LAND & BUIDLING OF THE COACH HOUSE, ASHGROVE HOUSE, CHESTER ROAD, GRESFORD, WREXHAM

Preliminary Ecological Appraisal

Report to
NCR Architectural Design Limited

Project number 2024/010 A v2

Worcestershire Wildlife Consultancy
Lower Smite Farm
Smite Hill
Hindlip
Worcester
WR3 8SZ

Tel: 01905 754909

www.worcestershirewildlifeconsultancy.org

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Author: Joshua Evans BSc (Hons) MCIEEM – Consultancy Manager & Principal Ecologist
Internal reviewer: Phil Ward of Mid Wales Ecology
Authorised by: Joshua Evans BSc (Hons) MCIEEM – Consultancy Manager & Principal Ecologist

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Table of Contents **Page number**

SUMMARY 4

CRYNODEB 5

1. INTRODUCTION 6
1.1 Commissioning Brief 6
1.2 Summary of the Proposed Development 6
1.3 Site Location & Description 6
1.4 Scope of the Appraisal 6
1.5 Desk Study 11
1.6 Constraints 12

2. METHODOLOGY 12

3. RESULTS, APPRAISAL & RECOMMENDATIONS 14
3.1 Desk study 14
3.2 Protected/notable species and habitats 15
Table 2: Protected/notable species appraisal 15
Map 1: Site Boundary 24
Map 2: UK Habs Extant map 25
Map 3: UK Habs proposed map 26
Map 4: Architects Plan 27

4. CONCLUSIONS & RECOMMENDATIONS 29

5. BIBLIOGRAPHY 30

Appendix 1: Site Photographs 32
Appendix 2: Wildlife Legislation 35
Appendix 3: Ecological Enhancements 38
Appendix 4: Great Crested Newt Risk Avoidance Strategy 46
Appendix 5: Ecological Experience 53

Table 1: Methodology 13
Table 3: Habitat/features appraisal 22
Table 4: Additional recommendations 23
Map 1: Site Boundary 24

SUMMARY

- In January 2024 Worcestershire Wildlife Consultancy was commissioned by Mr Neil Ranford of NCR Architectural Design Limited, on behalf of his client, to undertake a preliminary ecological appraisal on Land & Building at the Coach House, Ashgrove Care Home, Chester Road, Gresford, Wrexham. The appraisal was requested in order to ensure compliance with National and European legislation. Please note that version 2 was produced in July 2024 due comments made by Wrexham County Borough Council.

- **Habitats -** The proposed area of the modified coach house is an area of disturbed ground with remnant improved grassland and very limited areas of scrub and as such, it is of very low ecological value and therefore there are no ecological issues regarding the habitat.

- **Bats –** The coach house has no to negligible opportunities for roosting bats due to be maintained to moderate to good condition. The only limited place for roosting is the dense ivy on the western aspect of the building but this, via personal communications, will be removed prior the end of February 2024 and negates any opportunity for opportunistic roosting bats.

- **Nesting Birds –**Works should avoid disturbing the riparian habitat in the adjacent Nant Penisa Waun and should the works occur within the nesting season, at least a 3 m buffer should be maintained. As such works should avoid disturbance to ground or hedge nesting birds. As nesting birds are legally protected, development operations should take care to avoid the risk of killing/ injuring birds and their nests, especially during the nesting season (generally considered to be late February to late August). Therefore, **removal and/or management of suitable nesting habitat should be undertaken outside of the main nesting season and where this is not possible, a suitably qualified ecologist must be engaged to check for nesting birds prior to any works taking place** and to provide advice on the most appropriate way to proceed.

- **Ponds:** No surveys recommended. The wet pond within approximately 250m of the proposed site has poor suitability for great crested newts (GCNs). Any amphibians present in the wider landscape are highly unlikely to be harmed by the proposed work. However, as a precautionary way of working to further minimise the risk of harm to amphibians, a GCN Risk Avoidance Method Statement has been included in Appendix 4.

- **Badgers –**Whilst no surveys are recommended, as badgers or other mammals could potentially cross the site, it is recommended as a precaution during any construction phase that any trenches should be covered when not in use and provided with a 45° escape ramp to ensure that they do not become trapped.

  Apart from the nesting birds and potentially badgers, there appear to be **no other obvious and immediate issues** for this site with regard to any other protected species and no further dedicated surveys for any other species are recommended. However, in the unlikely event that any protected species listed in Section 2 are found on the site during the works then all works must cease immediately, and the advice of a suitably qualified ecologist must be sought.

CRYNODEB

- Ym mis Ionawr 2024 comisiynwyd Worcestershire Wildlife Consultancy gan Mr Neil Ranford o NCR Architectural Design Limited, ar ran ei gleient, i gynnal gwerthusiad ecolegol rhagarweiniol ar Dir ac Adeiladau yn y Coach House, Cartref Gofal Ashgrove, Ffordd Caer, Gresffordd, Wrecsam. Gofynnwyd am yr arfarniad er mwyn sicrhau cydymffurfiaeth â deddfwriaeth Genedlaethol ac Ewropeaidd. Sylwch fod fersiwn 2 wedi'i chynhyrchu ym mis Gorffennaf 2024 oherwydd sylwadau a wnaed gan Gyngor Bwrdeistref Sirol Wrecsam.

- **Cynefinoedd -** Mae ardal arfaethedig y cerbyty wedi'i addasu yn ardal o dir wedi'i aflonyddu gyda glaswelltir wedi'i wella sy'n weddill ac ardaloedd cyfyngedig iawn o brysgwydd ac fel y cyfryw, mae o werth ecolegol isel iawn ac felly nid oes unrhyw faterion ecolegol ynglŷn â'r cynefin.

- **Ystlumod –** Nid oes gan y cerbyty unrhyw gyfleoedd i ystlumod clwydo oherwydd eu bod yn cael eu cadw mewn cyflwr cymedrol i dda. Yr unig le cyfyngedig ar gyfer clwydo yw'r eiddew trwchus ar ochr orllewinol yr adeilad ond bydd hyn, trwy gyfathrebu personol, yn cael ei symud cyn diwedd Chwefror 2024 ac yn negyddu unrhyw gyfle i ystlumod clwydo manteisgar.

- **Adar yn Nythu –**Fel y cyfryw, dylai gwaith osgoi aflonyddu ar adar sy'n nythu ar y ddaear neu mewn gwrychoedd. Gan fod adar sy'n nythu yn cael eu hamddiffyn yn gyfreithiol, dylai gweithrediadau datblygu fod yn ofalus i osgoi'r risg o ladd/anafu adar a'u nythod, yn enwedig yn ystod y tymor nythu (ystyrir yn gyffredinol ei fod rhwng diwedd Chwefror a diwedd Awst). **Felly, dylid symud a/neu reoli cynefin nythu addas y tu allan i'r prif dymor nythu a lle nad yw hyn yn bosibl, rhaid cyflogi ecolegydd â chymwysterau addas i wirio am adar sy'n nythu cyn gwneud unrhyw waith** ac i roi cyngor ar y ffordd fwyaf priodol i symud ymlaen.

- **Pyllau**: Ni argymhellir unrhyw arolygon. Mae gan y pwll gwlyb o fewn tua 250m i'r safle arfaethedig addasrwydd gwael ar gyfer madfallod dŵr cribog (GCNs). Mae unrhyw amffibiaid sy'n bresennol yn y dirwedd ehangach yn annhebygol iawn o gael eu niweidio gan y gwaith arfaethedig. Fodd bynnag, fel ffordd ragofalus o weithio i leihau'r risg o niwed i amffibiaid ymhellach, mae Datganiad Dull Osgoi Risg GCN wedi'i gynnwys yn Atodiad 4.

- **Moch Daear** – Er na argymhellir unrhyw arolygon, gan y gallai moch daear neu famaliaid eraill groesi'r safle, argymhellir fel rhagofal yn ystod unrhyw gyfnod adeiladu y dylid gorchuddio unrhyw ffosydd pan nad ydynt yn cael eu defnyddio a darparu ramp dianc 45^0 i sicrhau nad ydynt yn mynd yn gaeth.

- Ar wahân i'r adar sy'n nythu ac o bosibl y mochyn daear, mae'n ymddangos nad oes unrhyw faterion amlwg ac uniongyrchol eraill o ran safle hwn o ran unrhyw rywogaethau gwarchodedig eraill ac ni argymhellir unrhyw arolygon penodol pellach ar gyfer unrhyw rywogaethau eraill. Fodd bynnag, yn yr achos annhebygol y bydd unrhyw rywogaethau a warchodir a restrir yn Adran 2 yn cael eu canfod ar y safle yn ystod y gwaith, yna rhaid i'r holl waith ddod i ben ar unwaith, a rhaid ceisio cyngor ecolegydd â chymwysterau addas.

