

Preliminary Ecological Appraisal

(Incorporating an Extended Phase 1 Survey, Preliminary Roost Assessment)

Project: Chapel Farm, Whitewell, Whitchurch, SY13 3AL

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On Behalf of: Mr G Cartwright

Foreword

Salopian Consultancy Ltd is an Arboricultural/Ecological consultancy which provides inputs to guide developers and architects during the planning process. Constraints information is presented during the design stage and liaison undertaken with local planning authorities to provide assistance with technical queries pre, during and post construction phases.

Core services include BS5837:2012 tree surveys, condition assessments, mortgage applications and woodland management. In addition, Salopian Consultancy Ltd have in house ecological expertise enabling them to perform a range of Phase 1 and Phase 2 ecological surveys.

Report revision record

	Draft	Final Version
Report Reference	SC:482 PEA	SC:482 PEA
Project	Chapel Farm	Chapel Farm
Author	D. Williams	
Proof Read	R. Parry	
Issue Date	24/06/2021	29/06/2021

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Executive summary

Brief of the study and context of development

This report has been prepared to identify the key ecological constraints to inform a planning application for 8 caravan pitches at Chapel Farm. The focus of the study has been to highlight those ecological constraints to ensure that they have been given due consideration during the design and planning process, whilst identifying opportunity for biodiversity enhancements.

Survey methods

A desk study and Phase 1 habitat survey were performed to assess the site's potential to support protected species. This study was extended to include a Preliminary Roost Assessment (PRA) of those trees and structures on site by a licensed Ecologist.

Findings and recommendations

The proposal will require the construction of 8 caravan pitches as well as the planting of new trees and hedgerow. A single waterbody was identified approximately 159m south west of the site which was not accessible at the time of the survey. It is considered highly unlikely that Great crested newts (*Triturus cristatus*) would be encountered during construction taking into account the scale and nature of the proposed works, the distance from the pond, partial barrier by way of Whitewell Lane and the poor suitability of the terrestrial habitat within the application. This species is therefore not deemed a constraint to the proposal.

The survey process did not identify any trees/manmade structures with suitable features for roosting bats. Those mature trees/tree groups and hedgerow provide suitable nesting opportunities for birds and distinct linear features to act as commuting routes for a range of taxonomic groups, particularly those which occupy a nocturnal niche. The implementation of a sensitive lighting scheme will be essential to avoid illumination of these features and maintain dark corridors across the site.

Further surveys and ecological enhancements

No evidence of protected species or notable habitats were identified on site, further Phase 2 surveys to inform licensing or mitigation measures are not deemed necessary. All hedgerows and tree will be retained as part of the proposal such that no impacts are anticipated upon the species likely to be utilising the site.

The proposal has the opportunity to provide enhancements for protected species through the installation of both bird and bat boxes upon mature trees, as well as the planting of a substantial number of new trees and hedgerows. The latter of which could be achieved through a planting scheme secured by a suitably worded planning condition.

