QUEENSBRIDGE FARM, WREXHAM

Ecological Impact Assessment Report

October 2025

Collingtonwinter environmental

Report Control Sheet

Project Name: *Queensbridge Farm, Wrexham*
Project Reference: *CW20-2789*
Report Title: *Ecological Impact Assessment*
Report Reference: *CW20-2789 RPT 005*
Printing Instructions: *Print at A4 Portrait, Double Sided.*

Rev	Date	Description	Prepared	Reviewed	Approved
1	29/09/2025	Draft report sent to Client for comment.	CO	KB	KB
2	23/10/2025	Final report sent to Client.	CO	KB	KB

Collington Winter Environmental Ltd disclaims any responsibility to Steven Heighway and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with Steven Heighway and according to the proposed plans supplied by the client or the client's agent upon commencement of the project.

The contents of this report are valid at the time of writing. As the ecological value of a site is constantly evolving and changing, if more than twelve months have elapsed since the date of this report, further advice must be taken before reliance upon on the contents. Notwithstanding any provision of the Collington Winter Environmental Ltd Terms & Conditions, Collington Winter Environmental Ltd shall not be liable for any losses (howsoever incurred) arising as a result of reliance by the client or any third party on this report more than twelve months after the report date.

This report is confidential to Steven Heighway and Collington Winter Environmental Ltd accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

© Collington Winter Environmental Ltd 2025

CONTENTS

1. INTRODUCTION 6

1.1 SCOPE & PURPOSE 6
1.2. LOCATION 6
1.3. OBJECTIVES 6
1.4. PLANNING POLICY 7
National Level 7
Local Level 7
1.5. BIODIVERSITY ACTION PLANS 8
National Level 8

2. METHODOLOGY 9

2.1. ECOLOGICAL IMPACT ASSESSMENT 9
2.2. ZONE OF INFLUENCE 9
2.3. LIKELY SIGNIFICANT IMPACTS 9
2.4. PREVIOUS SURVEYS 11
2.5. LOCAL DATA RECORDS 11
2.6. UPDATED HABITAT ASSESSMENT AND ANCIENT WOODLAND ASSESSMENT 11
2.7. NIGHTTIME BAT WALKOVER 11
2.8. BAT STATIC SURVEYS 13
Survey Limitations 13
2.9. UPDATED BADGER WALKOVER 14

3. BASELINE ECOLOGICAL CONDITIONS 15

3.1. DESIGNATED SITES 15
3.2. HABITATS 16
G4 Modified Grassland 16
H2a Native Hedgerow 16
W1h Other Woodland - Mixed (Offsite) 16
Secondary Code: 28 Ancient Woodland Site; 30 Semi-Natural Woodland 16
3.3. NON-NATIVE INVASIVE SPECIES 17
3.4. INVERTEBRATES 17
3.5. AMPHIBIANS 17
3.6. REPTILES 18
3.7. BATS (ACTIVITY) 18
SPRING NBW (08/05/2025) 18
SUMMER NBW (15/07/2025) 18
AUTUMN NBW (10/09/2025) 19
3.8. BATS (STATIC) 19
APRIL STATIC RESULTS 19
MAY STATIC RESULTS 20
JUNE STATIC RESULTS 21
AUGUST STATIC RESULTS 22
SEPTEMBER STATIC RESULTS 23
OCTOBER STATIC RESULTS 25
DISCUSSION 26
ASSESSING IMPORTANCE OF SPECIES ASSEMBLAGE 28
SUMMARY 30
3.9. BATS (ROOSTING) 30
3.10. BIRDS 30
3.11. BADGERS 30
3.12. EUROPEAN HEDGEHOG 31
3.13. BROWN HARE 31
3.14. WATER VOLE AND OTTER 31
3.15. HAZEL DORMOUSE 31

4. EMBEDDED MITIGATION 32

Relocation of Glamping Pods *32*
Retention of any Valuable Habitats *32*
Sensitive Landscape Design *32*
Bat Boxes *33*
Bird Boxes *33*

5. LIKELY SIGNIFICANT EFFECTS 35

5.1. ECOLOGICAL RECEPTORS WITHOUT ANY SIGNIFICANT LIKELY EFFECTS 35
5.2. LIKELY SIGNIFICANT EFFECTS 35
Statutory Designated Sites *35*
Habitats and Non-Statutory Sites *35*
Invertebrates *36*
Herptiles and Other Common Mammals *36*
Badgers *36*
Bats (Roosting) *36*
Bats (Foraging and Commuting) *37*
Birds *37*

6. PROPOSED MITIGATION 38

6.1. GENERAL POLLUTION CONTROL MEASURES 38
6.2. GENERAL LIGHTING CONTROL MEASURES 38
6.3. DESIGNATED SITES 38
Direct impacts upon otters *38*
Water pollution *39*
Non-Native Invasive Species, Eutrophication, and RTAs involving otters *39*
6.4. HABITATS AND LANDSCAPE BENEFITS FOR FAUNA 39
HMMP *40*
6.5. BADGERS 40
Precautionary Working Methods *40*
6.6. HERPTILES (REPTILES AND AMPHIBIANS) 40
Reasonable Avoidance Measures *40*
6.7. BAT ACTIVITY 41
Sensitive Lighting Strategy *41*
Working Restrictions *41*
6.8. BIRDS 41
Nesting Bird Check *41*
6.9. EUROPEAN HEDGEHOG 42
Considerations during Construction *42*
6.10. BROWN HARE 42
Considerations during Construction *42*
6.11. SUMMARY 42

7. RESIDUAL IMPACTS 44

Negligible adverse residual effects *44*
Minor adverse residual effects *44*
Major beneficial residual effects *45*
Moderate-Minor beneficial residual effects *45*
Major-Moderate beneficial residual effects *45*
Geographical importance *45*

8. CUMULATIVE IMPACTS 46

9. CONCLUSION 47

9.1 LEGISLATION 47
9.2 PLANNING POLICY 47
9.3 SUMMARY OF IMPACT ASSESSMENT 47

10. BIBLIOGRAPHY 50

11. APPENDIX 51

11.1 UKHABITAT MAP 51
11.2 NIGHT-TIME BAT WALKOVER MAPS 52

11.3 PRELIMINARY ECOLOGICAL APPRAISAL (ARBTECH, 2025) 53
11.4 PROPOSED LANDSCAPING PLANS (DC LANDSCAPE ARCHITECTURE, 2025) 54

1. INTRODUCTION

1.1 SCOPE & PURPOSE

1.1.1. Collington Winter Environmental Ltd was commissioned by Steven Heighway to produce an Ecological Impact Assessment (EcIA) at the land South of Queensbridge Farm, Grange Road, Overton on Dee, Wrexham, LL13 0LE. This report has been prepared to support a planning application at the site for a change of use of arable fields to a glamping site to include seven glamping pods.

