



Preliminary Ecological Appraisal

At

Land off London Road,
Shrewsbury,
Shropshire

4th October 2021

On behalf of

Cornovii Developments Limited

Shirehall
Abbey Foregate
Shrewsbury
SY2 6ND

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1. Non-technical Summary

Client:	Cornovii Developments Limited
Site Location:	Land off London Road, Shrewsbury, Shropshire
OS Grid Reference:	Site SJ5172111014 Waterbody 1 SJ5197610725 (100m south of site) Waterbody 2 SJ5138211198 (162m west of site)
Surveyors & relevant licence numbers:	Preliminary Ecological Appraisal undertaken by: Nicola Stone BSc (hons) MSc Great Crested Newt- 2019-43641-SCI-SCI Mark Latham BSc (hons) MSc ACIEEM MRSB Bat licence 2015-14551-CLS-CLS Level 4 Bat Survey Licence: Artificial light, endoscopes, hand, hand-held static net, harp traps and acoustic lures.
Legislative Context:	The Conservation of Habitats and Species (Amendment) 2017 The Wildlife and Countryside Act 1981 (as amended) The Natural Environment and Rural Communities (NERC) Act 2006 The National Planning Policy Framework (NPPF) 2019 ODPM Circular 06/2005: Biodiversity and Geological Conservation Shropshire Local Development Framework: Adopted Core Strategy Policy CS17
Desktop Study:	Shropshire Ecological Data Network (October 2020) National Biodiversity Network (NBN) Gateway Natural England's 'Batsites' dataset Natural England's Granted European Protected Species Applications GIS layer Natural England's New Priority Habitat GIS Layer Natural England's SSSI, NNR and LNR GIS Layers
Survey dates:	Preliminary Ecological Appraisal: 21 st May 2021 and 27 th May 2021 eDNA survey work: 6 th & 7 th June 2018 (please see separate eDNA apT report)
Summary Findings:	<u>Habitats and Flora</u> The proposed site consists mainly arable land and areas of scrub with a combination of dense hedgerows, heras paneling and post and rail fencing at the site boundaries. <u>Amphibians</u> Ponds within 250m were surveyed in 2018 for their suitability to support great crested newts using habitat suitability index and eDNA survey technique (please refer to separate eDNA report). 2018 Waterbody 1: Average Habitat Suitability Index score positive eDNA test result. 2018 Waterbody 2: Poor Habitat Suitability Index score negative eDNA test result. 27 th May 2021 updated survey of waterbody 2 recorded a lower habitat suitability index due to presence of fish. Waterbody 1 is separated from the site by a major road barrier. 2018 ecological conclusion remains valid. <u>Reptiles</u> The site has limited reptile habitat, restricted to field margins between existing residential properties on London Road. The likely absence of reptiles recorded in 2013 is likely to remain as there are no material changes on site. <u>Breeding Birds</u> No specific breeding bird surveys were undertaken. However, incidental recording during site visits across the breeding bird season documented a breeding bird assemblage typical of semi-urban habitats. The hedgerows, mature trees, and wooded compartments offer excellent breeding bird habitat. The grassland was seen to offer negligible potential to support ground nesting birds such as skylark due to its management. None of the bird species recorded were encountered in high numbers with sightings usually of single birds.

	<p>Bats No mature trees with bat roost features were identified within the site boundary. There are no buildings within the development boundary with bat roost potential. The boundary hedgerows are used for commuting/foraging bats.</p> <p>Badger The site boundaries and field margins between existing residential properties have the potential to support foraging and commuting badger. No evidence of badger activity was observed during the ecological survey.</p> <p>Other mammals The site boundaries and field margins between existing residential properties have the potential to support hedgehogs. No evidence of hedgehogs was observed during the ecological survey.</p>
<p>Recommendations:</p>	<p>The protection of all retained vegetation during any construction phase. The provision of compensatory planting to mitigate for the loss of approximately 180m sections of hedgerow Precautionary methods of working in relation to:</p> <ul style="list-style-type: none"> • Amphibians • Reptiles • Widespread breeding birds, and • Bats <p>A pre-commencement walk over survey for badgers. The provision of a landscape and long term management plan to ensure no net loss of the site's nature conservation value occurs, including: The provision of bird and bat boxes The use of seed mixes and the implementation of mowing regimes that favour pollinating insects, and raised fencing sections to ensure the site remains permeable for small mammals, in particular hedgehog.</p>

2. Introduction

2.1 Background

2.1.1 This report has been prepared by Nicola Stone on behalf of Cornovii Developments Limited, (hereafter referred to as 'the client'). It presents the findings of a preliminary ecological appraisal conducted at London Road, Shrewsbury (hereafter referred to as 'the site'). It should be read in conjunction with apT London Road eDNA report dated 2018.