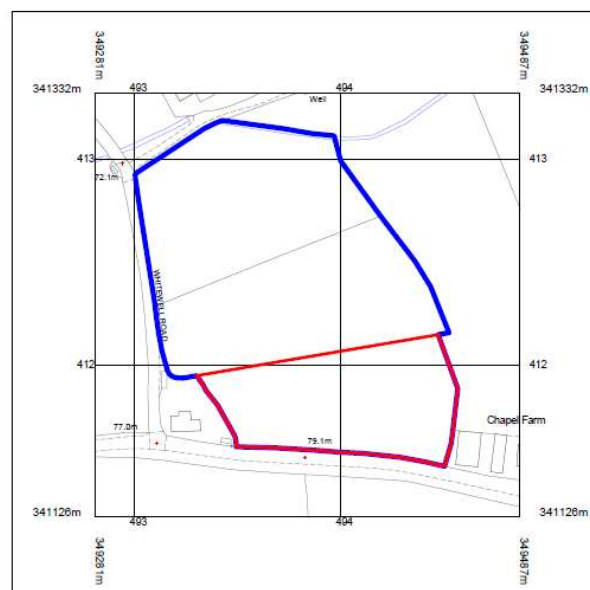
Section 1 Introduction

- 1.1 This report, its plans and associated appendices have been prepared on behalf of Mr G Cartwright to meet those requirements of an Extended Phase 1 Survey at 'Chapel Farm', hereafter referred to as 'The Site'. The Site is centred on approximate Ordnance Survey Grid Reference SJ4939 4118 illustrated in **Plan 1**.
- 1.2 The Phase 1 survey was extended to include an assessment of the site suitability for protected species including a Preliminary Roost Assessment (PRA) of trees and structures on. The data obtained from this survey is presented in a Phase 1 habitat map (**Plan 2**) illustrating habitats recorded with target notes used to highlight features of interest. Further details on the methodology adopted during the Extended Phase 1 survey and desk study are included in **Appendix 1**.
- 1.3 The survey was performed on the 22nd of June 2021 by Douglas Williams, Salopian Consultancy Ltd.'s Principal Ecologist. Doug is an experienced Ecologist/Arboriculturist who holds an MSc in Biological Recording, protected species licences for both bats and great crested newts, and memberships with the Royal Society of Biology, the Chartered Institute of Ecology and Environmental Management and the Arboricultural Association.

Site location and context of development

- 1.4 The site is located within a rural setting bound to the south and west by Whitewell Lane. The application area focuses upon a rectangular field of improved grassland which meets further land of an agricultural nature to the north and east. The site is bound at all cardinal points by mature established mixed species hedgerows with occasional mature specimens of Ash set within these boundary features. The proposal focuses upon the most southern field compartment where planning permission is sought for 8 caravan pitches.

Figure 1: Site location plan



Scope of the study

1.5 The primary focus of the study is to;

- Meet the validation requirements of Wrexham County Borough Council by presenting the findings of an Extended Phase 1 Survey in a clear and concise manner.
- Include the content set by the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines¹, for ecological appraisals.
- Classify and map those habitat types within and immediately adjacent to the application area.
- Identify both habitats and species constraints pertinent to the development proposal.
- Detail European Protected Species Mitigation licensing (EPSML) requirements, Reasonable Avoidance Measures (RAMS) and mitigation measures where required.
- Identify opportunities for the proposal to provide enhancements to the ecological resource on site.

Limitations

1.6 The survey was not considered to be limited by seasonal or climatic factors and was undertaken within a suitable time of the year given the habitats and species likely to be present.

1.7 The Extended Phase 1 survey provides a snap shot of the potential of habitats to support protected species. It should be noted that the absence of field signs does not necessarily confirm the absence of a species due to the dynamic and seasonal nature of many protected species. The suitability of a site may also increase with succession over time or with changes in land management practices. Further advice should be sought from Salopian Consultancy Ltd in the event that a protected species or field signs of such species are discovered during works.

¹ Chartered Institute of Ecology and Environmental Management., (2015). *Guidelines for Ecological Report Writing* Appendix A.

Section 2 Planning policy & statutory controls

Statutory legislation

- 2.1 A range of EU and UK legislation offers statutory protection to species and habitats which Local Planning Authorities have a duty to consider whilst determining planning applications. The following EU directives are relevant to protected species, habitats, and designated sites;
- The EC Habitats Directive (92/43/EEC)
 - The Birds Directive (79/409/EEC) and
 - EU Water Framework Directive (2000/60/EC)
- 2.2 Much of the EU legislation is transposed into domestic legislation with respect to protected species and habitats, including;
- The Wildlife and Countryside Act (1981) (as amended)
 - The Protection of Badgers Act (1992)
 - The Natural Environment and Rural Communities Act (2006)
 - The Countryside and Rights of Way Act (2000)
- 2.3 The Association of Local Government Ecologist (ALGE) provides a summary of the criteria and thresholds² to determine when an Ecological survey should be performed. Many Local Planning Authorities have adopted this guidance to ensure that the correct information is presented when considering the impacts upon biodiversity during the planning process.
- 2.4 Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making throughout the public sector
- 2.5 The presence of Protected species and Species of Principal Importance need to be given consideration during the planning process to comply with Welsh Government Technical Advice Note 5 (TAN5).

² Association of Local Government Ecologist., (2007). *Template for Biodiversity and Geological Conservation*. Table 1.

Section 3: Survey findings

Desk study

- 3.1 The desk study summarised in **Appendix 1** forms an important part of the ecological assessment. It provides contextual information, such as the sites proximity to designated sites held by Magic.gov.uk. A review of OS maps and online mapping resources was undertaken to identify designations of conservation concern within 1km of the site and waterbodies within 250m

Statutory/ non-Statutory Designation within 1km

- 3.2 No statutory designations of conservation concern were identified during the desk study within 1km of the site nor were any non-statutory designations identified within or adjacent to the site.