1.1.2. The author of this report is Caitlin O'Connor, Senior Ecologist at Collington Winter Environmental Ltd.

1.2. LOCATION

1.2.1. Please refer to Figure 1.1 for the site location. The site is located in Overton on Dee, a village and community in Wrexham County Borough, Wales. A former borough and market town, it is situated close to the Welsh-English border on the edge of an escarpment that winds its way around the course of the River Dee.

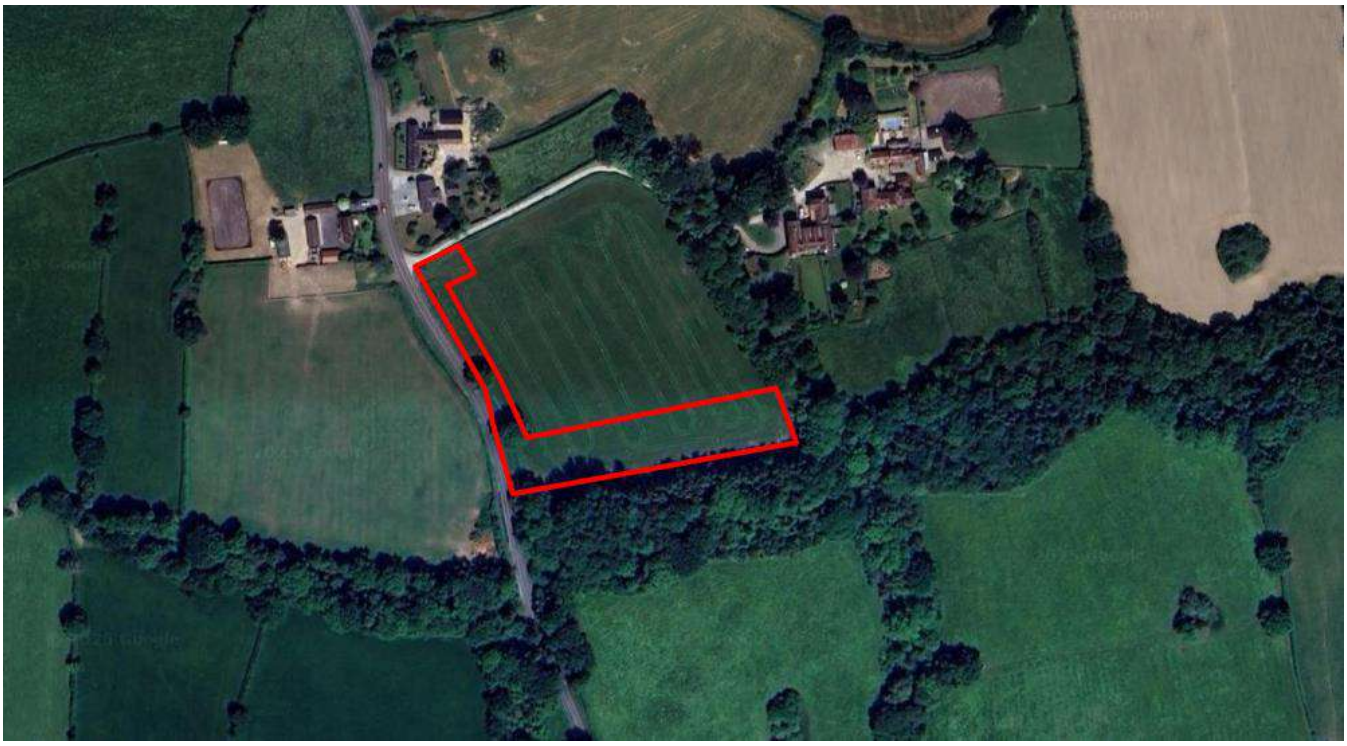


Figure 1.1 Site Location

1.3. OBJECTIVES

1.3.1. The purpose of the EcIA is as follows:

- Determine the importance of ecological features affected, through survey and/or research and with reference to available contextual information.
- Assess impacts potentially affecting important features.
- Characterise the impacts, e.g. extent, magnitude, duration, reversibility, timing and frequency.
- Identify cumulative impacts.
- Identify significant effects of impacts in the absence of any mitigation.

1.3.2. The purpose of the surveys was to provide information regarding the following:

- Species assemblage of bats within the site.
- To assess the sites usage by foraging and commuting bats.
- Categorise the woodland to the south of the site and assess potential ecological impacts.
- To assess the sites usage by badgers.

1.3.3. All other ecological receptors have been assessed using local data records, and the professional opinion of ecologists.

1.4. PLANNING POLICY

National Level

1.4.1. Planning Policy Wales (2024, as amended) sets-out national planning policy, including policies of relevance to conserving and enhancing the natural environment. Section 6.3 details policies relating to the protection of biodiversity and ecological networks.

1.4.2. Policies of relevance to the proposed development have been summarised below:

Development plan strategies, policies and development proposals must consider the need to:

- *support the maintenance and enhancement of biodiversity and the resilience of ecosystems;*
- *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework;*
- *ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;*
- *safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and*
- *secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.*

1.4.3. Planning Policy Wales also details that all developments should deliver a **Net Benefit for Biodiversity (NBB).** It states that 'development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems.'

1.4.4. A net benefit means that a development should leave biodiversity and ecosystems in a better state than before. This should ideally be provided by improving and creating habitats on site and maintaining them in the long term. If this is not possible, habitats can be created or improved elsewhere. Guidance from the Chief Planner for Wales in 2019 states that **developments that do not provide net benefit for biodiversity should be refused.**

Local Level

1.4.5. By Order of the High Court of Justice (19th May 2025), Wrexham County Borough Council's decision of 20th December 2023 to adopt the Wrexham Local Development Plan (LDP) has been quashed. The LDP is no longer part of the development plan for Wrexham County Borough and is now un-adopted.