2.2 Site Location

2.2.1 The site is located at approximately SJ5172111014. The site location is presented in Figure 1.



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Figure 1: Site Location – London Road, Shrewsbury, Shropshire.

2.3 Proposed Works

2.3.1 This preliminary ecological appraisal is submitted in support of a planning application for a residential scheme on an area of land extending to approximately 7.05ha within Cornovii Developments Limited ownership near London Road, Shrewsbury (Figure 2).



Figure 2: Proposed site layout – London Road, Shrewsbury, Shropshire.

2.4 Aims and Objectives

2.4.1 The aims of this ecological appraisal were:

- To describe and appraise the habitats present on site;
- To complete a desk study of the area proposed for development including historical species records from the local biological records centre and the National Biodiversity Network;
- To assess the likelihood of protected species being present within the site;
- To undertake, where necessary, presence/probable absence surveys to determine if, where and how protected species could be using the site;
- To provide recommendations regarding the need for further survey work or, if reasonable effort has been undertaken, to recommend any relevant and proportional avoidance, mitigation or compensation measures in keeping with the Habitats Directive 92/43/EEC5 and the National Planning Policy Framework (NPPF) 2019; and
- Advise the need for any proportional enhancement measures potentially required under Section II of the NPPF and Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.5 Survey and Consultation

2.5.1 A preliminary ecological appraisal was undertaken on 21st May 2021 and 27th May 2021.

2.6 Legislative and Planning Policy Context

2.6.1 Survey findings were considered in line with the following:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (which transposes the EC directive 92/43/EEC into UK law);¹

¹ <http://www.legislation.gov.uk/ukxi/2010/490/contents/made>

- The Wildlife and Countryside Act 1981 (as amended);²
- The Natural Environment and Rural Communities (NERC) Act 2006;³
- The National Planning Policy Framework (NPPF) 2019;⁴
- National Planning Practice Guidance (NPPG);⁵ and
- ODPM Circular 06/2005⁶.

2.6.2 Protected sites and species are a material consideration during the planning process. Every Local Planning Authority (LPA)⁷ must, in ‘exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity’⁸.

3. Methods

3.1 Methodologies

3.1.1 Broad methodologies for data collection and interpretation were informed by guidance outlined in:

- IEA (1995) *Guidelines for Baseline Ecological Assessment*;
- IEEM (2006) *Guidelines for Ecological Impact Assessment in the United Kingdom, 1st Edition*;
- CIEEM (2012) *Guidelines for Preliminary Ecological Assessment*;
- CIEEM (2020) *Guidance on Ecological Survey and Assessment in the UK During the Covid-19 Outbreak*; and
- CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*.

3.2 Desktop Study and Scoping

3.2.1 Use was made of data sources including:

- Shropshire Ecological Data Network;
- The National Biodiversity Network’s (NBN) Gateway;⁹
- Natural England’s ‘Batsites’ dataset;¹⁰
- Natural England’s ‘New Priority Habitats Inventory’;¹¹
- Natural England’s ‘Granted European Protected Species Applications’ GIS layer;¹²
- Natural England’s SSSI, NNR and LNR GIS layers,¹³ and
- Shropshire Council’s Environmental Network online mapping system

² <http://www.legislation.gov.uk/ukpga/1981/69>

³ <http://www.legislation.gov.uk/ukpga/2006/16/contents>

⁴ <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁵ <http://planningguidance.communities.gov.uk/>

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf

⁷ “local planning authority” has the same meaning as in the Town and Country Planning Act 1990

⁸ <http://www.legislation.gov.uk/ukpga/2006/16/section/40>

⁹ <https://data.nbn.org.uk/>

¹⁰ <https://data.nbn.org.uk/Datasets/GA001250>

¹¹ http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp

¹² http://www.magic.gov.uk/Metadata_for_MAGIC/EPS%20sites%20Sep2015_export.html

¹³ http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp

- 3.2.2 Any information obtained via the NBN Gateway is presented in a manner in keeping with the NBN Gateway terms and conditions.
- 3.2.3 This level of desktop study is considered adequately proportionate to the development proposals, the complexity of the site and its surrounding landscape context.
- 3.2.4 Survey data obtained during this work will be submitted to the local record centre in fulfilment of Section 9b of the Licence Application Form WML A13¹⁴ and Section C1 of the Mitigation Licence Method Statement WML A13.2¹⁵.