1. INTRODUCTION

1.1 Commissioning Brief

In January 2024 Worcestershire Wildlife Consultancy was commissioned by Mr Neil Ranford of NCR Architectural Design Limited, on behalf of his client, to undertake a preliminary ecological appraisal on Land & Building at the Coach House, Ashgrove Care Home, Chester Road, Gresford, Wrexham. The appraisal was requested in order to ensure compliance with National and European legislation. Please note that version 2 was produced in July 2024 due comments made by Wrexham County Borough Council.

1.2 Summary of the Proposed Development

It is our understanding that planning permission is being sought to extend the existing coach house and turn it into a coffee shop with two studio apartments above.

1.3 Site Location & Description

The Coach House is adjacent to the Ashgrove Care Home, Chester Road, Gresford, Wrexham LL12 8PP (NGR SJ 34373 54039). The Coach House (circa 1960s) has a pitched roof covered with tight fitting slate with two Velux-style windows. The ground floor has been constructed with an exposed brick wall, housing a garage section (compartmentalised into two sections); the upper floor exterior has a facade half-timber effect with a daylight well-lit upper room and no loft void. The area surrounding the building has been recently cleared of vegetation and now contains disturbed ground with a few shrubs near the building and some mature trees on the border and a short conifer hedge.

The rest of the immediate site, outside the proposed works area, includes the Ashgrove Care Home which includes a series of 1960s and 1980s buildings, hard standing, well maintained amenity lawns and mature trees. The wider area comprises of residential properties of Gresford, hedgerows, cereal fields, pasture, sports pitches, the B5445 Chester Road and a few ponds – all beyond 200m away.

1.4 Scope of the Appraisal

The ecological appraisal focussed on the following points:

- Determining the potential of the area of the proposed development work to support protected species, of which account must be taken prior to and during the planned works in accordance with the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 and the Protection of Badgers Act 1992.
- The appraisal also aimed to identify habitats and species recognised within the local Biodiversity Action Plan (BAP Habitats).
- Establishing the actual presence of protected species on the site, of which account must be taken prior to and during the planned works in accordance with the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

The appraisal and survey recommendations are also guided by the relevant legislation:

The Natural Environment and Rural Communities Act (NERC), 2006 states: “Every public authority must, in exercising its functions, have regard, so far is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”.

Furthermore, the appraisal and survey recommendations are guided by the National Planning Policy Framework[1] (NPPF), where the following policies are of particular relevance:
Para. 8. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Para. 136. Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined ([2]), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.

Para. 167. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by: …

c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and

d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.

Para. 180. Planning policies and decisions should contribute to and enhance the natural and local environment by:

[1] National Planning Policy Framework v4 published December 2023
[2] Unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate.

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Para. 185. To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity([3]); wildlife corridors and stepping-stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation([4]); and

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

Para. 186. When determining planning applications, local planning authorities should apply the following principles:

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

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

[3] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[4] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons([5]) and a suitable compensation strategy exists; and

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

The site visit also focussed on assessing the potential of the site to support populations of priority species, whose protection and recovery is promoted in paragraph 180, especially those given protection under British or European wildlife legislation as stated above.

Planning Policy Wales

Planning Policy Wales (PPW) sets out national land use planning policies (Welsh Government 2021). Chapter 6 is of particular relevance (though it is complementary to other themes within the document) and is entitled 'Distinctive and Natural Places'.
With specific reference to development proposal the following key statement is made:
'Development plan strategies, policies and development proposals must consider the need to:
• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
• ensure statutorily and non-statutorily designated sites are properly protected and managed;
• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks'.

Furthermore, it states that:
'It is important that biodiversity and resilience considerations are taken into account at an early stage in both development plan preparation and when proposing or considering development proposals'.

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission'.
Use of the mitigation hierarchy is emphasised:
'Planning authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects

[5] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible'.

Areas that Chapter 6 covers include biodiversity and resilience of ecosystems duty, designated sites, maintaining and enhancing biodiversity, protected species, specific habitats/ areas, sustainable drainage systems (SuDS), green infrastructure, air quality, lighting, and de-risking development.

Technical Advice Note 5

PPW is supplemented by a series of Technical Advice Notes (TAN). TAN 5 covers 'Nature Conservation and Planning' (Welsh Government 2009). It provides advice to local planning authorities on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. It includes chapters covering the key principles of planning for nature conservation; the preparation and review of development plans; nature conservation in development control procedures; the conservation of internationally and nationally designated sites, habitats and local sites; and the conservation of protected and priority habitats and species.

- pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective (PPW 2.2.11);
- contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment (PPW 2.3.2);
- promote the conservation and enhancement of statutorily designated areas and undeveloped coast (PPW 2.3.2);
- ensure that appropriate weight is attached to designated sites of international, national and local importance (PPW 5.3.2);
- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans (PPW 5.2);

In paragraph 2.4 it states that '...when deciding planning applications that may affect nature conservation, local planning authorities should
ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation (PPW paragraphs 5.5.1 and 5.5.2);

- ensure that the range and population of protected species is sustained (PPW 5.2.3, 5.5.11 and 5.5.12);
- adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered (PPW 5.2.2, 5.2.7 and 5.5.2)

Wrexham County Borough Council

Local planning authorities will consider biodiversity/ nature conservation issues in accordance with adopted policies and plans. The following are considered of particular relevance to the proposal.
Wrexham Unitary Development Plan

The Wrexham Unitary Development Plan (UDP) was adopted in February 2005. It will be replaced by the Local Development Plan. The UDP '...provides a framework for local decision making and the reconciliation of development and conservation interests...'.

Relevant strategic and general development policies include:
• Policy PS2. Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment.
• Policy PS11. Encouragement will be given to proposals which improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced.
• Policy GDP1f). Ensure the safety and amenity of the public and safeguard the environment from the adverse effects of pollution of water, land or air, hazards from industry and quarrying, and associated noise, odour or vibration arising from development.
• Policy GDP1h). Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest.
Section 5 of the UDP concerns 'Environment and Conservation'. The relevant policies listed are as follows:
• Policy EC4. Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.
• Policy EC6. Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site.

Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.
• Policy EC13. Development which would result in an unacceptable adverse impact on the water environment due to additional surface water run-off will not be permitted.
• Policy EC14. Development which would have an unacceptable adverse impact upon the capacity, flow, quality or availability of controlled waters and associated land will not be permitted.

1.5 Desk Study

A 1.0 km search was undertaken using the Multi-Agency Geographical Information for the Countryside website (MAGIC).

1.6 Constraints

The comprehensiveness of any ecological appraisal may be limited by the season in which the site visit(s) is undertaken. To confirm the presence or absence of all protected species usually requires multiple visits at suitable times of the year. However, the appraisal does provide a "snapshot" of the ecological interest recorded on the day of the visit and highlights areas where further survey work may be required.

2. METHODOLOGY

Joshua Evans of Worcestershire Wildlife Consultancy undertook the appraisal on 19th February 2024 at 09:00 hours. The weather was dry, with approximately 65% cloud cover and an air temperature of 8.9°C.