1.4.6. As such, the development plan for Wrexham now comprises Future Wales: the national plan 2040**.** The plan details broad areas where nationally important ecological networks may exist and gives an indication of the connectivity of ecological networks at a strategic scale where connectivity across a range of habitats and between biodiversity hotspots provides a potential indication of ecosystem resilience.

1.4.7. Policy 9 'Resilient Ecological Networks and Green Infrastructure' states that:

"To ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to:

identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and

identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and well-being.

Planning authorities should include these areas and/or opportunities in their development plan strategies and policies in order to promote and safeguard the functions and opportunities they provide. In all cases, action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit), the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment".

1.5. BIODIVERSITY ACTION PLANS

National Level

1.5.1. The Natural Resources Wales Biodiversity Plan lists a set of goals to create a protect healthy and resilient ecosystems:

- Everyone values the species and habitats, landscapes and seascapes of Wales and has opportunities for access to nature. There is wide appreciation and understanding of the value of the natural world and its importance for people's well-being and for the economy, helping to align the choices that we make with the capacity of ecosystems to support us
- Our duty to maintain and enhance biodiversity and build ecosystem resilience is fully embedded in all areas of NRW's work: we learn from others and share practices that inspire and enable Government, public authorities and businesses to do the same
- Protected sites on land and sea in Wales are an integrated network, ecologically connected with the wider landscape and seascape, resilient to climate change, and where a dynamic approach to site designation and management enables habitats and species to thrive and expand, providing ecosystem services well beyond the site boundaries. Maintaining and enhancing biodiversity and building ecosystem resilience are a routine requirement of new development and the regulation and management of natural resource use across all sectors in Wales
- To have a robust and open evidence base that allows our own teams and organisations of any size to put SMNR into practice, including the ability to measure, understand and communicate the causes of environmental change and the opportunities to improve biodiversity, build ecosystem resilience and maintain and enhance the benefits they provide
- NRW staff have the knowledge, skills, commitment and support to deliver our goals for biodiversity and ecosystem resilience and we excel at inspiring and enabling landowners, business leaders and community groups to do the same. Our specialist expertise is valued, shared and grown with a like-minded community of leading practitioners around the world

2. METHODOLOGY

2.1. ECOLOGICAL IMPACT ASSESSMENT

2.1.1. The EcIA is based on the standard best practice methodology provided by the Guidelines for Ecological Impact Assessment (CIEEM, 2018). The assessment identifies important sites, habitats, species and other ecological features that are of conservation value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Local Biodiversity Action Plans. The importance of an ecological feature is considered within a defined geographical context.

2.1.2. Consideration of impacts at all scales is important, and essential if objectives for net gain of biodiversity and maintenance of healthy ecosystems are to be achieved. In identifying impacts, the review considers the Client's site proposals and any subsequent recommendations made are proportionate / appropriate to the site and have considered the Mitigation Hierarchy as identified below:

- Avoid: Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- Mitigate: Where avoidance cannot be implemented, mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- Compensate: Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.
- Enhance: The assessment refers to planning policy guidance to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

2.2. ZONE OF INFLUENCE

2.2.1. To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, considering the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

2.3. LIKELY SIGNIFICANT IMPACTS

2.3.1. For the purpose of this EcIA, a 'Likely Significant Effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects are considered significant at the range of scales from international to local.

2.3.2. A Likely Significant Effect is an effect that is sufficiently important to require assessment and reporting so that the ecological consequences of the project are understood. In broad terms, Likely Significant Effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). Note: The following definitions are used for the terms 'impact' and 'effect' throughout this report:

- Impact – Actions resulting in changes to an ecological feature.
- Effect – Outcome to an ecological feature from an impact.

2.3.3. Table 2.3.1 describes the criteria for assessing the magnitude of potential impacts of development.

Table 2.3.1 Methodology for Assessing Magnitude of Impact

Magnitude of Impact	Criteria for assessing impact
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

2.3.4. The sensitivity of a receptor is based on the relative importance of the receptor and the ability of the receptor to adapt to or absorb the change (Table 2.3.2).

Table 2.3.2: Methodology for Determining Impact Sensitivity

Sensitivity	Examples of receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

2.3.5. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be beneficial or adverse (Table 2.3.3).

Table 2.3.3: Effect Significance Matrix

Magnitude	Sensitivity		
	High	**Moderate**	**Low**
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

2.3.6. The following geographical context has been used, or adapted to suit local circumstances:

- International and European;
- National;
- Regional;
- Metropolitan, County, vice-county or other local authority-wide area;
- Local; and
- Negligible (below Local level e.g. site level).

2.4. PREVIOUS SURVEYS

2.4.1. A Preliminary Ecological Appraisal (PEA) was conducted in January 2025 by Arbtech Consulting Ltd which found the site to comprise a hedgerow lined field, with scattered trees and a woodland to the south of the site. The report details that the proposed development has potential to impact upon roosting bats; commuting and foraging bats; ancient woodland; hazel dormouse; great crested newts; and reptiles.

2.4.2. **Please note that the PEA has based mitigation recommendations upon the glamping ponds being located within the woodland. This plan has now been superseded, and the pods will now be situated within the grassland. As such, the mitigation recommendations detailed are no longer applicable to the proposed development.**

2.5. LOCAL DATA RECORDS

2.5.1. This report has been informed by local records of notable species and locally designated sites within 1 km of the site from North Wales Environmental Information Service (CONFOD), received on 22/09/2025.

2.5.2. Please note, a lack of records for a species does not confirm absence. Instead, local surveys may not have been undertaken or records not submitted to CONFOD.

2.6. UPDATED HABITAT ASSESSMENT AND ANCIENT WOODLAND ASSESSMENT

2.6.1. An updated habitat survey was undertaken on 2nd May 2025 by Jonathan Hayter, Senior Ecologist, and Michael Boucher, Graduate Ecologist. Jonathan is an experienced botanist with over 20 years' experience in surveying a wide variety of habitats and managing large estates to improve their ecological value whilst managing expectations of owners. He is an experienced arboriculturist with experience in surveying and managing ancient woodland habitats.

2.6.2. The walkover survey was undertaken broadly in line with standard UK HAB Methodology, Version 2 (2023). The assessment is undertaken with consideration of methodology as per "Preliminary Ecological Appraisal" (CIEEM, 2018).