3.3 Bat Survey Protocol

- 3.3.1 There are 17 resident breeding bat species known to be present in the UK all of which receive protection under Schedule 5 of the Wildlife and Countryside Act 1981 (WACA) (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (which transposes the EC directive 92/43/EEC into UK law).
- 3.3.2 Four of the UK's bat species are listed on Annex II of the Habitats Directive. These species are:
 - Greater horseshoe bat
 - Lesser horseshoe bat
 - Bechsteins's bat, and
 - Barbastelle
- 3.3.3 Seven species of bat are listed as Species of Principal Importance in England under Section 41 of the NERC Act (2006). These species are:
 - Greater horseshoe bat
 - Lesser horseshoe bat
 - Bechstein's bat
 - Noctule
 - Soprano pipistrelle
 - Brown long-eared bat, and
 - Barbastelle
- 3.3.4 The Survey was undertaken by Mark Latham BSc (Hons) MSc ACIEEM MRSB. Mark Latham holds both Natural England and Natural Resources Wales Licences to survey for all UK bat species. In England Mark holds the class licence 2015-14551-CLS-CLS (Level 4 Bat Survey Licence: artificial light, endoscopes, hand, hand-held static net, harp traps and acoustic lures).
- 3.3.5 Bat survey methodologies were informed by guidance outlined in:
 - Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London,
 - Bat Conservation Trust (2012). Bat Surveys – Good Practice Guidelines: 2nd Edition. Bat Conservation Trust: London,

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/420019/Bat_mitigation_licence_application_form__A13_.pdf

¹⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/351174/bats-method-statement.doc

- Mitchell-Jones, A. and McLeish, A. (2004). Bat Workers Manual. JNCC Peterborough,
- Battersby, J. *et al.* (2010). Guidelines for Surveillance and Monitoring of European Bats. EUROBATS Publication Series No. 5. UNEP/EUROBATS,
- Natural England (2012). Standing Advice Species Sheet: Bats. (StAdv/BAT),
- Europa (2007) Guidance document on the strict protection of animal species of community interest under the Habitats Directive 92/43/EEC,
- Natural England and the Countryside Council for Wales (2007) Disturbance and protected species: understanding and applying the law in England and Wales. A view from Natural England and the Countryside Council for Wales, and
- Mitchell-Jones, T. (2004). Bat Mitigation Guidelines. Natural England.

3.3.6 Preliminary Bat Roost Inspection: Buildings, Built Structures and Trees

The preliminary bat roost inspection comprised an external inspection of the built structure present on site, examining features including, but not restricted to: walls, roofs, lead flashing, pipe-work and door-frames. Internal features were also inspected including all accessible roof voids and associated structures judged capable of supporting roosting bats. The inspection followed guidance outlined in Collins, J. (ed) (2016) Chapters 4 and 5, and Bat Conservation Trust (2012) pp. 54-57 and Mitchell-Jones (2004). Ladders, high-powered torches, binoculars, video endoscopes and extendable inspection mirrors were used to assist with visual inspections, where necessary. Any actual or potential roost features were documented by photograph along with any evidence of bat presence.

3.3.7 All trees were assessed for their potential to support roosting bats. Ladders, binoculars and high-powered torches were used, where necessary, noting: cavities resulting from decay or damage, from the union of crossed branches, mature ivy growth that form cavities and field signs that may indicate potential bat presence. Findings were used to assess roosting potential consistent with best practice guidance outlined in Collins, J. (2016, Chapter 6 pp. 44-48) The results of this assessment were used to inform both the need for further roost emergence/ re-entry surveys and the relative level of survey effort required.

3.3.8 Initial findings were placed into broad categories relating to roosting potential, Table 3.

Table 3: Roost Potential Criteria¹⁶

Potential	Criteria
Negligible	No evidence of use by bats. Negligible habitat features on site likely to be used by roosting bats.
Low	No evidence of use by bats. A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats. A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential
Medium	No evidence of use by bats. A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status

¹⁶ Adapted from Table 4.1 "Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement" in Collins, J. (2016) pg. 35

High	No evidence of use by bats. A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Roost	The presence of, or evidence of the presence of, bats. Roost types can include ¹⁷ : Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer. Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony. Feeding perch: a place where individual bats or a few individuals feed during the night but are rarely present by day. Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation. Swarming site: where large numbers of males and females gather during late summer to autumn. Mating sites: sites where mating takes place from later summer and can continue through winter. Maternity roost: where female bats give birth and raise their young to independence. Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females or small groups of breeding females throughout the breeding season

3.4 Breeding Bird Survey Protocols

3.4.1 The Wildlife & Countryside Act 1981 (as amended) protects all nesting wild birds in Britain. It is an offence to intentionally:

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

3.4.2 Those birds listed upon ‘Schedule 1’ of The Wildlife & Countryside Act 1981 (as amended) have extra legal protection. For these bird species it is also an offence to do the following, either intentionally or by not taking enough care:

- Disturb them while they are nesting, building a nest, in or near a nest that contains their young; or
- Disturb their dependent young.

