating setts have not been recently excavated. Some snuffle holes were found nearby, though no latrines were identified. Based on these findings, and trail camera footage, this is not likely to be a main sett, but is considered active. The grassland and woodland around the site, and on land to the east, provides good foraging habitat.



Photo 6: Badger sett entrances behind fencing.

5.4.8.1 Trail Camera Findings

Two of three trail cameras recorded passing badger. These recordings are summarised in Table 5-4 below. While no recordings showed badger entering or exiting sett holes, their presence adjacent to setts indicates their usage.

Table 5-4: Badger trail camera findings.

Camera	Date	Notes
1	31.08.2024	One badger recorded.
1	08.09.2024	One badger recorded.
1	09.09.2024	One badger recorded.
1	11.09.2024	One badger recorded.
1	12.09.2024	One badger recorded.
2	13.09.2024	One badger recorded.
3	-	No badgers recorded.

5.4.9 Otter

There are no waterbodies, rivers, or streams on or adjacent to the site. The nearest waterbody is Willian village pond (P1) which, being stocked with fish, may offer occasional foraging opportunities. Three records of otter (*Lutra lutra*) were returned in the HERC data search, though these dated from between 2000 – 2008 and did not include location data. Therefore it is considered unlikely that otter would pass through or use the site and are scoped out from further consideration.

5.4.10 Water Vole

There are no waterbodies, rivers, or streams on or adjacent to the site. As water voles (*Arvicola amphibious*) tend to keep close to watercourses (within ~5 m), the nearest of which is located 105 m south, the site is considered to be unsuitable for water vole and they are therefore scoped out from further assessment.

5.4.11 Hazel Dormouse

There are no records for hazel dormouse (*Muscardinus avellanarius*) within 2 km of the site. Some suitable habitat exists in the form of hedgerow, scrub, and mixed woodland however, the scale of this habitat on site and in the wider landscape is not considered sufficient to support a viable dormouse population, in addition to the limited extent of the development these habitats will be retained anyway. Therefore hazel dormouse are considered unlikely to occur on site and are scoped out from further assessment.

5.4.12 Other Priority Mammals

The site has good suitability for European hedgehog (*Erinaceus europaeus*) which are likely to forage over grassland and take shelter within woodland, scrub, hedgerow, and brash pile habitats.

Brown hare (*Lepus europaeus*) and harvest mouse (*Micromys minutus*) are considered unlikely to occur on site due to lack of suitable habitat.

5.4.13 Invasive Non-Native Species

No Schedule 9 listed invasive non-native species were noted on site.

Russian vine and cherry laurel, though not Schedule 9 listed, are invasive and should be removed.



Legend

Site Boundary

500 m buffer

Pond Habitat Suitability Index Results:

Good

NA

Poor

10000100 m

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Project
Guysfield Care Home, Letchworth

Drawing Title
Pond Location Plan

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6 Impact Assessment and Recommendations

6.1 Background

The evaluation in this section is based on the site surveys undertaken as described above. For purposes of the assessment, the finalised proposed site layout, updated red line boundary, and results of the site survey are taken into consideration.

6.2 Important Ecological Features and Potential Effects

The features which are considered important in the context of the site and so will be the subject of the ecological impact assessment are listed in Table 6-1 below, along with their geographic scale of importance.

Table 6-1: Important ecological features and their geographic importance.

Important Ecological Feature	Geographic Scale	Potential Impacts and Effects
Designated Sites		
Letchworth Golf Course (21/011), Keysheath Meadow (12/039), Pryor Way Allotments and School Grounds (12/049), and Lannock Spring (12/020) LoWS	Local	No significant impacts anticipated due to the nature of the proposed development on an area of existing developed / managed land, and due to the nature of the proposed development purpose.
Purwell Ninesprings (21/009) WTNR & LoWS		
Fauna		
Invertebrates	< Local	modified grassland, and retention of boundary tree lines, ruderal, grassland margins.
Amphibians	< Local	No significant impacts anticipated due to the negative great crested newt eDNA results from nearby ponds, and the lack of freshwater habitat on site. Individual terrestrial amphibians (e.g. common toad) may be injured or killed during site clearance and construction work, which will require mitigation.