Waterbodies

- 3.3 A single waterbody was identified during the desk study located approximately 159m south west of the site beyond Whitewell Lane.

Figure 4: Main body of the site



Preliminary roost assessment – structures/trees

- 3.4 A ground-based assessment of those trees located within and directly adjacent to the boundaries of the site did not identify any features considered suitable for roosting bats.
- 3.5 A wooden framed shed like structure was noted adjacent to the site entrance which appeared to be in good condition with no obvious mean of ingress into the structure nor were any suitable crevices identified upon the exterior with potential to be used by bats.

Phase 1 survey

- 3.6 The application area encompasses a field of improved pasture which had been relatively recently topped. The grassland is dominated by Cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*) and white Clover (*Trifolium repens*).
- 3.7 Occasional flowering species typical of such agricultural land use are associated with the field margins which include, Nettle (*Urtica dioica*), Spear thistle (*Cirsium vulgare*), Yarrow (*Achillea millefolium*), Broad leaved dock (*Rumex obtusifolius*). In addition infrequent patches of Purple vetch (*Vicia americana*), Rosebay willow herb (*Chamaenerion angustifolium*), Bitter night shade (*Solanum dulcamara*) & Red campion (*Silene dioica*) were also noted.
- 3.8 The field boundary hedgerow comprise of Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) & Elder (*Sambucus nigra*) with two large specimens of Ash (*Fraxinus excelsior*) set within the northern hedgerow and a further specimen close to the existing highway access point.

Section 4: Evaluation of ecological constraints and opportunities

Designations

- 4.1 The site does not fall within or directly adjacent to any statutory or non-statutory sites of conservation concern.
- 4.2 The proposal does not involve the loss or removal of trees/hedgerows, or any other feature considered to be of significant ecological merit or those which provide a connective feature between notable habitats in the local landscape.
- 4.3 Artificial lighting is a factor which will need to be taken into account to ensure indirect impacts are minimised and dark corridors across the site remain.

Habitats

- 4.4 Those habitats on site are restricted to improved/modified, species poor grassland which contain few flowering species tolerant of the current agricultural management regime. The boundaries of the site support mature established hedgerow features and occasional standards of Ash.
- 4.5 Whilst the hedgerows and tree groups do provide suitable opportunities for nesting birds, small mammals, and commuting corridors for nocturnal wildlife, the field of improved grassland is considered to be of limited ecological merit, such that its modification/change of use is not considered to be a constraint to the proposal.

Protected species.

- 4.6 The hedgerows and tree recorded provide nesting opportunities for a range of common passerine. All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), this makes it an offence to:
 - Intentionally kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - Take, damage or destroy the egg of any wild bird; or
 - To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.
- 4.7 No vegetation removal is anticipated as part of the proposal. In the event future tree works/pruning of hedgerow is required such operations must be timed to fall between September and February outside of the bird nesting season to avoid contravening the legislation above or immediately after a pre-commencement check by suitably qualified personnel.
- 4.8 The PRA did not identify any features upon those tree/wooden shed surveyed with the potential to support roosting bats.

- 4.9 No evidence or fields signs of badger (such as setts or scraps) were identified within 30m of the site boundaries. Given the mobile and dynamic nature of badgers, if any excavation is discovered prior or during works an update survey should be completed by a competent ecologist to confirm the cause of the excavation before works continue.
- 4.10 A single waterbody was identified within 250m of the site, located 159m to the south west of the site. Access to the waterbody was not available during the extended Phase 1 survey, therefore a formal Habitat Suitability Index was not undertaken.
- 4.11 Studies involving capture-mark-recapture and radio tracking of Great crested newt populations have shown that the large majority of a population remain within the first 50m of the breeding pond. Presence drops significantly as distances increase up to 100m from the breeding pond (Mullner 2001, Jehle 2000)³ hence the likelihood of encountering newt beyond 100m from their breeding ponds is significantly reduced.
- 4.12 English Nature Research Report 576 published the findings of research into mitigation schemes (Cresswell and Whitworth, 2004)⁴ which mirrors the findings of the studies above *“The most comprehensive mitigation, in relation to avoiding disturbance, killing or injury is appropriate within 50m of a breeding pond. It will also almost always be necessary to actively capture newts 50-100m away. However, at distances greater than 100m, there should be careful consideration as to whether attempts to capture newts are necessary or the most effective option to avoid incidental mortality. At distances greater than 200-250m, capture operations will hardly ever be appropriate”*.
- 4.13 Acknowledging the site falls in excess of 150m from the nearest waterbody, it is considered unlikely that Great crested newts would be encountered during the works, especially given the presence of the partial barrier by way of Whitewell Lane, poor suitability of terrestrial habitat on site, and the localised context/scale of the works. The absence of a HSI score is therefore not considered a limitation to this study nor are Great crested newts deemed a constraint to the proposal.
- 4.14 No field signs or habitats considered suitable to support other protected species such as dormice (*Muscardinus avellanarius*) were identified on the site or highlighted during the desk study.