Table 1: Methodology

Phase 1 habitat survey	The aim of the Phase 1 survey is to provide a description of the semi-natural vegetation of a particular site and is made in accordance with the JNCC Phase 1 Habitat Survey methodology (JNCC, 1990). Where necessary, the condition of habitat is described and full plant lists collated to provide greater detail, which helps when identifying the conservation significance of a particular habitat. The appraisal also aimed to identify invasive plants listed on Schedule 9 of the Wildlife & Countryside Act that could have implications for works on site. Where appropriate, maps are provided in other formats, such as annotated aerial photographs.
Badgers	The site is assessed for suitable habitats that may support badgers (*Meles meles*). Where relevant habitat occurs, evidence of badgers including setts, latrines, tracks, snuffle holes, padding or guard hairs is recorded.
Bats	The site is assessed for suitable habitats that may support bats. For example, buildings are assessed for holes in soffits, missing tiles and gaps in the masonry whilst trees are assessed for features such as cracks and holes.
Birds	The site is assessed for suitable habitats that may support birds in terms of feeding, nesting and roosting. Where relevant habitat occurs, evidence identifying the presence of birds including nests, droppings, pellets and feathers is recorded.
Dormice	The site is assessed for suitable habitats that may support dormice (*Muscardinus avellanarius*) including woodland and hedgerows. Where relevant habitat occurs evidence of dormice including nests and gnawed nuts is recorded.
Great crested newts	During the site visit the potential of the site to support great-crested newts (*Triturus cristatus*) is assessed; this includes looking for potential breeding sites such as ponds, disused swimming pools and other water-bodies. The appraisal also focuses on the potential for this species to find refuge in places such as log piles, rubble and compost heaps. Where still water-bodies occur a Habitat Suitability Index (HSI) is calculated. This is a standard appraisal method developed specifically to evaluate the habitat suitability for great crested newts (Oldham *et al*. 2000). A series of factors must be considered. Each factor is assessed along suitability guidelines and allocated a value of between 0.1 (highly unsuitable) to 1.0 (highly suitable). The geometric mean of these values provides an overall suitability value for the site. Although this is no substitute for a dedicated survey the suitability value informs the decision on whether to undertake a dedicated survey.
Otters	The area under appraisal is searched for suitable habitat along water-bodies, recording where appropriate, evidence pertaining to the presence of otters (*Lutra lutra*) in the form of holts, spraints, anal jelly, tracks and feeding remains.
Reptiles	The site is assessed for suitable habitats that may support reptiles. Slow-worms (*Anguis fragilis*) and common lizards (*Zootoca vivipara*) inhabit a variety of habitats, such as rough grassland, heathland and woodland edge where there are suitable opportunities for maintaining their body temperature and finding suitable prey. Grass snakes (*Natrix natrix*) and barred grass snake (*N. helvatica*) are normally associated with water-bodies but they have a wide home range of up to 2km² and can occur anywhere within that range, particularly in grassy sites as the common name implies. Where relevant habitat occurs, evidence identifying the presence of reptiles, particularly tracks and sloughed skin is recorded.
Water Voles	The area under appraisal is searched for suitable habitat along water-bodies, recording where appropriate, evidence pertaining to the presence of water voles (*Arvicola amphibius*) in the form of burrows, latrines, runs, footprints and distinctive “feeding lawns”.
White-clawed crayfish	The area under appraisal is searched for suitable habitats that may support white-clawed crayfish (*Austropotamobius pallipes*). This typically includes freshwater streams and rivers but may also include still water-bodies.
Aquatic Invertebrates	Samples from different sections of waterbody under assessment will be searched for any aquatic invertebrates. Methods include kick-sampling and sweep netting in the water columns.
Terrestrial Invertebrates	In addition to the aquatic invertebrates, incidental observations were made of terrestrial species immediately next to the site.

3. RESULTS, APPRAISAL & RECOMMENDATIONS

3.1 Desk study

There are five statutory ecological site within 2.0 km of the site, including Vicarage Moss, Marford Quarry, Chwarel Singret and Llay Bog Sites of Special Scientific Interest (SSSI) as well as Midland Meres and Mosses Ramsar site (phase 2). There are no non-statutory ecological sites within 1km. The statutory ecological sites are considered to be sufficiently distant as to not negatively affect their ecological integrity by these very low-impact works.

3.2 Protected/notable species and habitats

Table 2: Protected/notable species appraisal

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
BADGERS	The site is flat and lacks suitability for badgers to create a sett	No evidence of badger presence was found on the day of the appraisal.	Very low	No impact.	**None.** It is possible that badgers will use the front of the site for foraging. As badgers or other mammals could cross the site, it is recommended as a precaution during any building work that any trenches created should be covered when not in use and provided with a 45° escape ramp to ensure that they do not become trapped.
BATS	The main structure is relatively well-maintained with a tight-fitting slate roof (lacking slipped slates) and no obvious raised ridge tiles. The eaves also appear to be tight and lack any obvious gaps leading into the interior. The brick walls lack any suitable ingress points and the false half-timber upper section also lacks suitable ingress points,	No suitability or evidence within the site for roosting bats	None to Negligible for roosting bats in the site Moderate for foraging bats	No impact	**No surveys recommended.** The proposed works may be accompanied by some degree of lighting, which could have negative effects on local bats. Lighting should not be directed onto any retained trees on the bankside habitats or, if applicable, any installed bat roosting features on any retained trees, as this is known to deter bats from using them. It is strongly recommended that any lighting to be incorporated in the site should be low-powered (i.e. lux level of 3 or less), downward-pointing and/or mounted at a low level (e.g. standard bollard height) to minimise the level of impact of lighting on bats. The best types of lighting to use are narrow spectrum lights with no UV content, warm white LED or low-pressure sodium. Ideally the times that the lighting is operational should be limited to allow for some dark periods overnight. This may be possible through passive infrared sensors and/or

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
	other than one small timber block (see Plate 6 in Appendix 1) but given this is only a shallow area and upwardly exposed, it not considered suitable for even the most opportunistic of bats as it open directly to the elements and main wall remains intact. The dense ivy on the western exterior does hold some minimal potential for roosting bats in very warm Summer conditions but this has been advised to be removed prior the 2024 nesting bird season and assuming that this is done, would negate any risk, despite be negligible to very low, for roosting bats.				controlling levels of lighting throughout some of the night-time period. The most current guidance (September 2018) produced between the Bat Conservation Trust and the Institute of Lighting Professionals should be adhered to and can be accessed via the following link: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/.

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
	The ground floor possesses no ingress points for bats other that the garage doors, which are always shut due to housing equipment. The upper floor is well-illuminated by natural daylight via the two Velux-style windows and other windows, thus making it wholly unsuitable for roosting bats and also lacks any form of loft void; the interior ceiling against the roof is considered to be good condition. Furthermore, no evidence of bats (i.e. grease marks, droppings, feeding remains etc.) were found in either the first or ground floors. Overall, the building is not considered to be				

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
	suitable for roosting bats as it is well-maintained. gaps for bats to gain entrance to structure. The trees and shrubs on site are considered to be no older than approximately 50 -60 years old and as such are relatively young and will not have developed suitable features for roosting bats. The area is considered to offer some low suitability for locally foraging bats.				
BIRDS	There are good opportunities for birds to nest in the vegetation of the site.	The following birds were observed on site: blackbird (*Turdus merula*) robin (*Erithacus*	Present on site.	High if birds are found to be nesting in areas where the proposed works are due to be carried out,	All birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). It is therefore generally unlawful to intentionally kill or injure a bird, damage or destroy an occupied nest or take or destroy eggs other than in exceptional prescribed circumstances. Additional protection is given to species listed on Schedule 1 of the Act insofar as it is unlawful to disturb them during nest building, at the nest or when caring for dependent young. **Therefore, development operations should take care to avoid the risk of harm to birds and**

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
		rubecula) and wren (*Troglodytes troglodytes*).		if conducted within the bird nesting period.	**their nests, especially during the nesting season (generally considered to be late February to late August).** **Any shrub/tree/vegetation clearance should be carried out outside the main nesting season and where this is not possible, a suitably qualified ecologist should be engaged to check for nesting birds and to provide advice on the most appropriate way to proceed. If birds are found to be nesting within the roof during the roof strip, work must cease immediately.** Retention of hedgerows and trees on site is strongly advised for nesting habitat and for the benefit of wider biodiversity. Enhancements could include the addition of artificial nesting features to either building (see Table 4 and Appendix 4).
DORMICE	None	None.	None.	None.	None.
GREAT CRESTED NEWTS	There are no ponds onsite and there are no ponds within 250m radius of the site. The nearest pond is about 250m to the east but is isolated within an arable field and thus the habitat in between	No Evidence	Low. Research has shown that although great crested newts can disperse up to 500m from their	Negligible.	No surveys recommended. There is a pond approximately 250 metres to the east but it is isolated in a arable field, and therefore considered not be to a constraining issues. Given recent comments from Wrexham Brough Council, whilst the pond is considered to be little ecological risk to any amphibians given the habitats between the site being hostile and very poor terrestrial habitat on the proposed site, a great crested newt risk avoidance

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
	the coach house and this pond is thus considered to be terrestrially hostile and therefore the connectivity is considered to be ecologically poor.		breeding ponds, 95% are found within 63m of the pond[6]. This means that they are more likely to utilise the immediately adjacent terrestrial habitats for foraging, shelter and probably hibernation. Great crested newts are therefore considered unlikely to be present near the buildings on site.		method statement has now been included within this report. Thus, as a precautionary way of working to further minimise the risk of harm to amphibians, **a GCN Risk Avoidance Method Statement has been included in Appendix 4**.

[6] Jehle, R. Thiesmeier, B.& Foster, J. 2011. The Crested Newt. British Herpetological Society, London.