2.6.3. A UK HAB Plan has been produced and is presented in Appendix 11.1 of this report. Standard methodology has been used, though adjustments have been made based on judgement to demonstrate habitats in a clearer manner, or where standard guidance does not fit the conditions found on site.

2.6.4. Although no longer within the site boundary, the woodland to the south of the site was surveyed to ascertain its value and irreplaceable status. The ground flora was surveyed to note any ancient woodland indicator species. Structural features such as age class, past management, veteran trees, deadwood, and invasive species were documented, along with rides, glades, and watercourses. Incidental fauna and habitat potential for protected species were also noted.

2.6.5. A desk study reviewed historic maps, aerial imagery, and the Ancient Woodland Inventory to establish woodland continuity, alongside consultation of local records and MAGIC mapping for designations.

2.7. NIGHTTIME BAT WALKOVER

2.7.1. Night-time bat walkover (NBW) surveys were undertaken within the site in accordance with guidance set out in Collins (2023). The NBW are completed by two qualified ecologists and overseen by Caitlin O'Connor and Jonathan Hayter, who both hold a Level 2 Class Bat Licence (References: 2025-80228-SCI-CL18 and CL18- 2019-39842-CLS-CLS respectively).

2.7.2. Each survey began approximately 30 minutes before sunset whereby ecologists were stationed on stationary recording points close to potential flight lines or roost sources (Figure 2.7.1 - *1 – Summer Survey Stationary Point before Transect; 2 – Spring Survey Stationary Point before Transect; 3 – Autumn Survey Stationary Point before Transect*). The surveyors remained in position to count, observe behaviour, or make acoustic recordings of commuting (or foraging) bats for up to an hour after sunset. Alternatively, if streams of commuting bats were observed, surveyors used back-tracking methods to move towards a roost, responding to live observations made.

2.7.3. The ecologists did not begin walking around the site before 30 minutes after sunset and up to 60 minutes after sunset. The time that the surveyors began walking around the site is determined by live observations in the field.

2.7.4. The ecologists walked a pre-determined walkover route (Figure 2.7.1) taking acoustic recordings and recording a time-stamped narrative about their observations. If appropriate, the ecologists occasionally stopped or made a detour to observe bat behaviour. This approach was responsive and dynamic to gain the most information.

2.7.5. Observations of bat behaviour included: but are not limited to:

- Numbers of bats, flight direction, and flight height;
- Type of flight, e.g. direct, in a straight line, or meandering;
- Apparent behaviour, e.g. are there feeding buzzes or social calls;
- Appearance, to help with identification if bats are not echolocating or acoustic recordings are unclear;
- How bats respond to permanent or temporary features on site, eg. water bodies, watercourses, sheltered areas, artificial lighting, livestock, dung heaps and compost heaps; and
- How bats respond to different weather conditions, e.g. the use of sheltered areas such as woodland or the leeward side of hedgerows in windy or rainy conditions.



Figure 2.7.1 Pre-determined NBW survey route and stationary recording points per survey

2.7.6. Please refer to Table 2.7.1 for details of survey dates, surveyors, and weather conditions during the survey.

Table 2.7.1 Survey Dates and Surveyors for Activity Surveys

Date	Season	Stationary Recording Point ID	Sunset Time	Surveyors	Weather Conditions
07/05/2025	Spring	1	20:50	Matthew Robinson Tina Marshall	Start temp: 13°C Cloud Cover: 5/8 Oktas Precipitation: none Wind: 2 max (Beaufort)
15/07/2025	Summer	2	21:30	Max Robinson Georgia Duffy	Start temp: 16°C Cloud Cover: 2/8 Oktas Precipitation: none Wind: 2 max (Beaufort)
10/09/2025	Autumn	3	19:38	Joshua Lesser Tina Marshall	Start temp: 15°C Cloud Cover: 7/8 Oktas Precipitation: none Wind: 2 max (Beaufort)

2.8. BAT STATIC SURVEYS

2.8.1. In accordance with guidance set out in Collins (2023), a static bat detector was installed at a key location within the site to supplement the results from the bat activity surveys. The static detector, by virtue of recording consistently and for a longer period of time, is able to better ascertain a more comprehensive overview of bat activity and species diversity within the site.

2.8.2. The static detectors used on site were Titley Scientific: Anabat express passive bat detector (Titley Scientific). The static detectors were placed in the location shown in Figure 2.6.1, which was chosen as a habitat with both linear commuting value and potential foraging value for local bats in accordance with Bat Conservation Trust (BCT) Survey Guidelines.

2.8.3. The static recorded data on the following dates:

- 29/04/2025-30/04/2025
- 01/05/2025-05/05/2025
- 18/06/2025-22/06/2025
- JULY FAILED
- 08/08/2025-12/08/2025
- 10/09/2025-14/09/2025
- OCTOBER DATES TBC



Figure 2.8.1 Location of the static bat detectors on site

Survey Limitations

2.8.4. Only two nights and four nights of recordings were obtained for April and October respectively. This is not considered a major constraint to survey data, due to an abundance of static data collected throughout the 2025 season, as well as the NBW surveys confirming the results of the static data. The species assemblage remains consistent throughout the 2025 season with a range of species identified. As such, it is not likely that any species were missed in April data.

2.8.5. Data from July 2025 was not obtained due to the disappearance of the static bat detector from the site. This is considered a minor constraint to survey data. However, there has already been a total of ten bat species identified throughout the site, with little scope to identify any further species. The NBW surveys has supplemented the static data and provided valuable information on what features the bats are utilising for foraging and commuting. Additionally, the constraints to this mainly relate to discussing potential roost types nearby (e.g. analysing trends in common pipistrelle numbers for assess if a maternity roost is nearby), which does not significantly alter the mitigation recommended. All mitigation recommendations have been outlined

based on the tens species identified, and the possible presence of maternity, mating, and transitional roosts in the area.

2.9. UPDATED BADGER WALKOVER

2.9.1. An updated badger walkover was conducted on 2nd April 2025 by Jonathan Hayter, Senior Ecologist, and Michael Boucher, Graduate Ecologist.