Artificial Lighting

- 4.15 All new Artificial lighting will need take into account those measures recommended in the 'Bat Conservation Trusts Guidance Note 08/18 Bats and artificial lighting in the UK to ensure dark corridors remain for nocturnal commuting/foraging wildlife.

³Müllner, A. (2001) *Spatial patterns of migrating Great Crested Newts and Smooth Newts: The importance of the terrestrial habitat surrounding the breeding pond*. Rana

⁴Cresswell, W. & Whitworth, R.(2004)) *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. Report no 576.English Nature

- 4.16 Lighting should be directed to where it is needed to avoid unnecessary light spillage. All proposed new lighting should be directed away from any vegetated boundary features to retain dark corridors for commuting bats across the site.
- 4.17 Artificial lighting should lack UV element. The use of LEDs is advised due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Metal halide, fluorescent sources should not be used.
- 4.18 Lighting should adopt a warm white spectrum, ideally below 2700 kelvin with a peak wavelength higher than 550nm, thus avoiding emitting those wavelengths of light most disturbing to bats⁵ (Stone 2012). Security lighting should be activated by movement sensors to reduce the amount of time the lights are activated, set on a short timer (maximum of 1 minute), and orientated towards the ground. The use of accessories such as hoods/cowls or shields is advised to help direct light to the required area only. New planting can be used to provide an effective barrier to light spillage off site.

Biodiversity enhancements

- 4.19 It is recommended that enhancements to the site for bats are provided through the erection of two 2F Schwegler bat boxes upon those mature boundary trees at a minimum height of 3m. Enhancement of the site for nesting birds could be provided through the erection of two 1B Nest Boxes with a 32mm entrance hole upon mature boundary trees. This bird box is designed to attract Great tit (*Parus major*), Blue tit (*Cyanistes caeruleus*), Marsh tit (*Poecile palustris*), Coal tit (*Periparus ater*), Crested Tit (*Lophophanes cristatus*), Redstart (*Phoenicurus phoenicurus*), Nuthatch (*Sitta europaea*), Collared flycatcher (*Ficedula albicollis*) Pied flycatcher (*Ficedula hypoleuca*), Wryneck (*Jynx torquilla*), Tree Sparrow (*Passer montanus*) and House Sparrow (*Passer domesticus*).
- 4.20 In addition to roosting provisions for bat and birds there is the opportunity to incorporate new hedgerow and tree planting to increase the level of biodiversity across the site by infilling hedgerow which are defunct.
- 4.21 All new Tree and hedgerow planting should meet the requirements of **BS8545: 2014 Trees: from nursery to independence in the landscape. Recommendations** with specific reference to the procurement of new trees, species selection, aftercare, and maintenance. This could be achieved via planning condition through a formal Tree Planting Scheme.

⁵ Stone, E.L., Jones, G., Harris, S. (2012). Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. Glob. Change Biol. 18, 2458–2465

Section 5 Conclusion

- 5.1 The application area comprises exclusively of improved grassland which is considered to be of little ecological merit.
- 5.2 A single pond was identified within 250m of the site during the desk study, located 159 to the south west of the site. The likelihood of encountering Great crested newts on site is considered very low given the distance from the pond barriers to dispersal and poor suitability of terrestrial habitat within the main body of the site. This species is therefore not deemed a constraint to the proposal based upon the rational above.
- 5.3 No evidence of other protected species were identified during the course of the study, therefore the proposal is not considered to be limited by any other ecological constraints.
- 5.4 The proposal has the potential to provide significant enhancements to the site as an ecological asset through the incorporation of both bird and bat boxes into the built form and new tree and hedgerow planting.
- 5.5 The site should be maintained in its current context to ensure its suitability for protected species does not inadvertently increase prior to development.
- 5.6 Subject to the implementation of those recommendations set out within **Section 2** and **Appendix 3** of this report, no significant impacts upon protected species are considered likely to arise. In the event of a protected species being encountered during works; all works will halt, and further advice shall be sought from Salopian Consultancy Ltd.
- 5.7 The findings of this report are valid for up to two years from its date. In the event the development proposals/application area significantly alters a re-assessment of the likely impacts by a suitably experienced Ecologist will be required.