3.4.3 A proportion of these species are listed as birds of conservation concern, due to a combination of declines in breeding populations and contractions in their natural range. Furthermore, some species may be listed as Priority Species under Section 41 of the NERC Act 2006. Further information relating to the legislation covering breeding birds can be found at: <https://www.gov.uk/guidance/wild-birds-protection-surveys-and-licences>

¹⁷ WML_L13a

3.4.4 Site-specific protocol comprised the collation of incidental recording of bird's present on site and search for old nests.

3.5 Great Crested Newt Survey Protocols

3.5.1 The UK's widespread amphibian species receive limited protection under the Wildlife and Countryside Act 1981 (as amended). The great crested newt receives protection by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Common toad is also listed as a priority species in Section 41 of the NERC Act 2006.

3.5.2 Great crested newt survey methodologies were informed by guidance outlined in:

- Natural England (2012). Standing Advice Species Sheet: Great Crested Newt. (StAdv/GCN);
- Oldham R. S. et al. (2000) Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155;
- Amphibian and Reptile Groups of the United Kingdom. (2010) ARK UK Advice Note 5: Great Crested Newt Habitat Suitability Index;
- English Nature (2001). Great crested Newt Mitigation Guidelines. Peterborough; and
- Biggs et al. (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt DEFRA Project WC1067. Freshwater Habitats Trust: Oxford.

3.5.3 Habitat Suitability Index (HSI) assessments were conducted on 7th June 2018 and 27th May 2021. Assessments calculated HSI scores following the methods outlined in Oldham et al. (2000) and drew upon further guidance provided in ARG Advice Note 5.

3.5.4 HSI scores were characterised via the following method devised by the Kent Amphibian & Reptile Group

Table 2: Kent HSI Suitability Scores

HIS	SUITABILITY
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

3.5.5 eDNA surveys were conducted on 6th June and 7th June 2018 (water-bodies 1 and 2 respectfully) following methodologies outlined in Biggs et al. 2014. Analysis was undertaken by ADAS on 15th June 2018. Full survey information can be found in separate ecology report: *apT London Road eDNA, 2018*.

3.5.6 Survey was undertaken by Mark Latham BSc (Hons) MSc ACIEEM RMSB and Nicola Stone MSc BSc (Hons). Mark Latham and Nicola Stone hold both Natural England and Natural Resources Wales Licence to survey for great crested newts.

3.6 Reptile

3.6.1 All widespread reptile species are afforded protection from intentional killing or injury by the Wildlife and Countryside Act 1981 (as amended). Furthermore, England's native reptile

species are listed as species of principal importance under Section 41 of the NERC Act 2006. In addition, sand lizard and smooth snake receive full legal protection under The Conservation of Habitats and Species Regulations 2010. Telford lies outside of the known range for both these species and as such they are not considered further in this report.

3.6.2 Reptile surveys followed best practice guidance outlined in:

- Natural England, Reptiles: Survey and Mitigation for Development Projects¹⁸
- Sewell, D. *et al.* (2013). Survey Protocols for the British Herpetofauna
- Natural England, Technical Information Note TIN102 Reptile Mitigation Guidelines (Withdrawn)
- Highways Agency (2005). Design Manual for Roads and Bridges, Vol 10 Section 4. HA 116/05 Nature Conservation Advice in Relation to Reptiles.
- Froglife (1999). Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Advice Sheet 10.
- Griffiths and Inns (1998). Surveying In: Gent A & Gibson S (eds.) (1998). Herpetofauna Worker's Manual.
- Herpetofauna Groups of Britain and Ireland (1998). Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards.

3.7 Badger

3.7.1 Badgers are protected from wilful killing, injury or taking via the Protection of Badgers Act 1992. The act also makes it illegal to intentionally or recklessly damage, destroy or obstruct access to any part of a badger sett. Within this framework a badger sett is defined as “any structure or place, which displays signs indicating current use”.

3.7.2 Badger survey was informed by the following:

- Bang, P. and Dahlstrom, P. (2006) Animal tracks and signs. Oxford, OUP,
- Bennett, A. *et al.* (2005) Other Mammals, in: Hill, D. *et al.* (eds) (2005) Handbook of Biodiversity Methods. Cambridge University Press,
- Clark, M. (1988) Badgers. Whittet Books, London,
- Harris, S. *et al.* (1991) Surveying badgers. Mammal Society, and
- Neal, E. and Cheeseman, C. (1996) Badgers. T. & A. D. Poyser. x Woods, M. (1995) The badger. London, Mammal Society.