2.9.2. The following field signs were recorded where found:

- Faeces: badgers characteristically deposit faeces in small pits, individually known as dung pits, and collectively a latrine which are often located at the boundaries of territories; and next to active setts. Use of territorial dung pits and latrines increases in areas of high badger density and can be non-existent in areas of low density when badgers tend to lead a less territorial and more nomadic existence.
- Setts: these can be single isolated outlier earths or a series of earths which can number over a hundred.
- Paths and tracks with badger footprints.
- Sightings, road fatalities and hair on fences. Sett entrances, where found, were categorised using the following criteria:
- Well used holes (with one or more of the following features: well-worn entrance; freshly excavated soil; bedding material).
- Partially used holes (leaves or twigs in entrance and/or mosses and other plants growing in or around entrance).
- Disused holes (partially or completely blocked, with considerable amount of re-excavation needed before use).
- Each sett or hole, where found, was then classified as being one of the following:
- Main Setts: These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. They usually have well used paths to and from the sett and between sett entrances. Normally the breeding sett is in continual use all year round.
- Annex Setts: These are always close to a main sett and are usually connected to the main sett by one or more obvious, well-worn paths. They consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.
- Subsidiary Setts: Often these have only a few holes and are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active.
- Outlier Setts: These usually only have one or two holes, often have little spoil outside the hole, have no obvious path connecting them with another sett, and are only used sporadically.

3. BASELINE ECOLOGICAL CONDITIONS

3.1. DESIGNATED SITES

3.1.1. Statutory Designated Sites located within 5 km from the site are outlined in Table 3.1.1.

Table 3.1.1 Statutory Designated Sites within 5 km from the development site.

Site Name	Distance from site (km)	Direction	Designation	Citation
Shell Brook Pastures	0.9	SW	SSSI	Botanical interest. A series of unimproved calcareous clay pastures, largely developed on the steep valley side of the Shell Brook and representing a type of habitat that survives only as isolated fragments in the Maelor. The pastures are botanically rich, the variety of plants present being enhanced by the presence of springs in the valley side and areas of marsh adjacent to the Shell Brook, together with scrub and woodland edge communities.
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales) River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (England) River Dee and Bala Lake	1.4	NW	SAC SSSI	The River Dee has its source in Snowdonia at the outflow of Llyn Tegid and it includes the Ceiriog, Meloch, Tryweryn and Mynach tributaries. Its catchment contains a wide spectrum of landscape from high mountains around Bala, rugged peaks near Llangollen, steep sided wooded valleys, and the plains of Cheshire, Flintshire, north Shropshire and Wrexham. There is a tidal influence as far upstream as Farndon and high tides regularly exceed the Chester weir crest level. The site is primarily designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: • Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation The following Annex 2 species are a primary reason for selection of this site: • Atlantic salmon (*Salmo salar)* • Floating water-plantain (*Luronium natans*) The following Annex 2 species are present as a qualifying feature, but not a primary reason for selection of this site: • Sea lamprey *(Petromyzon marinus)* • Brook lamprey *(Lampetra planeri)* • River lamprey *(Lampetra fluviatilis)* • Bullhead *(Cottus gobio)* • Otter (*Lutra lutra)*
Cloy Brook Pastures	2.7	NE	SSSI	Botanical interest. Unimproved calcareous clay pastures on the steep valley sides of the Cloy Brook and its tributaries and representing one of the best examples of this type of habitat that survives only as isolated fragments in the Maelor.
Key: SSSI – Site of Special Scientific Interest. SAC – Special Area of Conservation.				

SPA – Special Protection Area.

3.1.2. The site falls within the Impact Risk Zone of the River Dee and Bala Lake SSSI, located approximately 1.4 km northwest of the site.

3.1.3. Additional international and European designated sites are located within 10 km from the site, including:

- Midland Meres & Mosses – Phase 2 (Ramsar) is located approximately 7.6 km southeast from the site boundary.
- West Midlands Mosses SAC is located approximately 7.9 km southeast from the site boundary.
- Midland Meres & Mosses – Phase 1 (Ramsar) is located approximately 8 km southeast from the site boundary.
- Johnstown Newt Sites are located approximately 8.3 km northwest from the site boundary.

3.1.4. These sites are also considered within the assessment.

3.1.5. The following non-statutory Wildlife Sites are located within 1 km from the site, as returned in the local data search:

- The offsite woodland south of the site is locally designated as Lightwood and Queensbridge Dingle Local Wildlife Site (LWS). This site is mainly a conifer plantation with areas of deciduous woodland. These areas have an ash and beech canopy. The understorey trees are hawthorn, elder and hazel, the latter particularly in the Dingle. The field layer is sparse under the conifers but in the remaining natural areas it is diverse. Species include dog's mercury, primrose, pendulous sedge, yellow pimpernel, wood-sorrel, yellow archangel,soft shield fern, black bryony, wood melick, woodruff and broad-leaved helleborine.
- Neile's Wood is located 840 m north from the site which comprises a coppiced woodland with a low canopy. The most common tree is sycamore, but there is much copppiced hazel and sweet chestnut. Other trees present include elder and wych elm. The ground flora is fairly poor, mostly bramble, dog's mercury and nettle. Other species found include wood meadow-grass, primrose, opposite-leaved golden saxifrage, pendulous sedge and sweet violet. To the north is small semi-improved neutral grassland. There is a good herb content; some agrimony, lesser stitchwort, common fleabane and black knapweed.

3.2. HABITATS

G4 Modified Grassland

3.2.1. The site comprises entirely of g4 Modified Grassland, forming a silage field which is cut twice a year. The field parcel is sown with perennial rye grass (*Lolium perenne)* and white clover (*Trifolium repens)* and represents a highly modified sward with low botanical diversity. Occasional herbs included sorrel (*Rumex ocetosa),* common nettle (*Urtica dioics),* creeping buttercup (*Ranunculus repens),* broadleaved dock (*Rumex obtusifolius),* and bramble (*Rubus fruticosus).* The species assemblage of the grassland is indicative of nutrient rich, poor-quality grassland, and the cutting regime prevents the colonisation of more sensitive, notable flora.

3.2.2. The PEA completed by Arbtech in January 2025 described the habitat as 'g3c other neutral grassland'. Given that the site visit was completed in January, a suboptimal time for flora identification, it is likely that a 'worst-case scenario' was adopted, and a higher distinctiveness grassland was selected. The updated walkover which completed in May, an optimal time of year for habitat assessments and confirmed that the grassland on site remained species-poor modified grassland.

H2a Native Hedgerow

3.2.3. A native hawthorn and blackthorn hedgerow is present along the northern aspect of the site. Bramble was also occasional within the feature. The understorey possessed species indicative of a nutrient rich soil composition, with cleavers (*Galium aparine)*, common ivy, nettles, and perennial rye grass.