Important Ecological Feature	Geographic Scale	Potential Impacts and Effects
		Non-significant risks to individual amphibians from falling into excavations etc. during the construction phase will require mitigation.
Reptiles	< Local	No significant impacts anticipated due to the proposed development involving retention of boundary grassland / ruderal / brash pile habitats which may be used by widespread reptiles. Individual terrestrial reptiles may however be injured or killed during site clearance and construction work, which will require mitigation. Non-significant risks to individual reptiles from falling into excavations etc. during the construction phase will require mitigation.
Breeding Birds	< Local	No significant impacts anticipated due to retention of boundary trees and other potential nesting habitat. Low level of risk of killing or injuring nesting birds (e.g. house sparrow) that may use the existing building for nesting, which will require mitigation.
Roosting Bats	< Local	No significant impacts anticipated due to the absence of roosting bats on site, per emergence survey findings. However, as the building was previously in use as a bat roost [1], a precautionary approach to mitigation is recommended.
Foraging and Commuting Bats	County	No significant impacts anticipated from the building demolition or construction work directly. However, increased lighting around foraging habitat on site (e.g. woodland, individual trees) is likely to have a significant impact on foraging bats, which will require mitigation.
Badger	< Local	Significant adverse impacts may occur to the sett on site, and any occupying badger, during building demolition and construction works. This is unlikely to involve significant damage or destruction of the sett, but may involve disturbance of badger within the sett, which will require mitigation. Non-significant risks also remain to individual badger from falling into excavations etc. during the construction phase, which will require mitigation.
European Hedgehog	< Local	No significant impacts anticipated due to retention of suitable boundary habitats for hedgehog (tree lines, brash piles, ruderal habitat) and low risk of animals accidentally being killed during site clearance.

Important Ecological Feature	Geographic Scale	Potential Impacts and Effects
		Non-significant risks to individual hedgehog from falling into excavations etc. during the construction phase will require mitigation.

6.3 Avoidance

6.3.1 Breeding Birds

Demolition of the existing building should be undertaken between September and mid-February to avoid the bird nesting season (mid-February-August inclusive). If for any reason this is not feasible, then mitigation will be required.

6.3.2 Roosting Bats

Demolition of the existing building should be undertaken between November and March, the core hibernation period, to avoid affecting any summer roosting bats. If for any reason this is not feasible, then mitigation will be required.

N.B. To avoid affecting both nesting birds and roosting bats, demolition should occur between November and mid-February, inclusive.

6.4 Mitigation

6.4.1 Amphibians and Reptiles

Areas of longer (i.e. >150 mm) boundary vegetation, including marginal grassland and ruderal habitat, as well as existing brash or compost piles should be left in situ and undisturbed. Should vegetation cutting or brash / compost pile removal be necessary, this should be undertaken under Ecological Clerk of Works (ECoW) guidance with any animals found relocated to a safe area of retained boundary habitat.

This mitigation comes under a non-licensable method statement approach, as the risk of impacting great crested newt is low and as such it is not necessary to seek a mitigation licence from Natural England, in line with the Natural England great crested newt rapid risk assessment. In the unlikely event that a great crested newt is found at any time, work will halt, and the ecologist will be consulted for advice on how to proceed.

To mitigate for risk of animals falling into open excavations and becoming injured or killed as a result, all excavations should be backfilled on the same day that they are excavated. If this is not possible, then they should be covered at the end of each day with ply boarding (or similar) or a piece of rough-sawn timber should be left in the excavation at a shallow angle to allow any animals to escape.

6.4.2 Nesting Birds

If demolition during the nesting season (mid-February to August, inclusive) cannot be avoided, then potential nesting areas within the building (i.e. lifted tiles, areas of

missing mortar along gables) should be checked by an ECoW for nesting birds prior to demolition.

If any nesting birds are found this area should be left until young have fledged and left the nest.