3.7.3 Badger survey took place both within the site and where possible within a 30 m buffer of the site boundary.

3.7.4 As a mainly nocturnal mammal, survey for badgers focused upon determining signs indicative of activity. These signs included the following:

- Sett structures, spoil heaps and associated bedding,
- Paw prints,
- Latrines,
- Pathways/desire lines,
- 'Push-throughs' under fences,
- Snagged hairs on fencing wire and vegetation,

¹⁸ <https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences>

- Snuffle-holes and scratching posts,
- Feeding remains, and
- Carcasses/skeletal remains.

4. Results

4.1 Desktop Study

Statutory Designated Sites

- 4.1.1 The site is not located within, or immediately adjacent to any of the following sites:
- Local Nature Reserves (LNRs);
 - National Nature Reserves (NNRs);
 - Sites of Special Scientific Interest (SSSIs);
 - Ramsar Sites; or
 - Special Areas of Conservation (SACs) /Special Protection Areas (SPAs).
- 4.1.2 The proposed site is not within Natural England's Impact Risk Zone for any designated site.
- 4.1.3 Therefore, impacts on statutory and non-statutory designated sites are not considered further in this report.

Priority Habitats and Ancient Woodland

- 4.1.4 The desktop study identified no priority habitat on or adjacent to the site. The River Severn (Shrewsbury to Emstrey) Local Wildlife Site is within 125m of the proposed development. The development is separated from The River Severn by a new development. Providing a suitable drainage scheme and public open space is provided onsite no effect pathways have been identified impacting the River Severn LWS.

Granted European Protected Species Licences

- 4.1.5 Searches of Natural England's Granted EPS Licence GIS Layer identified no granted EPS Licence within 2km of the site proposed for development.

Biological Records

- 4.1.6 The data search held no records for the proposed development site. Several records of protected species are within 2km those records of note include Great Crested Newt, Swift, Hedgehog, Barn Owl, Badger, Otter, Noctule Bat, Common Pipistrelle Bat, and Brown Long-eared Bat.
- 4.1.7 Shropshire Ecological Network
The site is within the buffer of Shropshire Council's Environmental Network map (figure 3).

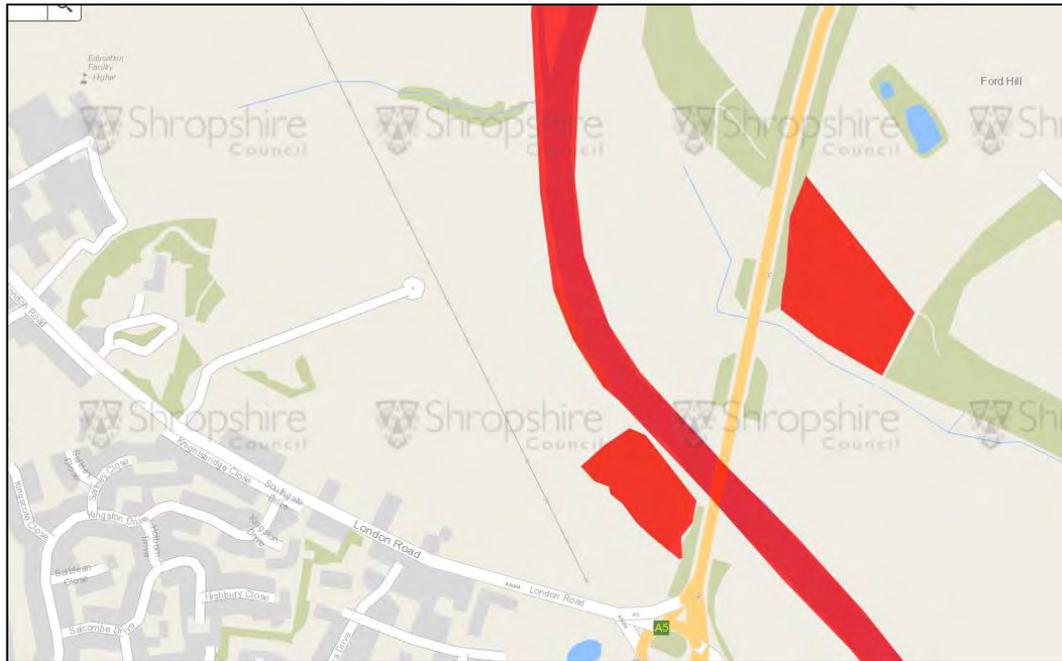


Figure 3: Shropshire Ecological Network. Red represents core area. Accessed on 28/05/2021 online <https://www.shropshire.gov.uk/environment/biodiversity-ecology-and-planning/shropshire-environmental-network/>