Appendix 1 Summary of Extended Phase 1 Habitat Survey

Desk Study

The desk study is an integral role in the ecological assessment. This desk-based study provides contextual information, such as the sites' proximity to designated sites and known records of protected species. This information is used to supplement the findings of the Extended Phase 1 Survey, and used to inform the recommendations and conclusions in **Section 2 & 3**.

MAGIC website⁶

- International statutory designations (1km)
- National statutory designations (1km)
- Waterbodies within 250m radius

Extended Phase 1 Survey

The aim of the survey is to record and map the main habitat types and dominant plant species present in accordance with those classifications detailed in Handbook for Phase 1 Habitat Survey, JNCC, 2010⁷. The survey was extended to include an assessment of the suitability of those habitats for protected species undertaken by an experienced ecologist holding appropriate protected species licences, and membership with Chartered Institute of Ecology and Environmental Management and the Royal Society of Biology.

The survey does not aim to provide a complete floral and faunal inventory but seeks to identify field signs and/or habitats with the potential to support protected species. The need for further detailed Phase 2 Survey(s) were determined on this basis.

Bat Roosting Assessment: Trees

An assessment of all suitable trees located on site was undertaken by a Natural England licensed bat worker to determine their potential to support roosting bats. This assessment was undertaken from ground level using binoculars and/or endoscopes.

All trees examined were categorised based on the number and types of features known to be suitable to support roosting bats, summarised in **6.2.4 of "Bat Surveys for Professional Ecologist: Good Practice Guidelines"**⁸. These features include but are not limited to;

- Cracks and splits in limbs,
- Cavities,
- Woodpecker holes,

⁶ Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk/)

⁷ Joint Nature Conservation Committee (JNCC) (2010) Handbook for Phase I Habitat Survey – a Technique for Environmental Audit. JNCC Peterborough.

⁸ Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologist: Good Practice Guidelines* (3rd edn) The Bat Conservation Trust, London

- Loose bark thick-stemmed ivy.

Preliminary Bat Roost Assessment: Buildings

A daytime external assessment of all structures on site was undertaken to determine their potential to support roosting bats, including but not limited to;

- Cracks and crevices in brick work, timber joist/purlins.
- Slipped or missing roof and ridge tiles.
- Gaps between soffits and barge boards.

An internal assessment of all accessible loft voids was undertaken by a Natural England licensed bat worker for evidence of roosting bats such as droppings, feeding remains and urine staining within accessible areas.

Potential suitability of the structures are assessed by assigning a rating of low to high based on the number and type of external features considered suitable for roosting bats. The need for Phase 2 Emergence Surveys is decided on this basis.

Reptiles

Terrestrial searches were undertaken during the Extended Phase 1 Survey for reptiles seeking refuge beneath debris, including log piles and brick/rubble where present.

Nesting Birds

An assessment from the ground of all trees and boundary vegetation located on or immediately adjacent to the site boundary was undertaken by an experienced ecologist, to determine the suitability of habitats for nesting birds.

Badger

An experienced ecologist undertook a thorough site walkover to identify any evidence/field signs of badgers including setts, scrapings produced during foraging behaviour, latrines, paths and prints.

Where present, an assessment of excavations was made taking into account the shape of the entrance, quantity of spoil and presence of badger hair/claw marks. A classification of sett type are made (Main Sett, Annex, Subsidiary, Outlier) based on the level of activity, number of entrances and proximity to other Setts in accordance with Harris et al (1989) ⁹.

⁹ Harris, S., Cresswell, P., and Jefferies, D. (1989). Surveying Badgers. Occasional publication of the Mammals Society.

Appendix 2 Target notes

TN1 recently topped improved grassland

TN2 Wooden shed

TN3 Existing hard standing

Plans

Plan 1

Proposed site layout



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Plan 1:Phase 1 Habitat map

SCALE :
1 : 1000 @ A4

DATE :
29/06/2021



MAP FILENAME :
Chapel Farm

0 60m

Tree Protection Measures

Broad-leaved trees

Hedgerows

Hardstanding

Buildings

I Improved grassland

TN1 Target notes