W1h Other Woodland - Mixed (Offsite)
Secondary Code: 28 Ancient Woodland Site; 30 Semi-Natural Woodland

3.2.4. There is a mixed woodland block to the south of the site boundary. A section of the offsite woodland to the east is designated as ancient woodland which is listed as a habitat of principal importance under Section 7 of the Environment (Wales) Act 2016 and is Irreplaceable Habitat.

3.2.5. The habitat walkover found the woodland to possess a number of tree species native to the locale and found in the surrounding woodland, plus additions which had been planted later, presumably following the initial post war clearance periods when timber production was incentivised. Given the sizes and age ranges evident during the site walkover, this would further corroborate this conclusion.

3.2.6. The woodland consisted of two age classes including young self-set and older established specimens – predominantly poplar (*Populus* spp.), although ash (*Fraxinus excelsior*), Norway spruce (*Picea abies*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*), horse chestnut (*Aesculus hippocastanum*), and alder (*Alnus glutinosa*) were also identified across the habitat. The centre of the woodland was found to comprise a mixture of softwood plantation including western red cedar (*Thuja plicata*), Douglas fir (*Pseudotsuga menziesii*), and larch (*Larix* spp.), reaching sizes of up to 500 mm Diameter at Breast Height (DBH). Multiple trees were windblown within the centre of the woodland. The eastern portion of the woodland was more dominated by deciduous species, with more clearings and glades present, allowing for more daylight cover to the understorey.

3.2.7. The understorey of the woodland varied throughout and was either colonised by dense common ivy (*Hedera helix*) or a sparse layer of bramble scrub (*Rubus fruticosus*) where daylight was restricted, or a more diverse flora in the more open areas.

3.2.8. The ground flora and scrub in the open areas included dog's mercury (*Mercurialis perennis,* ancient woodland indicator), bindweed (*Convolvulus arvensis*), lords and ladies (*Arum maculatum*), common ivy (*Hedera helix*), self-set hawthorn (*Crataegus monogyna*), self-set hazel (*Corylus avellana*), self-set sycamore (*Acer pseudoplatanus*), self-set elder (*Sambucus nigra*), lesser celandine (*Ficaria verna*, ancient woodland indicator), red campion (*Silene dioica*), bramble (*Rubus fruticosus* agg.), dogrose (*Rosa canina*), wood anemone (*Anemone nemorosa*, ancient woodland indicator), polypody (*Polypodium vulgare*), hart's-tongue (*Asplenium scolopendrium*, ancient woodland indicator), common nettle (*Urtica dioica*), ground elder (*Aegopodium podagraria*), opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), meadowsweet (*Filipendula ulmaria*), liverwort (*Marchantia polymorpha*), cow parsley (*Anthriscus sylvestris*), dog violet (*Viola riviniana*, ancient woodland indicator), and wild garlic (*Allium ursinum*).

3.2.9. Given the species present and the observed historic management practices within the woodland, it is anticipated that originally pre any clearance and replanting work, the woodland block was part of the adjoining ancient woodland parcel to the east, this is confirmed predominantly by the presence of several floral ground cover indicator species within the eastern end and older native trees where more deciduous species dominate.

3.2.10. The presence of softwood blocks and poplar plantations within the wider deciduous parcels would suggest that when cleared these were earmarked for timber production and never felled given the large DBH of the trees.

3.2.11. The woodland is anticipated to be therefore a replanted ancient woodland block which exhibits several of the characteristics of such a site and offers a mix of habitats and ecological niches.

3.3. NON-NATIVE INVASIVE SPECIES

3.3.1. The data search returned records of montbretia (*Crocosmia aurea x pottsii = C. x crocosmiiflora*) and Himalayan balsam *(Impatiens glandulifera*) within 1 km from the site.

3.3.2. No non-native invasive species have been identified on site.

3.4. INVERTEBRATES

3.4.1. The data search returned records of notable invertebrates within 1 km from the site including bordered gothic (*Sideridis reticulata*), blood-vein (*Timandra comae*), common darter (*Sympetrum striolatum*), and *Thaumastoptera calceata.*

3.4.2. The habitats on site provide limited value for invertebrate species, given that the site comprises entirely of species-poor modified grassland. Notable species may occasionally utilise the site for foraging in relation to the clovers and buttercups but are not anticipated to utilise the site in significant numbers, and the site is not anticipated to act as a key resource for invertebrate species.

3.5. AMPHIBIANS

3.5.1. The data search returned no records of great crested newts (*Triturus cristatus)* within 1 km from the site, although two records of common frog were identified (*Rana temporaria*).

3.5.2. The site provides limited suitable terrestrial habitat for amphibians given that the site comprises entirely of short, modified grassland, which lacks opportunities for sheltering, overwintering, and foraging. The hedgerow to the north of the site provides some refuge, although this is only limited in size, and disconnected from valuable habitats within the wider landscape.

3.5.3. There are no ponds on site, although there are ~8 ponds within 250m of the site boundary. These include P1 (within adjacent residential area) ~146m to the northeast of the survey site boundary, P2 ~120m south, P3 ~147m east, P4 ~210m north, P5 ~220m north, P6 ~230m southwest, P7 ~250m east and P8 ~255m southeast. These ponds are all suitably connected to site via hedge and tree lined fields. The data search returned no records of great crested newts within nearby ponds.

3.5.4. Although the presence of great crested newts in surrounding ponds is unknown, common amphibians may be present.

3.6. REPTILES

3.6.1. The local data search returned no records of reptiles within 1 km form the site.

3.6.2. The site provides limited value for reptiles, due to the site comprising only short, modified grassland, which lacks the structure or quality to support reptile populations. The hedgerow to the north of the site provides some refuge or commuting, although this is only limited in size, and disconnected from valuable habitats within the wider landscape, which may support reptiles. However, the offsite woodland provides value for slow worm (*Anguis fragilis)*, commonly associated with such habitats.

3.6.3. As such, reptiles are considered to be likely absent from the site but cannot be discounted from adjacent habitats.

3.7. BATS (ACTIVITY)

3.7.1. The local data search returned two records of bats within 1 km from the site boundary, including one unidentified bat (*Chiroptera spp*) and brown long-eared bat (*Plecotus auritus).*

3.7.2. Please refer to Appendix 11.2 for the bat activity maps, showing the locations of peak bat activity for each survey.