Species	Habitats/features	Evidence	Likelihood of presence	Potential impact	Recommendations Further survey required? (Yes/No) / Avoidance / mitigation / enhancement measures
OTTERS, WATER VOLES & WHITE-CLAWED CRAYFISH	There are no running watercourses on or immediately adjacent to the site.	None on site.	None.	None.	None.
REPTILES	The rough ruderal grassy area is considered to be generally unsuitable for reptiles as they lack established tussocks and other forms of shelter. The is site was a former garden and isolated in an 'island' of a well-maintained residential properties. Therefore, the site is considered unlikely to support reptiles.	None	Very Low. Reptiles have low powers of dispersal and due to the grazing regime and lack of tussocky grasses, they are unlikely to be able to colonise from any nearby sites where they do occur.	None.	No surveys.

Table 3: Habitat/features appraisal-

Habitat/Feature	Description	Local BAP[7] habitat Y/N	Evaluation and potential impact	Recommendations Avoidance / mitigation / enhancement measures
Former Garden & Trees	The remnant area of grassland area has perennial ryegrass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), white clover (*Trifolium repens*), mouse-ear chickweed (*Cerastium fontanum*), common nettle (*Urtica dioica*), cleavers (*Galium aparine*), red dead-nettle (*Lamium purpureum*), Lord's-&-Ladies (*Arum maculatum*), dandelion (*Taraxacum officinale agg*), Russian comfrey (*Symphytum ×uplandicum*), daisy (*Bellis perennis*) and cock's foot (*Dactylus glomerata*). Bryophytes noted growing on a range of habitats included*, Brachythecium rutabulum*, *Ceratodon purpureus, Cratoneuron filicinum*, *Grimmia pulvinata, Hypnum cupressiforme* agg., *Pseudoscleropodium purum, Schistidium crassipilum, Syntrichia ruralis* subsp. *ruraliformis, S. ruralis* subsp. *ruralis* and *Tortula muralis*. There are few areas of bramble (*Rubus fruticosus* agg.) and dog rose (*Rosa canina* agg.) in the edges of the site, there is naturalised ash (*Fraxinus excelsior*), common ivy (*Hedera helix*) and elder (Sambucus nigra). Silver birch (*Betula pendula*) and ash trees are present too within the assessed area, A few exotic trees are located on the edges of the site, which include some mature Leyland cypress (*Cupressus × leylandii*).	N	Very low for the former garden	No surveys. To encourage plant diversity, strips of wildflowers could be sown, and areas left free from grazing to provide longer patches of grass as refuges for wildlife. .

Table 4: Additional recommendations

Number	Additional recommendation
1	Nesting opportunities for opportunistic birds could be provided in the form of hole-fronted and open-fronted bird boxes and can be installed on medium-large trees at similar heights and directions to attract other species of birds. Examples are provided in the Ecological Enhancements Appendix below.
2	Roosting opportunities for local bats can be incorporated onto any retained boundary trees through the installation of bat boxes (e.g. Schwegler 2FN) and can also be installed on medium- large trees. Bat boxes should be installed at minimum heights of 2.5m, facing away from external illumination and should ideally face in a south-east or south-west orientation. Examples are provided in the Ecological Enhancements Appendix below. Should there be any lighting onsite, it is strongly recommended that it should be low-powered (i.e. lux level of 3 or less), downward-pointing and/or mounted at a low level (e.g. standard bollard height) to minimise the level of impact from lighting on bats. The best types of lighting for use are narrow spectrum lights with no UV content, warm white LED or low- pressure sodium. This is especially pertinent for any retained trees along the edges of the site.
3	The ecological value of the site, particularly on any retained grounds along the edges, can be enhanced through planting native species and/or those of value to wildlife, i.e. producing fruits, seeds, nuts or single-flowers. Leaving patches of unmown grass and tall herb as well as creating compost heaps/log piles creates valuable wildlife habitat, particularly for invertebrates, amphibians and small mammals including hedgehogs[8]. Further information is provided in the Ecological Enhancements Appendix below.

[8] The State of Britain's Hedgehogs 2015, publicised at a special UK summit on hedgehogs: since 2000, records of the species have declined by half in rural areas and by a third in urban ones. Hedgehogs are also a species of 'Principal Importance' under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and therefore need to be taken into consideration by a public body when performing any of its functions with a view to conservation.

Map 1: Site Boundary



Map 2: UK Habs Extant map

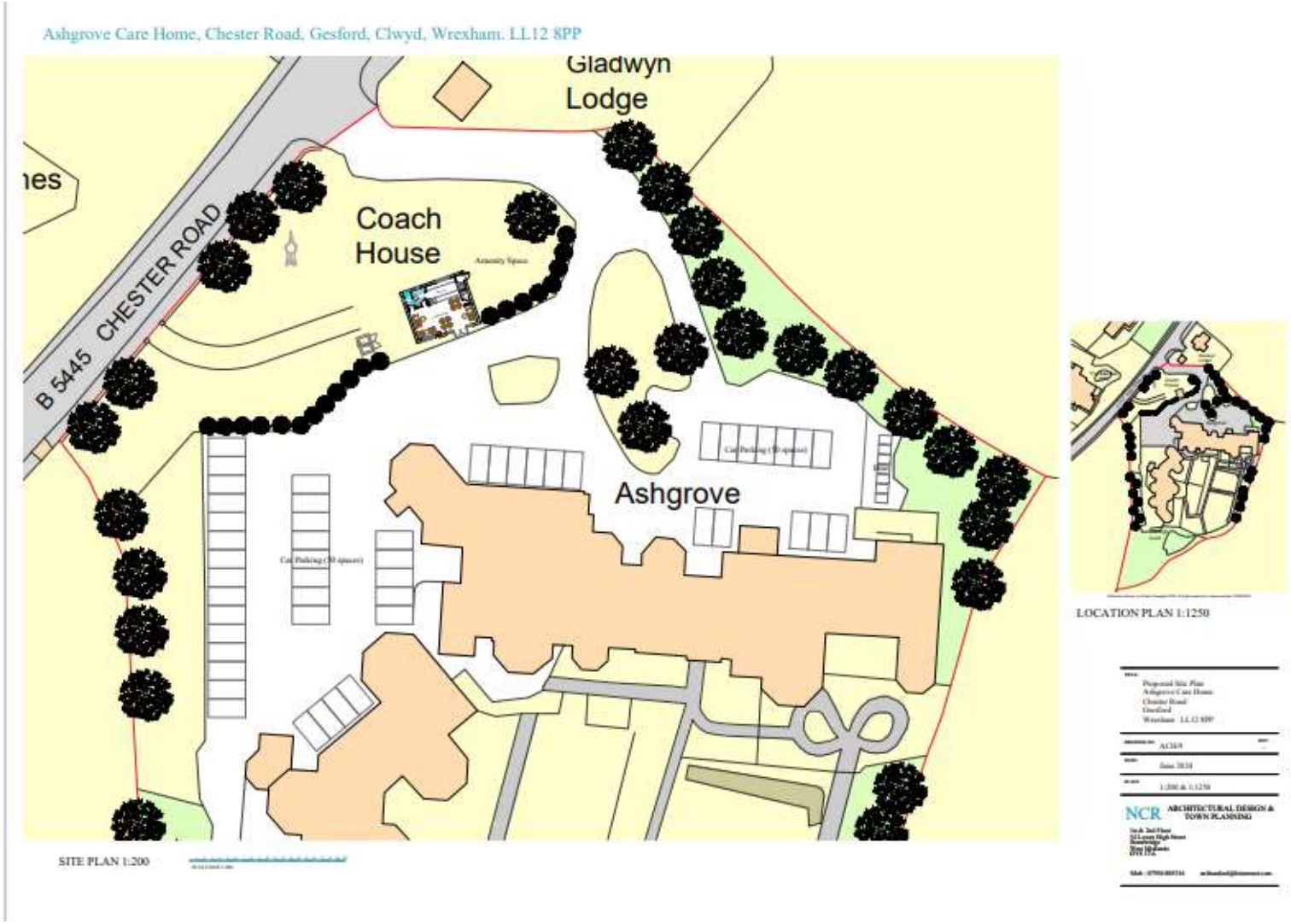


Map 3: UK Habs proposed map



a

Map 4: Architects Plan



Plan 1: Architects Existing Elevations



4. CONCLUSIONS & RECOMMENDATIONS

- **Habitats -** The proposed area of the modified coach house is an area of disturbed ground with remnant improved grassland and very limited areas of scrub and as such, it is of very low ecological value and therefore there are no ecological issues regarding the habitat.

- **Bats –** The coach house has no to negligible opportunities for roosting bats due to be maintained to moderate to good condition. The only limited place for roosting is the dense ivy on the western aspect of the building but this, via personal communications, will be removed prior the end of February 2024 and negates any opportunity for opportunistic roosting bats.