4.1.8 Previous ecological information

This report should be read in conjunction with the following ecological reports:

- *Land off London Road, Shrewsbury Proposed self-build site. Ecological and protected species surveys prepared by Camlad Ecology (August 2018)*
- *Habitat Suitability Index Assessment and eDNA Survey for Great Crested Newts prepared by apt 2018.*

4.2 **Habitat & Flora**

- 4.2.1 The site is a total area of 7.05 hectares, and consists mainly of an arable crop which was cut between two survey visits (figure 4 site visit on the 21st, figure 5 site visit on the 22nd May 2021).



Figure 4: Main site looking North from London Road 27th May 2021.



Figure 5: Main site Looking North from London Road 27th May 2021.

4.2.2 The site is bounded by a cemetery to the west which is mostly closely mown amenity grassland with areas of seeded wildflower meadow and ornamental planting. The western boundary is made up of laurel, field maple, and sycamore. London Road is to the south of the site. The southern boundary is bounded by dense hedge (figure 7). Hedgerow

predominantly consists of hawthorn, with elder, dogwood, dog rose and ivy. Post and rail and heras fencing denotes the eastern and south-eastern boundaries.



Figure 5: Hawthorn dominated hedgerow from London Road.

- 4.2.3 The main arable section is dominated by Rye Grass. There is a more diverse sward in sections between existing houses, consisting of nettles, cleavers, wavy bittercress, greater plantain, broadleaved dock, chickweed, sticky mouse ear, dandelion spp., spear thistle, groundsel, creeping buttercup, white clover, field forget-me-not, teasel, doves-foot cranes-bill, white dead nettle and ragwort.
- 4.2.4 Due to the low structural complexity of the site a Phase 1 habitat survey map has not been produced.

4.3 Preliminary Bat Roost Inspection

- 4.3.1 There are no buildings or mature trees within the red line boundary. These findings are consistent with the results presented in the Camlad 2018 ecology report.
- 4.3.2 In 2018 Camlad Ecology a single bat activity transect survey was undertaken on the 3rd July 2018. Common and Soprano Pipistrelle were recorded commuting/foraging along site boundary and across the proposed site.
- 4.3.3 The 2021 walkover survey assessed the site for material changes that may have impacted upon the validity of the 2018 bat activity survey results. No significant material changes to the habitats present were recorded. The ecological conditions and habitat and ecosystem

functions were noted to have remained similar. Therefore, as no material changes to the ecological conditions at the site have occurred, the need for further updated bat transect surveys are not considered necessary in this instance. This approach is consistent with CIEEM Advice Note on the 'Lifespan of Ecological Reports and Surveys' for species surveys between 18 months and 3 years old.

4.4 Breeding Birds

4.4.1 The boundary hedgerows provide dense cover for nesting birds. The main section of arable field is not suitable for ground nesting birds.

4.4.2 No specific breeding bird surveys were undertaken. However, incidental recording during the site walkover documented a breeding bird assemblage typical of urban/peri-urban habitats. Suitable habitats were seen to be limited to developing areas of boundary hedgerows and trees. These findings are consistent with Camlad 2018.

4.5 Great Crested Newts

4.5.1 There are two waterbodies within 250m of the proposed development. Waterbody 1 is 100m to the south of the development and is separated by a major road barrier (figure 6). This pond is ruled out of further survey work due to lack of connectivity.



Figure 6: London Road – a barrier to newt dispersal.

4.5.2 An updated Habitat Suitability Index was undertaken on Waterbody 2 (Cemetery pond) on the 27th May 2021:

Table 4: Habitat Suitability Index Assessment Water-body 2 SJ5138211198 (27th May 2021)

Criteria	Score	Description
Location	1	Area A
Pond Area	0.05	c.100msq (50sqm average)
Pond Drying	0.9	Never dries
Water Quality	0.67	Moderate invertebrate diversity
Shade	1	< 60% shade
Fowl	1	No waterfowl present
Fish	0.33	Goldfish present
Ponds	0.1	Significant barriers to surrounding ponds
Terrestrial Habitats	0.33	Habitat with poor structure, limited opportunities for foraging and shelter
Macrophyte Cover	0.35	< 10% macrophyte cover
HSI Score	0.40	
Suitability	Poor	(Poor Range <0.5)

4.5.3 Pond 2 has a Poor habitat suitability (Figure 7 showing fish presence). Findings remain consistent with apT and Camlad previous ecological survey work.