6.4.3 Roosting Bats

If the existing building must be demolished between April and October for any reason, then this should be subject to the following precautionary methodology:

- A pre-demolition inspection of roof voids will be undertaken of the area to be worked that day, by a licenced bat surveyor to check for roosting bats;
- Roof tiles and any areas of lead flashing will be removed by contractors by hand, under supervision of a bat licenced ECoW, using scaffolding or a MEWP;
- The ground-floor wrap-around timber and slate tile porch on the south elevation of the old-wing will be dismantled by hand by contractors under supervision of a bat licenced ECoW;
- If at any point roosting bat(s) are found, the roosting area will be re-covered for protection, and the bat will be left in situ. A licence must then be sought from Natural England in order to proceed with works.

Precautionary methods should be set out in a Biodiversity Method Statement or Precautionary Method of Works.

6.4.4 Foraging and Commuting Bats

To avoid disturbance to foraging and commuting bats during the site construction and operational phases, a sensitive lighting strategy should be employed. This should follow published guidance [13]. In particular, lighting design should avoid light spill against retained boundary habitats including tree lines and grassland areas.

6.4.5 Badger

Evidence from trail cameras indicates badger setts on the east boundary are in use, and therefore demolition and construction work have potential to cause damage to setts and disturbance to badger within setts. Per Badger Trust guidance [14], the following exclusion buffers around setts should apply:

- No heavy machinery to be used within 30 m;
- No light machinery (particularly for excavation) to be used within 20 m;
- No use of hand tools for excavation within 10 m.

An ECoW should visit site prior to site work commencing to demark these exclusion areas on the ground (e.g. with posts and tape, or marker paint). Precautionary methods should be set out in a Biodiversity Method Statement or Precautionary Method of Works.

If for any reason these exclusions cannot be adhered to, a mitigation licence from Natural England may be required to proceed legally.

To mitigate for risk of animals falling into open excavations and becoming injured or killed as a result, all excavations should be backfilled on the same day that they are excavated. If this is not possible, then they should be covered at the end of each day with ply boarding (or similar), or a piece of rough-sawn timber should be left in the excavation at a shallow angle to allow any animals to escape.

Pipes (≥ 150 mm diameter) should not be left out on site outside of working hours, to avoid badger exploring and becoming trapped. Alternatively, cap pipe ends outside working hours.

6.4.6 European Hedgehog

Areas of longer (i.e. >150 mm) boundary vegetation, including marginal grassland and ruderal habitat, as well as existing brash piles should be left in situ and undisturbed. Should vegetation cutting or brash pile removal be necessary, this should be undertaken under ECoW guidance with any animals found relocated to a safe area of retained boundary habitat.

To mitigate for risk of animals falling into open excavations and becoming injured or killed as a result, all excavations should be backfilled on the same day that they are excavated. If this is not possible, then they should be covered at the end of each day with ply boarding (or similar), or a piece of rough-sawn timber should be left in the excavation at a shallow angle to allow any animals to escape.

6.5 **Residual Effects**

With implementation of the above avoidance and mitigation measures, there will be no anticipated residual effects from the development.

6.6 **Cumulative Effects**

As there will be no residual effects from the proposed demolition and development, there will be no significant cumulative effects.

6.7 **Compensation**

As there are no residual or cumulative effects, no compensation is necessary.

6.8 **Securement of Recommendations**

Table 6-2 provides the recommendations for each important ecological feature and suggests possible ways in which these could be secured within the planning system.

Table 6-2: Possible conditions for securing recommendations.