- **Nesting Birds –**Works should avoid disturbing the riparian habitat in the adjacent Nant Penisa Waun and should the works occur within the nesting season, at least a 3 m buffer should be maintained. As such works should avoid disturbance to ground or hedge nesting birds. As nesting birds are legally protected, development operations should take care to avoid the risk of killing/ injuring birds and their nests, especially during the nesting season (generally considered to be late February to late August). Therefore, **removal and/or management of suitable nesting habitat should be undertaken outside of the main nesting season and where this is not possible, a suitably qualified ecologist must be engaged to check for nesting birds prior to any works taking place** and to provide advice on the most appropriate way to proceed.

- **Badgers –**Whilst no surveys are recommended, as badgers or other mammals could potentially cross the site, it is recommended as a precaution during any construction phase that any trenches should be covered when not in use and provided with a 45° escape ramp to ensure that they do not become trapped.

  Apart from the nesting birds and potentially badgers, there appear to be **no other obvious and immediate issues** for this wetland creation with regard to any other protected species and no further dedicated surveys for any other species are recommended. However, in the unlikely event that any protected species listed in Section 2 are found on the site during the works then all works must cease immediately, and the advice of a suitably qualified ecologist must be sought.

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Appendix 1: Site Photographs



Plate 1: View of the coach house – north-eastern elevation.



Plate 2: View of the coach house – south-eastern evaluation.



Plate 3: View of the coach house – western evaluation.



Plate 4: View of the ground floor garage.



Plate 5: View of first floor – note the lack of a roof void and the well-illuminated environment from natural daylight.



Plate 6: View of the loose piece of the façade timber framing -eastern elevation.



Plate 7: View of the eastern elevation – note the eaves all around the building appear tight and lack ingress points.



Plate 8: View of the remnant scrubby vegetation adjacent to the coach house.



Plate 9: View of the main plot facing southwards.

Appendix 2: Wildlife Legislation

Badgers
Under the ***Protection of Badgers Act 1992*** and the ***Wildlife Order (NI) 1985***, it is illegal to:
• wilfully kill, injure, take, possess or cruelly treat a badger – or attempt to do so
• intentionally or recklessly damage, destroy or obstruct access to a badger sett (whether or not there is a badger in it at the time)
• disturb a badger while it is occupying a sett
• sell, keep or mark a healthy badger or possess any dead badger or part thereof.

Bats
Under the ***Wildlife and Countryside Act 1981 (as amended)***, the ***Wildlife Order (NI) 1985*** and ***the Conservation of Habitats and Species Regulations 2017*** (and ***NI 1995***) it is illegal to:
• intentionally or deliberately kill, injure or capture bats
• intentionally, deliberately or recklessly*disturb bats
• intentionally, deliberately or recklessly*damage, destroy or obstruct any place used for shelter or protection, ie bat roosts (even if they are not currently occupied)
• possess, sell or transport a bat, or anything derived from it.

Dormice
Dormice and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Conservation of Habitats and Species Regulations 2017***, making it illegal to:
• intentionally or deliberately kill, injure or capture dormice
• intentionally, deliberately or recklessly* disturb dormice
• intentionally, deliberately or recklessly* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (whether occupied or not)
• possess or transport a dormouse (or any part thereof) unless under licence
• sell or exchange dormice.

Otters
Otters and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)***, the ***Wildlife Order (NI) 1985*** and the ***Conservation of Habitats and Species Regulations 2017*** and ***(NI) 1995.*** It is illegal to:
• intentionally or deliberately kill, injure or capture otters
• intentionally or recklessly* disturb otters
• intentionally or recklessly* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (holts, couches etc) – whether occupied or not
• possess or transport an otter (or any part thereof) unless under licence
• sell or exchange otters.

Water Vole
Water voles are protected under the ***Wildlife and Countryside Act 1981 (Amendment 1998)***, making it illegal to:
• intentionally or deliberately kill, injure or capture water voles

• intentionally or recklessly* disturb voles
• intentionally or recklessly* disturb, destroy or obstruct access to any place that water voles use for shelter or protection (whether occupied or not);
• possess or transport a water vole (or any part thereof) unless under licence
• sell or exchange water voles.

Birds
All wild birds (ie resident, visiting and introduced species) in the UK are protected by law under the ***Wildlife and Countryside (WCA) Act 1981 (as amended)***, the ***Wildlife (NI) Order 1985, and*** the ***Wildlife and Countryside (Amendment (Scotland) Regulations 2001***, making it illegal to:
• kill, injure or take any wild bird
• take, damage or destroy the nest of any wild bird while it is being built or in use
• take or destroy the eggs of any wild bird
• possess or control (e.g. for exhibition or sale) any wild bird or egg unless obtained legally.

Birds that receive special protection
Species listed in ***Schedule 1*** of the ***WCA 1981*** and the ***Wildlife Order (NI) 1985,*** such as the barn owl and peregrine falcon, receive special protection. In addition to the above legislation, it is also illegal to *intentionally or recklessly** disturb any bird listed on ***Schedule 1*** while it is nest-building, or at or near a nest containing eggs or young, or to disturb any of its dependent young. Disturbance could occur, for example, through noise caused by construction works in close proximity to the nest. * The term “recklessly” applies in England and Wales following the ***CRoW Act 2000***.

White-clawed crayfish
Under the ***Wildlife and Countryside Act 1981 (as amended)*** it is illegal to *intentionally take (i.e. capture), sell, barter or exchange* white-clawed crayfish.

Great crested newt
Great crested newts and their habitat are *fully protected* under the ***Wildlife and Countryside Act 1981 (as amended)***, and ***Conservation of Habitats and Species Regulations 2017.*** It is illegal to:
• intentionally or deliberately capture, kill or injure great crested newts
• intentionally, deliberately or recklessly* damage, destroy or obstruct access to any place used for shelter or protection, including resting or breeding places (occupied or not)
• deliberately, intentionally or recklessly* disturb great crested newts when in a place of shelter
• sell, barter, exchange or transport or offer for sale great crested newts or parts of them. The legislation covers all life stages: eggs, larvae, juveniles and adults.

Widespread Amphibians
In England, Scotland and Wales the common frog, common toad, smooth newt and palmate newt are all protected against sale, trade etc under the ***Wildlife and Countryside Act 1981 (as amended).***

Widespread reptiles
All native British reptiles are protected against intentional killing and injury under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985***. ***In England, Scotland and Wales,*** slow-worm, common lizard, adder and grass snake are also protected against killing, injury and sale, barter or exchange, but their habitats or places of shelter are not specifically protected.

Invertebrates
Certain invertebrate species are covered by the ***Wildlife and Countryside Act (WCA) 1981*** (***as amended***) and the ***Wildlife (NI) Order 1985*** (***as amended***) and given full protection against killing and injury, damage and/or destruction of their place of shelter, or taking. Other species are protected against sale only. For those species receiving *full protection*, it is illegal to:
• intentionally kill, injure or capture
• intentionally or recklessly* disturb
• intentionally or recklessly* damage, destroy or obstruct places of shelter or protection, including breeding sites (occupied or not)
• possess or transport an animal (or any part thereof) unless under licence
• sell or exchange animals.

* The term “recklessly” was added as an amendment to the ***Wildlife and Countryside Act 1981*** as a result of the ***CRoW Act 2000 –*** this applies to England and Wales only.

Plants
Plants are protected by the law. The ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985*** make it an offence for any person who is not “authorised” to intentionally uproot any wild plant. An “authorised” person can be the owner or occupier of the land on which the action is taken, or anybody authorised by them; or any person authorised in writing by the local authority for the area within which the action is taken. In addition, the ***Wildlife and Countryside Act 1981 (as amended)*** also includes, within ***Schedule 8***, in the order of 60 plant species that it is illegal for any person to intentionally pick, uproot or destroy. It also makes it an offence to offer wild bluebell (*Hyacinthoides non-scripta*) bulbs for sale.

The Hedgerow Regulations 1997 (Environment Act 1995)
Under the Hedgerows Regulations it is against the law to remove most countryside hedges without first getting the permission of the local district council. These Regulations were introduced to offer protection to 'Important Hedgerows', as defined by the Regulations, in response to concern at the rapid loss of hedgerows in England and Wales. Various criteria specified within the regulations are used to identify important hedgerows for wildlife, landscape or historical reasons.