Figure 7: Waterbody 2 Poor Suitability to Support Breeding Great Crested Newts.

4.6 Reptile

- 4.6.1 In 2013 reptile survey work conducted by Camlad Ecology focused upon establishing presence/ reasonable absence of reptile species. From the results it is reasonable to assume likely absence of reptile species or, that if reptile species are present, the population is of such a small size that surveys conducted in line with current best practice guidance were unable to detect it.
- 4.6.2 Walk over surveys in 2021 reassessed the site for its suitability to support reptiles and recorded results consistent with Camlad ecology report 2018 i.e. arable field with more diverse field margins between residential properties along London Road. There has been no material change on site and therefore it can be assumed that the approach set out by Camlad 2018 is still valid.

4.7 Badger

- 4.7.1 Camlad Ecology 2018 recorded badger activity on site. However, during the ecological walkover, no signs of Badger, including any tracks & trails, latrines, feeding signs, couches, hair and setts were recorded within the site. Although no signs were recorded in 2021 it is assumed that badgers are still present in the wider environment.

4.8 Other mammals

- 4.8.1 The site is still capable of supporting populations of hedgehog.

5. Assessment

- 5.1.1 Desktop studies indicate that the area proposed for development does not have the potential to impact upon any sites with statutory or non-statutory designations for their nature conservation value.
- 5.1.2 Previous surveys undertaken in 2013 and 2018 as well as those undertaken in 2021 indicate that:
- The site supports no Schedule 8 or Schedule 9 plant species;
 - The terrestrial habitats present within the site do not support amphibian assemblages of high nature conservation value;
 - The site is of low value for reptiles;
 - The site supports a breeding bird assemblage typically encountered in urban and peri-urban habitats;
 - The habitat present are used by low numbers of common bat species for foraging and commuting;
 - The arable crop has previously provided forage for Badger;
 - The site is suitable habitat to support hedgehogs.

6. Survey Constraints

- 6.1.1 The walkover survey was undertaken in the main survey season. No survey constraints were noted within the redline boundary and it is considered that the level of survey effort undertaken within this area was appropriate and proportionate to the habitats, features and species encountered on site.

- 6.1.2 Every effort has been made to obtain all ecological data within the public domain and it is considered the scope of selected sources of this data are comprehensive enough to inform the assessment. However, it is possible that other information, not in the public domain, exists.
- 6.1.3 All ecological field surveys are affected by elements such as seasonality, weather and animal behavior therefore absence of evidence cannot always be conclusive proof of absence for specific species or an indication that other species may be present in the future. However, the level of survey effort is considered proportional and of broad enough scope to inform the assessment.

7. Recommendations

7.1 Habitat & Flora

7.1.1 Retention of boundary trees and hedgerow

All trees and hedgerow sections to be retained should be protected during the construction phase in accordance with BS5837:2012. Planting schedules of a ratio of 2:1 for every tree lost should also be implemented favoring native species of a local provenance, and/or climate change resilient species.

7.2 Amphibians

7.2.1 Avoidance measures for reptiles and amphibians.

The potential for reptiles and amphibians to be found within the proposed development site is negligible. No further great crested newt or reptile survey work is required to inform a planning application at the site. In order to remove any remaining residual risks of reptile and amphibians being encountered the following best practice working method statements should be followed.

7.2.2 Pre-development works and soft strip for reptiles and amphibians

- Prior to works commencing the area proposed for development should be kept tidy and free from piles of debris, stones, loose soil, logs, or similar. Any log piles and rubble at compartment boundaries, verges and/or hedge bases should be carefully lifted by hand, not dragged, and then removed. This will ensure that there are no features within the site boundary capable of offering shelter to amphibians.
- Any areas of that contain tall grass should be strimmed to a height of 15cm and all cut material removed. The area should then be left undisturbed for a minimum of 48hrs.
- After a minimum 48hr period has passed all vegetation and top soil can then be stripped from those areas.

7.2.3 Avoidance measures during development works for reptiles and amphibians

- All materials should be stored in set areas, preferably on hard standing. These areas must be kept tidy and free from debris, stones, loose soil, logs, or similar.
- All stored materials should be kept off the ground and raised upon stillages or pallets to prevent reptiles or amphibians seeking temporary protection or shelter under, or within, them.
- Skips and bins should be stored in a similar way on timber baulks.
- Plant machinery should be stored on hard standing.