Important Ecological Feature	Recommendations	Possible Conditions
Amphibians and Reptiles	Retain areas of longer boundary vegetation and brash / compost piles in situ and undisturbed, OR undertake clearance works with ECoW support. Backfill or cover excavations outside working hours.	BS 42020:2013 D.3.8 – Securing on-site ecological expertise during construction.
Nesting Birds	Demolish existing building between September and mid-February (inclusive) OR undertake demolition following checks by an ECoW.	BS 42020:2013 D.3.2 – Protection of breeding birds during construction. BS 42020:2013 D.3.8 – Securing on-site ecological expertise during construction.
Roosting Bats	Demolish existing building between November and March OR undertake demolition per precautionary mitigation guidance with ECoW support.	BS 42020:2013 D.3.4 – Avoiding disturbance to bats during construction. BS 42020:2013 D.3.8 – Securing on-site ecological expertise during construction.
Foraging and Commuting Bats	Implement a sensitive lighting design strategy during construction and operational phases.	BS 42020:2013 D.3.5 – Lighting design strategy for light-sensitive biodiversity.
Badger	Implement 10 m, 20 m, and 30 m exclusion zones around the sett on site OR apply for a badger mitigation licence from Natural England. Backfill or cover excavations outside working hours. Cap pipes ≥150 mm dia. outside working hours.	BS 42020:2013 - D.3.3 Protection of badgers on construction sites. BS 42020:2013 D.3.8 – Securing on-site ecological expertise during construction.
European Hedgehog	Retain areas of longer boundary vegetation and brash piles in situ and undisturbed, OR undertake clearance works with ECoW support. Backfill or cover excavations outside working hours.	BS 42020:2013 D.3.8 – Securing on-site ecological expertise during construction.

6.9 Enhancement Opportunities

It is recommended that at least four of the following ecological enhancement opportunities are implemented as art of the development in order to deliver a positive

outcome for biodiversity on the site, and to ensure compliance with the North Herts Local Plan 2011-2031 policies [4] pertaining to enhancement of biodiversity.

- Installation of ten integrated swift nesting bricks into the east elevation of the new building.
- Installation of three bat roosting boxes into the south and east elevations of the new building.
- Use of a wholly native species-rich wildflower mix in grassland landscaping, and native planting within woodland areas where designed, with appropriate long-term management.
- Installation of five Schwegler tree-mounted bat roosting boxes on retained trees around the site boundary.
- Installation of a tawny owl nesting box on a suitable boundary tree.

The installation and maintenance of ecological enhancements should be guided by a five-year Landscape and Ecology Management Plan.

7 Conclusions

Ecological surveys conducted at the existing Guysfield Care Home in Willian, Letchworth, have included a desk study for designated sites, UK Habitat Classification survey, preliminary roost assessment survey for bats, habitat suitability index assessment and eDNA survey of ponds for great crested newt, and subsequent bat emergence surveys and badger monitoring.

Surveys have found that five locally designated sites exist within the search area used, and none are anticipated to be significantly impacted by the proposed redevelopment scheme.

The site comprises the existing care home building, areas of developed sealed surface (access and car parking), modified grassland and ruderal habitat, boundary woodland belts, and small areas of scrub and an ornamental hedgerow. Habitats on site have potential to support widespread invertebrates, amphibians, reptiles, roosting and foraging bats, nesting birds, badger, and hedgehog.

Great crested newt surveys of ponds found two ponds within the survey area, one of which was dry, and the other subject to eDNA testing which was returned negative. As such great crested newt are not anticipated to be present on site.

Bat roost assessment and emergence surveys did not find any roosting bats. However, as roosting bats were recorded within the building during surveys undertaken in 2018, a precautionary non-licensed methodology has been recommended with proportional mitigation to be implemented, including timing and ecologist support during demolition.

Badger monitoring found activity around a sett on the east boundary over the monitoring period and precautionary mitigation in the form of exclusion buffers has been recommended. If the exclusion buffers are not compatible with the required works, a mitigation licence from Natural England may be required.

To guide non-licensed mitigation for roosting bats and badger, a Biodiversity Method Statement or Precautionary Method of Works document should be produced. Other mitigation measures for widespread amphibians, reptiles, nesting birds, foraging bats, badger, and hedgehog have also been recommended.

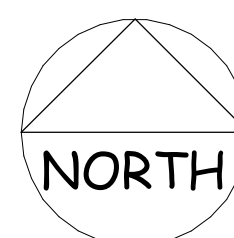
With implementation of recommended mitigation, no significant residual effects are predicted to occur. Ecological enhancement measures including use of native species-rich planting and seed mixtures in landscaping, installation of bat roost boxes, and installation of bird nesting boxes have also been recommended.