Appendix 3: Ecological Enhancements

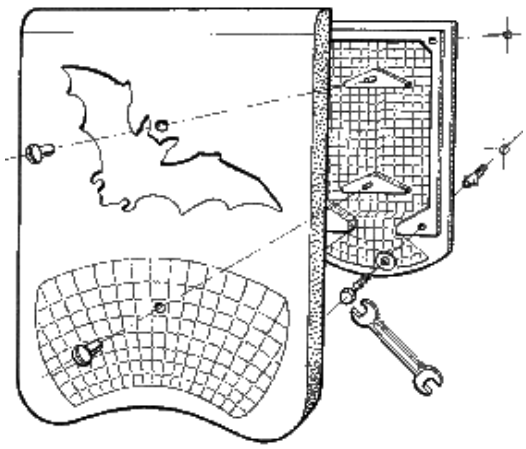
BAT ROOSTING FEATURES





Schwegler 1FF bat box





Schwegler 1WQ Summer & Winter bat box





Habibat 001 Bat Box – integral bat box, fitted into wall



Schwegler 2FN bat box for installation in trees

BIRD BOXES











Various designs of swift boxes



House Sparrow terrace box



House Martin terrace box



Hole-fronted bird box (for trees)



Open-fronted bird box (for trees)



Swallow cup

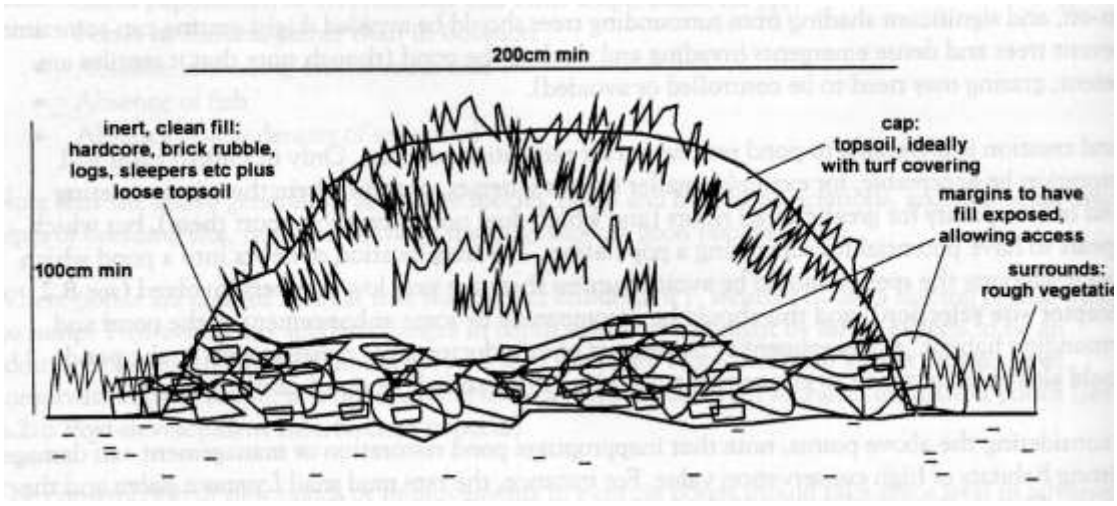
HEDGEHOG FEATURES



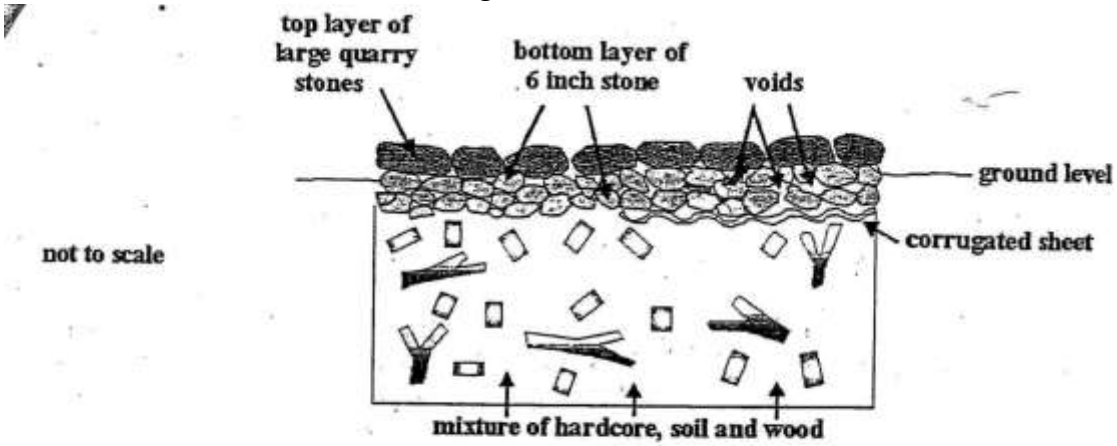
Hedgehog nesting box



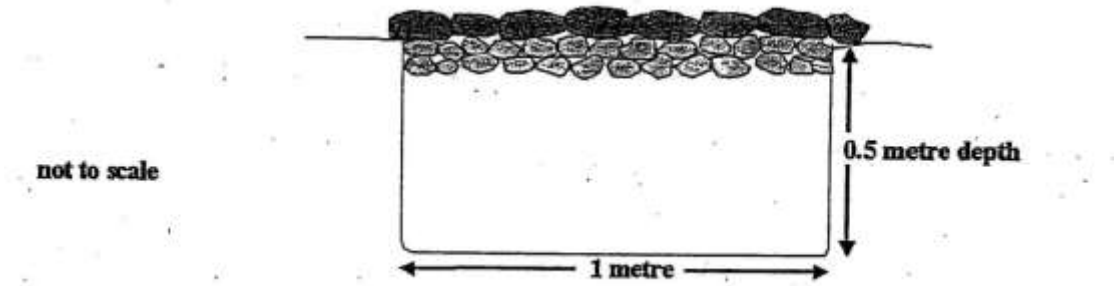
Woodstone hedgehog house



Taken from Great Crested Newt Mitigation Guidelines



LONGITUDINAL SECTION



CROSS SECTION

Planting Choices for Wildlife

Many wildlife species benefit greatly from considerate planting choices that still meet our practical and aesthetic needs. Plants and trees provide food for wildlife as well as places to nest and rest. Vegetation providing a variety of these functions creates an environment more beneficial for wildlife.

Non native species

Native species provide the best habitat for UK wildlife but there are also many non-native species, which are single flowering and/or provide fruits/nuts/seeds that can be used as food sources for insects, birds and small mammals. When using these non-native species in planting schemes, care should be taken to avoid invasive species such as Cotoneaster and Rhododendron. This is especially important when sites are adjacent to open countryside particularly nature reserves.


Fire thorn *Pyracantha coccinea*

Uses of Wildlife Planting

Wildlife value can be easily incorporated into visually pleasing and useful green areas and amenity spaces, such as borders, grass verges and tree screens.

Attractive Borders: Well selected decorative borders can be valuable for many insects and birds. Native plants can be mixed with single flowering ornamental species to add aesthetic interest and increase the flowering period of a planting scheme.

Shrubs and hedges: Native spiky species like blackthorn and hawthorn are effective barriers when used in hedges. They also provide an attractive feature at all times of year especially when in blossom and fruit. Bushy areas of foliage provide useful nesting and feeding areas for birds and small mammals, as well as foraging/commuting corridors for bats.

Grasses mixes and verges: Leaving uncut areas of suitable grasses provides great wildlife value and is economical to manage. Diverse grassy areas and verges also create an attractive human environment with different flowers and colours. There are a range of native grass and flower mixes for various soil types available on the market.


Wild flower grass mix

Species Selection

There are wildlife friendly species suitable for all situations, from fields, verges, shady corners or small gardens. Listed below are native wildlife friendly plant species organised by type and suitability for different locations.

Large Trees

Ash *Fraxinus excelsior*
Beech *Fagus sylvatica*
English Elm *Ulmus procera*
Oak *Quercus robur* or *Q. petraea*
Small-leaved lime *Tilia cordata*
White willow *Salix alba*
Wild cherry *Prunus avium*


White willow

Medium/small trees

Alder *Alnus glutinosa*
Aspen *Populus tremula*
Crab apple *Malus sylvestris*
Field maple *Acer campestre*
Holly *Ilex aquifolium*
Rowan *Sorbus aucuparia*
Silver birch *Betula pendula*
Yew *Taxus baccata*


Tussocky grassland

Native shrubs

Blackthorn *Prunus spinosa*
Dogwood *Cornus sanguinea*
Elder *Sambucus nigra*
Guelder rose *Viburnum opulus*
Hawthorn *Crataegus monogyna*
Hazel *Corylus avellana*


Blackthorn

Plants for shady areas

Archangel *Lamiastrum galeobdolon*
Betony *Stachys officinalis*
Bluebell *Hyacinthoides non-scriptus*
Bugle *Ajuga reptans*
Foxglove *Digitalis purpurea*
Ground ivy *Glechoma hederacea*
Lily of the valley *Convallaria majalis*
Lords-and ladies/cuckoopint *Arum maculatum*
Nettle-leaved bellflower *Campanula trachelium*
Primrose *Primula vulgaris*
Sweet violet *Viola odorata*
Wild daffodil *Narcissus pseudonarcissus*