SPRING NBW (08/05/2025)

3.7.3. No bat activity was recorded in the beginning of the survey, during the stationary monitoring period. Bat activity was recorded periodically throughout the survey, with common pipistrelle (*Pipistrellus pipistrellus)*, soprano pipistrelle (*Pipistrellus pygmaeus)*, unidentified myotis (*Myotis spp,)*, and noctule (*Nyctalus noctula)*.

3.7.4. The first bat was recorded at 21:07, approximately 17 minutes after sunset, and was a noctule which was heard but not seen. Noctules are one of the first bat species to emerge from their roosts in the summer, with a May & August median 7.6 minutes after sunset (Collins, 2023). As such, it is possible that the bat was roosting within surrounding woodland habitats. The bat was heard foraging between 21:07 and 21:33 with around 15 passes recorded.

3.7.5. Further bat activity relates to low numbers of common and soprano pipistrelles, commuting and foraging along the treeline along the woodland edge to the southeastern aspect of the site. A peak count of one bat was identified for each species. Pipistrelle species were recorded constantly foraging for up to eight minutes (combined) between 21:12 and 21:58.

3.7.6. Unidentified myotis was also identified, along the woodland edge, although the bat was heard but not seen. The bat was recorded at 22:11 and 22:19 and is anticipated to be the same bat recorded over 4 passes.

SUMMER NBW (15/07/2025)

3.7.7. No bat activity was recorded in the beginning of the survey, during the stationary monitoring period. Bat activity was recorded consistently during the survey, with a range of species identified throughout, including soprano pipistrelle, unidentified myotis species, common pipistrelle, serotine (*Eptesicus serotinus)*, and brown long-eared bat (*Plecotus auritus)*. Most bats were heard but not seen.

3.7.8. The first bat was recorded at 21:47, approximately 17 minutes after sunset, and was a soprano pipistrelle which was initially heard but not seen from the centre of the woodland edge. Pipistrelles typically emerge between 20 and 30 minutes after sunset (Collins, 2023), so it is possible that the bat was roosting within the offsite woodland or within nearby structures. The bat was then found to continue to forage until 21:59, with an additional soprano pipistrelle having joined at 21:52, with both foraging along the woodland edge. A total of 28 passes were recorded.

3.7.9. Serotine, Leisler's and brown long-eared bat were recorded once each, and these bats were heard but not seen. The serotine and Leisler's bats were recorded at 22:10 and 22:24 respectively along the southern aspect of the site, adjacent to the woodland edge, and the brown long-eared bat was recorded along the eastern aspect of the site at 22:49.

3.7.10. Twelve Myotis species calls were recorded between 22:06 and 22:40, it is anticipated that there is likely two possibly three species utilising the woodland, riparian area and the hedgerows around the site, although species level identification is extremely difficult with the myotis genus the sonographs indicate whiskered (*Myotis mystacinus)*, Daubentons (*Myotis daubentonii)* and possibly natterer's bats (*Myotis nattereri).*

AUTUMN NBW (10/09/2025)

3.7.11. No bat activity was recorded in the beginning of the survey, during the stationary monitoring period. Bat activity was recorded intermittently throughout the survey, with soprano pipistrelle, unidentified myotis species, common pipistrelle, and noctule. Most bats were heard but not seen.

3.7.12. The first bats were recorded at 21:44, approximately eight minutes after sunset, and was a soprano pipistrelle and a common pipistrelle foraging in an easterly direction along the woodland edge. Pipistrelles typically emerge between 20 and 30 minutes after sunset (Collins, 2023), so it is possible that the bat was roosting within the offsite woodland or within nearby structures.

3.7.13. Continuous foraging activity from both soprano and common pipistrelles was recorded predominantly along the woodland edge and along a treeline along the eastern aspect of the site. A peak count of three bats were identified within the southeastern corner of the site, which were observed foraging along the woodland edge with a total of over 60 passes recorded.

3.7.14. Noctule and myotis were recorded once, and the bats were heard but not seen, at 20:42 and 21:14 respectively.

3.8. BATS (STATIC)

APRIL STATIC RESULTS

3.8.1. Only two nights of recordings were obtained for April. This is not considered a major constraint to survey data, due to an abundance of static data collected throughout the 2025 season, as well as the NBW surveys confirming the results of the static data. The species assemblage remains consistent throughout the 2025 season with a range of species identified. As such, it is not likely that any species were missed in April data.

3.8.2. The static detector recorded a total of 110 bat calls, comprising of 30 common pipistrelle, 32 soprano pipistrelle, 13 noctule bats, 13 Leisler's bat, 21 myotis calls, and one lesser horseshoe bat. A peak count of bat recordings was obtained on 30/04/2025, with a total of 76 calls of all species. Table 3.8.1 outlines the number of bat recordings per night.

Table 3.8.1 Bat calls recorded in April 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp	Brown Long-Eared	Leisler's bat	Lesser Horseshoe	Summary
29/04/2025	8	8	8	6	0	4	4	34