- All waste or rubble should be deposited directly into skips.
- In the first instance, any excavations such as trenches should be dug and filled in during the same working day.
- Should any excavation(s) remain open overnight these should be searched and checked for reptile or amphibian presence prior to works recommencing.
- All excavations that remain open overnight should be tightly covered with boarding and incorporate suitable ramps at either end to allow the ingress and egress of reptiles or amphibians.

7.2.4 In the unlikely event of a great crested newt or reptiles being encountered, all work must halt immediately. A suitably qualified ecologist should be contacted and works either rescheduled, amended, or a license applied for to allow works to continue.

7.3.1 Breeding Birds

7.3.2 Avoidance measures for breeding birds

Removal of &/or disturbance to any vegetation or structure capable of supporting nesting birds should, in the first instance, be scheduled to be undertaken between October – February, inclusive, thereby avoiding the breeding season.

7.3.2 Should this not be practicable, surveys should be undertaken by a suitably qualified ecologist. In the event of nests being found buffer zones should be applied to working areas and nests monitored until fledging has taken place.

7.3.3 Method statements will need to be provided detailing correct working practices and the provision of alternative nesting resources for the local bird assemblage.

7.3.4 Provision of bird nesting opportunities

Site enhancements should be delivered ensuring an increased nesting resource on site. It is recommended that the provision of bird boxes, installed upon trees scheduled to be retained and integrated bird bricks built into the site design, are included in any landscape and long term management plan. In this instance it is recommended that a minimum of 25% of dwellings receive bird brick enhancements (for swift and house martins).

7.3.5 Bats

7.3.6 Recommendations to avoid disturbing foraging and commuting bats during and post construction

During the construction phase any flood lighting should be switched off at the minimum of one hour prior to sunset and any works taking place between dusk and dawn should not occur between mid-April and October (inclusive), thereby avoiding the active season for bats.

7.3.7 It is recommended that, as part of the development, low impact lighting schemes should be adopted following guidance outlined in the BCT's "Bats and Lighting in the UK". This should seek to reduce light spill via the use of low level lighting used in conjunction with hoods, cowls, louvers or shields to direct light to intended areas only. It is recommended that lighting for pedestrian areas should be as directional as possible.

7.3.8 Recommendations during soft felling/lopping of tree branches

Should any unforeseen tree works to be required to those trees scheduled to be retained the following recommendations are made:

- Prior to works commencing trees should be inspected by the ecological clerk of works. If material changes to the ability of the trees to support roosting bats has occurred the ecological clerk of works may recommend further surveys such as a detailed climb and inspect or a dusk emergence/pre-dawn return surveys.
- Prior to works commencing any cracks and splits within the tree should be wedged open to prevent potential closure as stresses change during felling
- Prior to works commencing loose bark and/or ivy should be carefully peeled back/removed to reveal the wood beneath
- Cavities must not be sawn through; sections that contain potential roost features must be “soft-felled” and roped carefully down to the ground
- Soft felled sections containing cavities should remain undisturbed on site for at least 24 hours following felling to allow any undiscovered bats (or other animals) safe egress
- Where possible, felling should occur during October to mid-November, or mid-March to the end of April
- If bats, or evidence of bats, are discovered at any time work must cease. The ecological clerk of works should assess the situation and modifications/amendments to any EPS licence may be required before works can resume.

7.3.8 Provision of additional roosting resources

Site enhancements should be delivered ensuring an increased bat roosting resource on site. It is recommended that integrated bat bricks, or integrated bat roost features, are installed on a minimum 25% of dwellings.

Badgers

7.3.9 Avoidance measures for badgers

Immediately prior to the commencement of development a pre-commencement badger inspection should be undertaken by an experienced ecologist. If new evidence of badgers is recorded during the survey then the ecologist should set out appropriate actions to be taken during the works. This may include; precautionary methods of working, timing restrictions, restrictions of activities around any identified setts and the requirement, or otherwise, for Badger Disturbance Licences from Natural England should the closure, disturbance or destruction of setts be considered necessary.

7.3.10 No works should take place after dusk.

7.3.11 No topsoil/overburden should be stored on site that may become compacted or vegetated to the point that it would offer habitat capable of supporting new badger setts.

7.3.12 Other Species

7.3.13 It is recommended that any submitted landscape and long term management plans incorporate the provision of raised fencing sections to ensure the site is permeable for small mammals, in particular hedgehog. Proposed planting, seed mix selection and mowing regimes proposed in areas of public open space should also be selected to benefit local invertebrate assemblages including pollinating insects including bees, hoverflies, butterflies and moths.

8. Longevity of Reporting

- 8.1 Both the evidence presented and the conclusions and recommendations outlined in this report are considered valid for a period of two survey seasons from the date of survey.