8 References

- [1] MLM Group, "Guysfield Care Home - Ecological Impact Assessment," MLM Group, 2020.
- [2] Ministry of Housing, Communities and Local Government, "National Planning Policy Framework," 2021. [Online]. Available: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.
- [3] ODPM, "Government Circular: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system.," 2005. [Online]. Available: <https://www.gov.uk/government/publications/biodiversity-and-geological-conservation-circular-06-2005>.
- [4] North Hertfordshire Council, "North Herts Local Plan 2011-2031," North Hertfordshire Council, 2011.
- [5] CIEEM, Guidelines for ecological impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, 2nd ed., Winchester: Chartered Institute of Ecology and Environmental Management, 2018.
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- [7] MAGIC, "Site Check," [Online]. Available: <https://magic.defra.gov.uk/>. [Accessed June 2024].
- [8] B. Butcher, P. Carey, R. Edmonds, L. Norton and J. Treweek, "The UK Habitat Classification User Manual Version 1.1," 2020. [Online]. Available: <http://www.ukhab.org/>.
- [9] Defra, "Statutory biodiversity metric condition assessments," 2023.
- [10] ARG UK, "Great Crested Newt Habitat Suitability Index - ARG UK Advice Note 5," Amphibian and Reptile Groups of the United Kingdom, 2010.
- [11] J. Collins, Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn.), London: The Bat Conservation Trust., 2023.
- [12] BTHK, Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-care and Ecology Professionals, Exeter: Pelagic Publishing, 2018.
- [13] BCT & ILP, "GN 08/23 - Bats and Artificial Lighting at Night," Bat Conservation Trust & Institute of Lighting Professionals, 2023.

[14] Badger Trust, “Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England),” Badger Trust, 2023.

Appendix A – Proposed Site Layout



HEALTH AND SAFETY		CONSEQUENCES			
RISK ASSESSMENT		Significant	Minor	Medium	Catastrophic
CONSEQUENCE TABLE		1	2	3	4
1	Almost Certain	5	4	3	2
2	Very Likely	4	3	2	1
3	Possible	3	2	1	0
4	Unlikely	2	1	0	0
5	Rare	1	0	0	0

AREA ANALYSIS

Site Area: 0.84Ha / 2.09Acres

Existing Footprint: 816.5m²

Proposed Footprint: 1060m²

Existing Building GFA: 1858m²

Proposed GFA: 3738m²

Total No of Bedrooms: 70 No.

Total GFA: 350m²

Parking Provision:

In accordance with North Hertfordshire District Council parking standards:

Resident/Visitors: 18no. Spaces

0.25 spaces per resident bed space

Staff : 9no. spaces

circa. 1 space per 5 staff (non-resident)

Total: 27no. Spaces

Incl. 2no. Disabled Bays

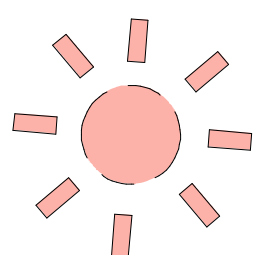
Excl. 1no Dedicated Ambulance Bay

Cycle Storage Provision:

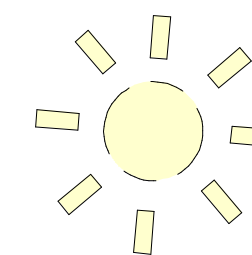
In accordance with North Hertfordshire District Council parking standards:

Staff : 9no. spaces

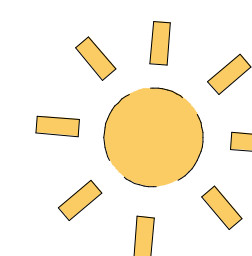
circa. 1 space per 5 staff (non-resident)



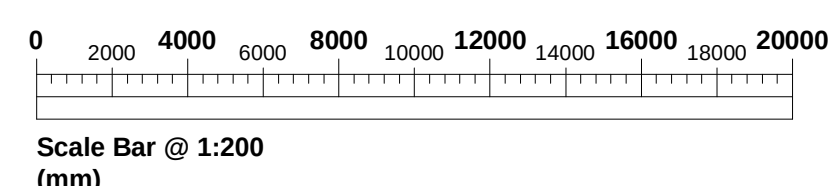
Evening Sun



Morning Sun



Afternoon Sun



For New Care Home Proposals

Refer to Drawings:

4870-ORA-01-ZZ-DR-A-32100

4870-ORA-01-ZZ-DR-A-32101

For 'Guys House'

Refer to Drawing:

4870-ORA-02-ZZ-DR-A-32100

L	Administrative Update	DATE	21/09/24
A	Update to Planning Status	DATE	20/09/24
Rev	Revised	DATE	

REVISION

STAMP PLANNING

PROJECT STATUS
Developed Design

DRAWING TITLE
Proposed Site Layout

PROJECT
Guysfield Care Home at
Willian Road, Willian, Letchworth for
Caring Homes Group Ltd

DATE CREATED
07/08/21

DESIGNER
GDC

SCALE @ A0
As indicated

ORIGINATOR PROJECT NUMBER
4870

ISO DOCUMENT REF.
4870-ORA-ZZ-XX-DR-A-31004

REV.
L

Appendix B – Local Wildlife Sites Plan

Local Sites Map 1

Search Information

-  Search boundary
-  Search area

Local Sites

-  Local Wildlife Sites
-  HMWT Nature Reserves

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Appendix C – Habitat Condition Assessments

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)													
UK Habitat Classification (UKHab) Habitat Type													
Grassland - Modified grassland													
Habitat Description													
ukhab – UK Habitat Classification													
On-site or off-site, site name and location	Per report details	Survey date and Surveyor name		Per report details									
		Survey reference (if relating to a wider survey)		Per report details									
Limitations (if applicable)		Habitat parcel reference											
		g4.1	g4.2										
		Grid reference											
Condition Assessment Criteria													
		Criterion passed (Yes or No)										Notes (such as justification)	
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Y	N										
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	N										
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Y										
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	Y										
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	Y	Y										
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Y	Y										
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Y	Y										
Essential criterion achieved (Yes or No)		Y	N										
Number of criteria passed		7	5										
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/√											
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	Y											
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)												
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		Y										

Suggested enhancement interventions to improve condition score
Mow less frequently, leave 10-20% unmown per pass, disturb ground and sow with native seed mix to increase diversity.
Footnotes
Footnote 1 – Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i> .
Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.
Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.
Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition sheet: HEDGEROW Habitat Types				
Habitat Type				
Native hedgerow Native hedgerow - associated with bank or ditch Native hedgerow with trees Native hedgerow with trees - associated with bank or ditch Species-rich native hedgerow Species-rich native hedgerow - associated with bank or ditch Species-rich native hedgerow with trees Species-rich native hedgerow with trees - associated with bank or ditch				
Habitat Description				
ukhab – UK Habitat Classification				
On-site or off-site, site name and location	Per report details	Survey date and Surveyor name	Per report details	
Limitations (if applicable)		Survey reference (if relating to a wider survey)	Per report details	
Grid reference		Habitat parcel reference	h2b.1	
Condition Assessment Details				
A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.				
This assessment is based on the Hedgerow Survey Handbook ¹ and Favourable Conservation Status document ² . For further clarification please refer to the Hedgerow Survey Handbook.				
Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.				
Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D and E)	Criteria - the minimum requirements for 'favourable condition'	Criteria description	Criterion passed (Yes or No)	Notes (such as justification)
Core groups - applicable to all hedgerow types				
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	N
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	N
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y

C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Y	
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Y	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	N	
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	N	

Additional group - applicable to hedgerows with trees only

E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient ⁸), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.		
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.		

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees

Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		1

Condition categories for hedgerows with trees

Category	Category Requirements	Metric score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR <u>Fails both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		

Suggested enhancement interventions to improve condition score

Remove and replace with native species-rich hedgerow, manage to meet criteria above.