Plants for marshy areas & pond edges

Bugle *Ajuga reptans*
Hemp agrimony *Eupatorium cannabinum*
Marsh marigold *Caltha palustris*
Marsh woundwort *Stachys palustris*
Meadowsweet *Filipendula ulmaria*
Purple loosestrife *Lythrum salicaria*
Ragged robin *Lychnis flos-cuculi*
Water avens *Geum rivale*
Water forget-me-not *Myosotis scorpoides*
Water mint *Mentha aquatica*
Water violet *Hottonia palustris*
Yellow flag *Iris pseudacorus*

Beneficial cultivated plants
(generally non-natives)

Grecian windflower *Anemone blanda*
Angelica *Angelica archangelica*
Aubretia *Aubretia deltoidea*
California poppy *Eschscholtzia californica*
Candytuft *Iberis sempervirens*
Christmas rose *Helleborus niger*
Cosmos *Cosmos bipinnatus*
Evening primrose *Oenothera biennis*
Fleabane *Erigeron spp.*
Forget-me-not *Myosotis spp.*
French marigold *Tagetes patula*
Globe thistle *Echinops ritro*
Grape hyacinth *Muscari botryodes*
Hollyhock *Althaea rosea*
Honesty *Lunaria rediviva*
Ice plant *Sedum spectabile*
Lenten rose *Helleborus orientalis*
Tree mallow *Lavatera spp.*
Michaelmas daisy *Aster nova-belgii*
Mint *Mentha x rotundifolia*
Perennial cornflower *Centaurea montana*
Perennial sunflower *Helianthus decapetalus*
Phlox *Phlox paniculata*
Poached-egg plant *Limnanthes douglasii*
Red valerian *Centranthus ruber*
Snapdragon *Antirrhinum majus*
Spring crocus *Crocus chrysanthus* and hybrids
Sweet alyssum *Lobularia maritima*
Sweet bergamot *Monarda didyma*
Sweet William *Dianthus barbatus*
Tobacco plant *Nicotiana affinis*
Wallflower *Cheiranthus cheiri*
Alpine rock-cress *Arabis alpina*
Winter aconite *Eranthis hyemalis*
Yellow alyssum *Alyssum saxatile*

Native wildflowers for borders

Agrimony *Agrimonia eupatoria*
Betony *Stachys officinalis*
Bluebell *Hyacinthoides non-scriptus*
Chicory *Cichorium intybus*
Chives *Allium schoenoprasum*
Common poppy *Papaver rhoeas*
Corncockle *Agrostemma githago*
Cornflower *Centaurea cyanus*
Corn marigold *Chrysanthemum segetum*
Cowslip *Primula veris*
Cuckooflower *Cardamine pratensis*
Dame's-violet *Hesperis matronalis*
Devil's-bit scabious *Succisa pratensis*
Field scabious *Knautia arvensis*
Foxglove *Digitalis purpurea*
Goldenrod *Solidago virgaurea*
Great mullein *Verbascum thapsus*
Greater knapweed *Centaurea scabiosa*
Harebell *Campanula rotundifolia*
Herb-robert *Geranium robertianum*
Lady's bedstraw *Galium verum*
Marjoram *Origanum vulgare*
Meadow cranesbill *Geranium pratense*
Common mallow *Malva sylvestris*
Oxeye daisy *Leucanthemum vulgare*
Primrose *Primula vulgaris*
Red campion *Silene dioica*
Snowdrop *Galanthus nivalis*
Spiked speedwell *Veronica spicata*
Tansy *Tanacetum vulgare*
Teasel *Dipsacus fullonum*
Toadflax *Linaria vulgaris*
White campion *Silene alba*
Wild thyme *Thymus drucei*
Yellow loosestrife *Lysimachia vulgaris*


Marjoram


Cornflower


Perennial sunflower

Appendix 4: Great Crested Newt Risk Avoidance Strategy

Rationale

Great crested newts

The Habitat Suitability Index (see above) has resulted in a very low probability for their presence for the nearest pond (but the wider area is known to support great crested newts beyond the distal side of a major barrier in the form of the Warwick Highway). However, it should be noted that a low great crested newt habitat suitability index does not necessarily fully negate the possibility that they may be present, especially when considering that they are present in the wider area. As the assessment has been carried out past the main period for surveying for great crested newts and given the distance of the proposed works to the pond (where research has shown that great crested newts can disperse up to 500m from their breeding ponds but 95% are found with 63m of the pond[9]), a great crested newt risk avoidance strategy will be produced in lieu of a dedicated survey.

Risk avoidance measures

Risk Avoidance Measures for great crested newts are usually generalised as their terrestrial whereabouts are extremely difficult to predict. When adult, newts return to a pond in order to breed and while this time in the water is subject to weather conditions and day length it is usually between March- April until late May but sometimes June-July in cool springs – it should be noted that January to April 2022 was very dry and above average in warmth and thus any adult great crested newts are likely to have left the breeding pond early. The rest of the year is spent in terrestrial habitat, either actively foraging or in hibernation. However, great crested newts do not become sexually mature until their third year, meaning that the location of metamorphs and juveniles cannot be fully determined. It is therefore necessary to take meticulous precautions in order to avoid an offence under the Wildlife and Countryside Act 1981 (as amended).

However, research has shown that although great crested newts can disperse up to 500m from their breeding ponds 95% are found with 63m of the pond[10]. This means that they are more likely to utilise the immediately adjacent terrestrial habitats for foraging, shelter and probably hibernation. Given that the proposed works are approximately 98m away from the wet pond returned a 'poor' score for habitat suitability, it is deemed that there is a low risk of adverse effects on the local great newt population, if present.

Precautionary Method of Working

Given that wet pond is not considered to be suitable or at least negligible to low risk, , a non-licensable approach could be taken. This would require a blend of timing constraints, management of vegetation to reduce its attractiveness as terrestrial habitat, toolbox talks,

[9] Jehle, R. Thiesmeier, B.& Foster, J. 2011. The Crested Newt. British Herpetological Society, London.
[10] Jehle, R. Thiesmeier, B.& Foster, J. 2011. The Crested Newt. British Herpetological Society, London.

ecological clerk of works supervision, measures to prevent newts becoming trapped in trenches, material storage arrangements, etc.

As adult great crested newts, and indeed other newt species, are normally in their breeding ponds from March until July in normal years or March to May in warm years, it would be possible to lessen the possibility of any killing or injuring by only undertaking works during this period. However, if any post-metamorphosis stage great crested newts are present on the site then there is no period where development could take place without the possibility of committing an offence, except under a European Protected Species licence.

However, if this course is not chosen then the following is the minimum necessary for a precautionary method of working:

- As the majority of the adult population will be in the breeding pond from March until early June works should be timed to fit in with this period when the number of newts in the terrestrial habitat should be at its lowest.

- Tool box talks to the work force will enable them to identify any great crested newts that may be encountered and an identification chart should be affixed to a suitable surface on site.

- In the event that any great crested newts are encountered then all work should **cease immediately,** and advice should be sought from a suitably qualified and experienced ecologist as soon as possible**. Note that at this point a European Protected Species licence is likely to be required.**

- All excavated material should be heaped on site and re-used as backfill where possible.

- If loose material such as sand and gravel is delivered in 1 tonne bags, then it should be stored in an area of hard standing if possible. Such loose material need not remain bagged while being used. Other building materials such as pallets of concrete blocks and/or bricks (plastic wrapped when stored but open when working), stacked timber joists, stacked timber cladding panels, drainage pipes, etc should also be stored in an area of hard standing if possible. All materials should also be stacked clear of the ground, for example on pallets or battens.

- Foundation trenches (if required) should be open for a limited time, preferably 2-3 days, before concrete is placed. If possible or practical all excavations and groundworks should be completed in the first two weeks. Trenches should be covered when not in use (particularly at night) and provided with a 45° escape ramp.

Contingency Measures to protect great crested newts.

The following guidance is reproduced from the Natural England EPSL method statement template Form WML-A14-2 (Version April 2013). It is reproduced verbatim:

Application tools: (3) Non-licensed avoidance measures
Background
Licensable activities should ideally be designed out of developments during the early planning stages. This should result in avoiding harm to great crested newt populations, and can save developers the time and expense of licensed mitigation measures. Many potentially licensable activities can in fact be avoided by careful planning of the development combined with simple precautionary measures. In many cases, adopting such an approach may mean that no licence is required (as no offence would be committed). Even when a licence is applied for because you decide an offence is likely such measures can still be employed to reduce the level of harm to newt populations. This application tool helps you to plan non-licensed avoidance measures for common development scenarios. You may also use them in licensed projects to reduce impacts.