Footnotes

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK*. [online] Available on: [layout \(hedgelink.org.uk\)](https://www.hedgelink.org.uk/)

Footnote 2 – STALEY, J.T. ET AL. (2020) *Definition of Favourable Conservation Status for Hedgerows*. [online] Available on: [Definition of Favourable Conservation Status for Hedgerows - RP2943 \(naturalengland.org.uk\)](https://naturalengland.org.uk/rp2943/)

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 – CHEFFINGS, C. M. et al. (2005) *The Vascular Plant Red Data List for Great Britain*. Species Status 7: 1-116. [online] Available on: [The Vascular Plant Red Data List for Great Britain \(Species Status No. 7\) | JNCC Resource Hub](https://jncc.gov.uk/resource-hub/the-vascular-plant-red-data-list-for-great-britain-species-status-no-7/)

Footnote 5 – BOTANICAL SOCIETY OF BRITAIN AND IRELAND (BSBI). *Definitions: wild, native or alien?* [online] Available on: [Definitions: wild, native or alien? – Botanical Society of Britain & Ireland \(bsbi.org\)](https://www.bsbi.org/definitions/wild-native-or-alien/)

Footnote 6 – BSBI and Biological Records Centre (BRC) (2022) *Online Atlas of the British and Irish Flora*. [online] Available on: [Acknowledgements | Online Atlas of the British and Irish Flora \(brc.ac.uk\)](https://www.brc.ac.uk/online-atlas-of-the-british-and-irish-flora/)

Footnote 7 – GB NON-NATIVE SPECIES SECRETARIAT (GBNNS) (2022) Available on: [Home » NNSS \(nonnativespecies.org\)](https://www.nnss.gov.uk/)

Footnote 8 – See gov.uk standing advice on ancient and veteran trees. Available from: [Keepers of time: ancient and native woodland and trees policy in England \(publishing.service.gov.uk\)](https://www.gov.uk/government/consultations/keepers-of-time-ancient-and-native-woodland-and-trees-policy-in-england)

and

[Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions)

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub Heathland and shrub - Gorse scrub Heathland and shrub - Hawthorn scrub Heathland and shrub - Hazel scrub Heathland and shrub - Mixed scrub Heathland and shrub - Dunes with sea buckthorn (H2160) Heathland and shrub - Willow scrub			
Habitat Description			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	Per report details	Survey date and Surveyor name	Per report details
Limitations (if applicable)		Survey reference (if relating to a wider survey)	Per report details
Grid reference		Habitat parcel reference	h3h.1
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). ¹ - At least 80% of scrub is native, - There are at least three native woody species ² , - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> (only in its restricted native range), or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	N	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran ³) shrubs are all present.	N	
C	There is an absence of invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA ⁵) and species indicative of suboptimal condition ⁶ make up less than 5% of ground cover.	N	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	
Number of criteria passed			0
Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved x/√	

Passes 5 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)	Y	
Suggested enhancement interventions to improve condition score			
Remove cherry laurel, replace with native species.			
Footnotes			
Footnote 1 – Professional judgement should be used alongside the UKHab description.			
Footnote 2 – Native woody species as defined and listed in the Hedgerow Survey Handbook: DEFRA (2007) <i>Hedgerow Survey Handbook: A standard procedure for local surveys in the UK</i> . 2nd ed. [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).			
Footnote 3 – See gov.uk standing advice on ancient and veteran species. Available from:			
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)			and
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)			
Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.			
Footnote 5 – Wildlife and Countryside Act 1981 (as amended).			
Footnote 6 – Species indicative of suboptimal condition for this habitat type may include: non-native conifers, tree-of-heaven <i>Alianthus altissima</i> , holm oak <i>Quercus ilex</i> , European turkey oak <i>Quercus cerris</i> , cherry laurel <i>Prunus laurocerasus</i> , snowberry <i>Symphoricarpos</i> spp., shallon <i>Gaultheria shallon</i> , American skunk cabbage <i>Lysichiton americanus</i> , buddleia <i>Buddleja</i> spp., cotoneaster <i>Cotoneaster</i> spp., Spanish bluebell <i>Hyacinthoides hispanica</i> and hybrid bluebells <i>Hyacinthoides x massartiana</i> . There may be additional relevant species local to the region and or site.			

Condition Sheet: LINE OF TREES Habitat Type			
Habitat Types			
Line of trees Line of trees – associated with bank or ditch Ecologically valuable line of trees Ecologically valuable line of trees – associated with bank or ditch			
<i>Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an <u>urban</u> setting. You should only use this Line of trees condition assessment and record this habitat type in <u>rural</u> locations.</i>			
Habitat Description			
See the Statutory Biodiversity Metric User Guide. This assessment is based on the Hedgerow Survey Handbook ¹ . For further clarifications please refer to the Handbook. Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.			
On-site or off-site, site name and location	Per report details	Survey date and Surveyor name	Per report details
Limitations (if applicable)		Survey reference (if relating to a wider survey)	Per report details
Grid reference		Habitat parcel reference	u1d.1
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	At least 70% of trees are native species.	N	
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y	
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	N	
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	
Number of criteria passed			2
Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/√	
Passes 5 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)	Y	
Suggested enhancement interventions to improve condition score			
None applicable.			
Footnotes			

Footnote 1 – DEFRA (2007) <i>Hedgerow Survey Handbook: A standard procedure for local surveys in the UK</i> . 2nd ed [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).	
Footnote 2 – Where ancient and veteran trees are present, see gov.uk standing advice on ancient and veteran trees. Available from:	
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)	
and:	
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)	

K	Veteran trees	Two or more veteran trees ¹² per hectare.	One veteran tree ¹² per hectare.	No veteran trees ¹² present in woodland.	1	1	1										
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities ¹³ .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	1	1	1										
M	Woodland disturbance	No nutrient enrichment or damaged ground evident ¹⁴ .	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground ¹⁴ .	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground ¹⁴ .	3	3	3										
Total Score (out of a possible 39)					28	21	23										
Condition Assessment Result		Condition Assessment Score			Result Achieved												
Total score >32 (33 to 39)		Good (3)															
Total score 26 to 32		Moderate (2)			Y												
Total score <26 (13 to 25)		Poor (1)				Y	Y										
Suggested enhancement interventions to improve condition score																	
Remove non-native Russian vine and cherry laurel. Thin out non-native tree species and, where appropriate, native species to open up canopy and allow ground layer to develop. Seed with native seed mix if required. Plant native saplings in tree guards.																	
Footnotes																	
Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). <i>Assessing your Woodland's Condition</i> [online]. Available from: Woodland Wildlife Toolkit (sylvia.org.uk)																	
The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.																	
Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch <i>Betula</i> sp., cherry <i>Prunus</i> sp. or <i>Sorbus</i> sp.: 0 - 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or <i>Sorbus</i> species; 0 - 20 years = Young; 21 - 60 years = Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees. Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed. Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly. Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage <i>Lysichiton americanus</i>; Himalayan balsam <i>Impatiens glandulifera</i>; Japanese knotweed <i>Reynoutria japonica</i>; cherry laurel <i>Prunus laurocerasus</i>; shallon <i>Gaultheria shallon</i>; snowberry <i>Symphoricarpos albus</i>; variegated yellow archangel <i>Lamium galeobdolon subsp. argentatum</i>; rhododendron <i>Rhododendron ponticum</i>; and tree-of-heaven <i>Ailanthus altissima</i>. Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present. Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs. Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees. Footnote 7 - Given the increased ratio of edge habitat to woodland where the woodland is <10ha. Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening. Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level. Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this. Footnote 11 - This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information. Footnote 12 - See gov.uk standing advice on ancient and veteran trees. Available from: Kepters of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and: Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk) EWBG INDICATOR 12 is the relevant indicator. Footnote 13 - See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm. Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.																	

Appendix D – Great Crested Newt eDNA Results

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GCN Report

Technical Report



SureScreen Scientifics

GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus* , inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
7455	Pond 1 Guyfields	TL2232530668	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Daisy Chambers

Approved by: Lauryn Jewkes



Methodology

The samples detailed above have been analyzed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample tube which then undergoes DNA extraction. The extracted sample is then analyzed using real-time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded. Analysis of eDNA requires attention to detail to prevent the risk of contamination. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added analytical security.

SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

- Sample Integrity Check:** When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.
- Degradation Check:** **Pass/Fail.** Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.
- Inhibition Check:** **Pass/Fail.** The presence of inhibitors within a sample is assessed using a DNA marker. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.
- Result:** **Presence of GCN eDNA (Positive/Negative/Inconclusive)**
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with the WC1067 Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.
Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.