Guidance on use, caveats and limitations
Check the list below for suggestions for avoiding impacts that might be appropriate for your project. You can use this in combination with the "Do I need a licence? Rapid risk assessment" tool to help you plan mitigation and decide on whether to apply for a licence. For schemes that cover a large area, you might use these tools to decide that only part(s) of the development should be subject to a licence. This section is based on an examination of approaches considered in recent projects, and is obviously generic. The suggestions may not be appropriate for your particular development, or may require fine-tuning to be helpful. Neither are they exhaustive: ***we encourage you to develop your own ideas and let us know*** *so that we can include them in future guidance.*

If you determine that no offences would be committed and therefore decide not to apply for a licence, it may be useful to keep a copy of the decision-making steps, and any precautions that will be taken. In some cases these might form the basis of a non-licensed method statement, to help a developer and their contractors understand how to carry out works with a minimal risk of breaching the law. If soundly produced, this might act as an audit trail and a "defence" in the event of any future queries about the development's effects on newts. Similarly, if you use these tools to determine that only part(s) of the development area should be subject to a licence, then it is helpful to include this rationale in the licence application, so that we can see why and how you have included and excluded particular areas in the licensed work.

Project element	***Suggestions for avoidance measures***
Location & layout	*(a) Locate site as far as possible from potential breeding ponds and high quality terrestrial habitat. (b) Locate in areas subject to high pre-existing fragmentation. (c) Locate on hard, compacted ground with few fissures. (d) Design layout so that any hard landscaping is as far as possible from ponds, with retained habitat and soft landscaping toward ponds.*
Timing & duration	*(a) Restricting works to the winter period (when newts are rarely active above ground) is sensible if the project would not harm hibernation habitat. Projects with temporary habitat disruption and reinstatement, such as some pipelines, could potentially be done without any licensable activity in this way. (b) Keep duration of groundworks as short as possible. (c) Undertake during the day works that might only affect newts above ground.*
Construction methods and special precautions	*(a) Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit. (b) Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets. (c) For pipelines, use directional drilling to cross areas of core habitat and dispersal routes. (d) Avoid installing structures that act as barriers close to ponds, or include gaps at ground level where walls or fences are unavoidable.*

Risk avoidance measures are detailed below.

Measures to protect great crested newts

Despite the fact that an EPSL licence can be avoided, an offence is still possible. In order to reduce the risk even further there are a number of working practices to ensure that great crested newts are fully accounted for during the proposed works. These are listed in the table below.

A suitably experienced and licensed newt ecologist will be “on call” in case any unforeseen problems arise. Ecologist with valid Natural England great crested newt licence – Joshua Evans: Class Licence Registration Number: **2015-17127-CLS-CLS** .

Activity	Method and Rationale	Responsibility
Pre-start up checks	A walkover survey of the site will be undertaken by a suitably licensed ecologist prior to any site works (including installation of welfare facilities and site Heras fencing). This is to ensure that any potential habitat that could be utilised by great crested newts remains free from any form of potential amphibian refugia. Any such structures will be carefully removed by hand by the ecologist. Instructions will be given to the construction team once it is clear to proceed.	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration Number: 2015-17127-CLS-CLS.
Toolbox talk	The site construction team will be provided with a toolbox talk on amphibian identification and recognition with advice on procedures to follow in the unlikely event that a newt is discovered during the course of the works. An identification chart should be affixed to the notice boards in the site office.	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration Number: 2015-17127-CLS-CLS.
Storage of materials	If loose material such as sand and gravel is delivered in 1 tonne bags, then it should be stored in an area of hard standing if possible. Such loose material need not remain bagged while being used. Other building materials such as pallets of concrete blocks and/or bricks (plastic wrapped when stored but open when working), stacked timber, drainage pipes, etc should also be stored in an area of hard standing if possible. All materials should also be stacked clear of the ground, for example on pallets or battens. Storage of rubble, spoil or other loose materials will be avoided within 50m of the nearby pond. Storage should be undertaken before the hours of darkness.	Site Supervisor
Vegetation Clearance	Vegetation clearance and removal of piles of rubble/branches/brash will be undertaken during late March/early April to September/early October; outside the main hibernation period under the supervision of a newt licensed ecologist,	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration

Activity	Method and Rationale	Responsibility
	immediately in advance of any such operations.	Number: 2015-17127-CLS-CLS.
Habitat Maintenance	Habitats near the proposed development should be kept in a sub-optimal condition for great crested newts with any vegetation being regularly mowed short and kept free from sheltering/hibernation opportunities (e.g. piles of rubble, materials, cuttings etc).	Site Supervisor
During Construction Phase	Any trenches (if required) should be open for a limited time, preferably no more than 2 days, before concrete is placed. If possible or practical all groundworks should be completed in the first two weeks of the construction phase. Trenches should be covered when not in use (particularly at night) and provided with a 45° escape ramp. They should be checked every morning and any animal that has fallen in should be rescued and removed to a place of safety within 50m of the point where it was found.	Site Supervisor
Identification	Great crested newts are not the only possible species of newt in the UK as palmate and smooth newts could also be present. However, it is only the great crested newt which receives higher legal protection. It is imperative that the identification of any species present is clarified by a suitably qualified ecologist and a relevant course of action is followed.	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration Number: 2015-17127-CLS-CLS.
Discovery of great crested newts	If during the course of works any newt species is observed on or near the construction site, works should cease immediately in the immediate area of the sighting and the advice of a suitably qualified ecologist should be sought. If the newt(s) are not great crested newts then they can be moved to a suitable safe zone off the site, preferably a purposely created log pile. If they are great crested newts then they may also be moved to a place of safety but only by the licensed ecologist or an accredited agent working under the ecologist's licence. Any	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration Number: 2015-17127-CLS-CLS.

Activity	Method and Rationale	Responsibility
	accredited agent should carry a copy of the licence and a letter of authorisation from the licensee, which must be shown to any police officer or employee of Natural England on request. This is a legal requirement.	
Monitoring/contact	A licensed newt ecologist will be appointed to monitor compliance with this method statement during the course of construction and to be contactable should any problems arise. They will provide verbal feedback to the site supervisor and any remedial actions will be detailed in a written site visit report and issued to the client.	Ecologist with valid Natural England great crested newt licence – Joshua Evans Class Licence Registration Number: 2015-17127-CLS-CLS.

Appendix 5: Ecological Experience

Joshua Evans BSc (Hons) MCIEEM – Consultancy Manager & Principal Ecologist

Joshua joined the team in 2008, previously working as an independent consultant, prior to that he worked for the National Trust and Forestry Commission as an ecological surveyor. For the last 27 years he has worked in both the conservation and consultancy sector. Many of these years were in woodland conservation and management. He is an experienced ecologist with particular expertise in terrestrial and aquatic invertebrates, amphibians, reptiles, small mammals, riparian mammals and bats and holds Natural England (NE) and Natural Resources Wales licences for bats, dormice, great crested newts, white-clawed crayfish and barn owls. He is also an experienced botanist with National Vegetation Classification skills, the recent UK Habitat Classification System and an experienced bryologist. In addition, he has experience in biodiversity net gains and offsetting and being involved in range of conservation and developmental management plans including heritage projects and habitat restoration.

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TEL: (01905) 754909 Email: enquiries@worcestershirewildlifeconsultancy.org
Website: www.worcestershirewildlifeconsultancy.org

Worcestershire Wildlife Consultancy provides an independent professional ecological service, encompassing a broad range of ecological knowledge and skills. While maintaining a local focus within the Midlands, we also operate throughout the UK.

We offer a competitive pragmatic solution based environmental service to the business and development sector, local authorities, public utilities, Natural England and non-governmental organizations (NGOs), as well as individual clients.

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- **Phase 1 Habitat Surveys**
- **Protected Species Surveys**
- **Bat Surveys**
- **Great Crested Newt Surveys**
- **Reptile Surveys**
- **Badger Surveys**
- **Nesting Bird Surveys**
- **Breeding Bird Surveys**
- **Barn Owl surveys**
- **Otter & Water Vole Surveys**
- **Dormouse Surveys**
- **Invertebrate surveys**
- **Small Mammal Surveys**
- **Botanical Surveys (incl. NVC – National Vegetation Survey)**
- **Hedgerow Surveys**
- **Invasive Weed Surveys**
- **Protected Species Licence Applications (incl. Bat Low Impact Class licence)**
- **Ecological Clerk of Works**
- **Mitigation Advice & Implementation**
- **Monitoring – Botanical & Wildlife**
- **BREEAM Assessments (incl. Code for Sustainable Homes)**
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