30/04/2025	22	24	5	15	0	9	5	76

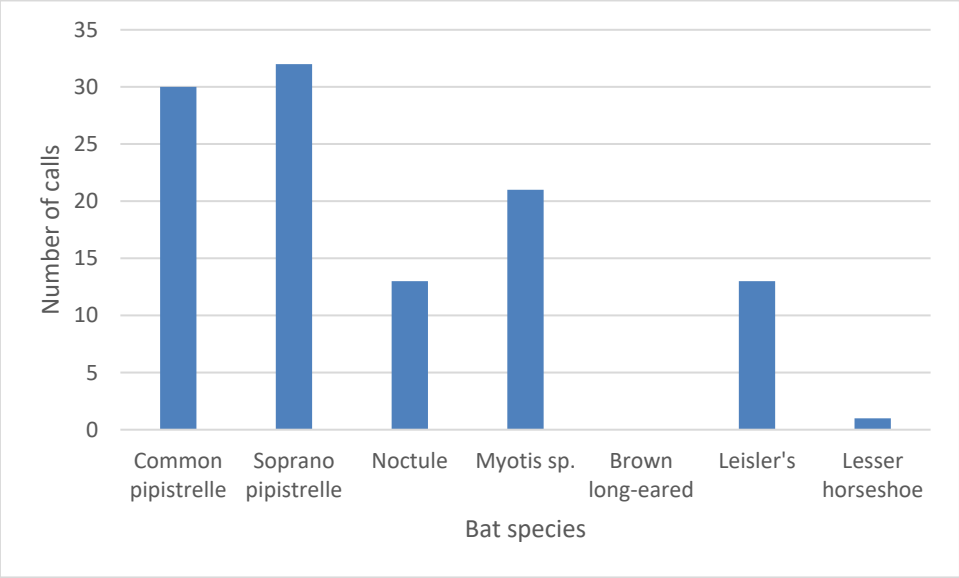


Figure 3.8.1 Bar chart of bat species recorded in April 2025

3.8.3. Pipistrelles were most commonly recorded on site, comprising 56% of all bat calls identified, followed by myotis sp, Leisler's and noctule. The data aligns with the results of the NBW surveys whereby pipistrelles were identified foraging mostly along the woodland edge, with brown long-eared bat and Leisler's bat occasionally observed, and noctule and myotis species consistently identified. One instance of lesser horseshoe bat was identified on the static detector on 30/04/2025, with only one pass recorded.

3.8.4. Table 3.8.2 summarises the statistical analysis of bat calls for static one in April 2025.

Table 3.8.2 Statistical analysis of bat calls for April 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	30	15	15	7	11.5	18.5	8	22
Soprano pipistrelle	32	16	16	8	12	20	8	24
Noctule	13	6.5	6.5	1.5	5.75	7.25	5	8
Myotis spp	21	10.5	10.5	4.5	8.25	12.75	6	15
Brown long-eared bat	0	0	0	0	0	0	0	0
Leisler's bat	13	6.5	6.5	2.5	5.25	7.75	4	9
Lesser horseshoe	1	4.5	4.5	0.5	4.25	4.75	4	5

MAY STATIC RESULTS

3.8.5. The static detector recorded a total of 241 bat calls, comprising of 64 common pipistrelle, 35 soprano pipistrelle, four noctule bats, 132 myotis species, three Leisler's, one lesser horseshoe bat, and two brown-long eared bats. Table 3.8.2 outlines the number of bat recordings per night.

Table 3.8.3 Bat calls recorded in May 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp	Brown Long-Eared	Leisler's bat	Lesser Horseshoe	Summary
01/05/2025	27	17	0	81	1	1	0	127
02/05/2025	21	13	4	45	0	2	1	86

03/05/2025	5	2	0	4	1	0	0	12
04/05/2025	9	2	0	1	0	0	0	12
05/05/2025	2	1	0	1	0	0	0	4

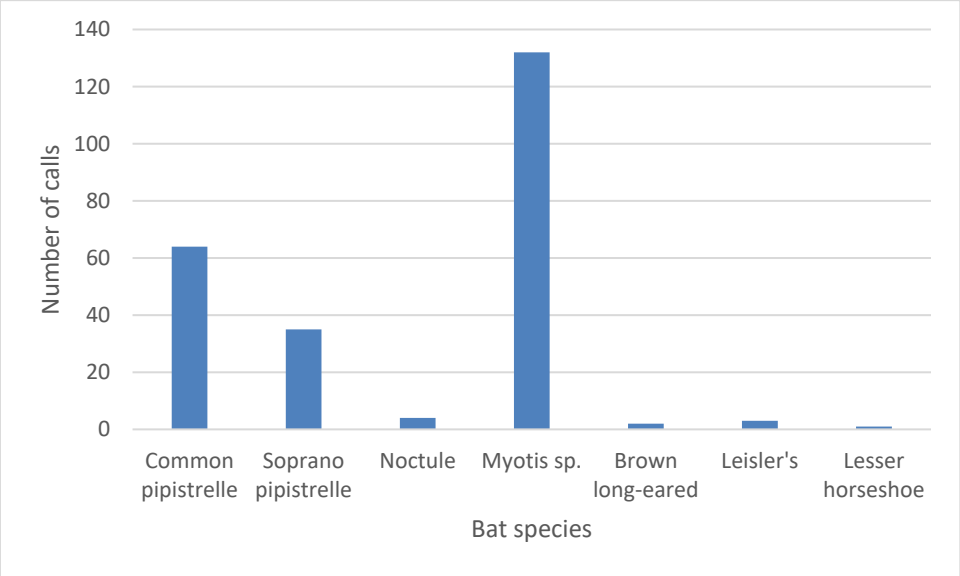


Figure 3.8.2 Bar chart of bat species recorded in May 2025

3.8.6. Myotis species were most recorded bat in May, comprising 55% of the total bat calls recorded. The species identification suggests that likely there are at least two species present, given local data records, these being whiskered and Daubenton's bats.

3.8.7. Pipistrelle species were second most recorded in May, comprising 41% of calls, although common pipistrelle was identified most. Given bat activity recorded throughout the season, the bats are likely utilising the woodland edge for foraging, creating multiple passes on the detector.

3.8.8. Brown long-eared bat, Leisler's bat, noctule, and lesser horseshoe were only occasionally recorded, with a peak count of four passes for any one species.

3.8.9. Table 3.8.4 summarises the statistical analysis of bat calls for static one in May 2025.

Table 3.8.4 Statistical analysis of bat calls for April 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	64	12.8	9	9.6	5	21	2	27
Soprano pipistrelle	35	7	2	6.66	2	13	1	17
Noctule	4	0.8	0	1.6	0	0	0	4
Myotis spp	132	26.4	4	32	1	45	1	81
Brown long-eared bat	2	0.4	0	0.49	0	1	0	1
Leisler's bat	3	0.6	0	0.8	0	1	0	2
Lesser horseshoe	1	0.2	0	0.4	0	0	0	1

JUNE STATIC RESULTS

3.8.10. The static detector recorded a total of 622 bat calls, comprising of 491 common pipistrelle, 102 soprano pipistrelle, eight noctule bats, 17 unidentified myotis, one brown long-eared bat, and three Leisler's bat. Table 3.8.5 outlines

the number of bat recordings per night.

Table 3.8.5 Bat calls recorded in June 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp.	Brown long-eared bat	Leisler's bat	Summary
18/06/2025	39	16	1	1	0	0	57
19/06/2025	42	21	5	2	0	2	70
20/06/2025	62	14	2	8	0	0	86
21/06/2025	187	15	0	4	0	2	208
22/06/2025	161	36	0	2	1	1	201

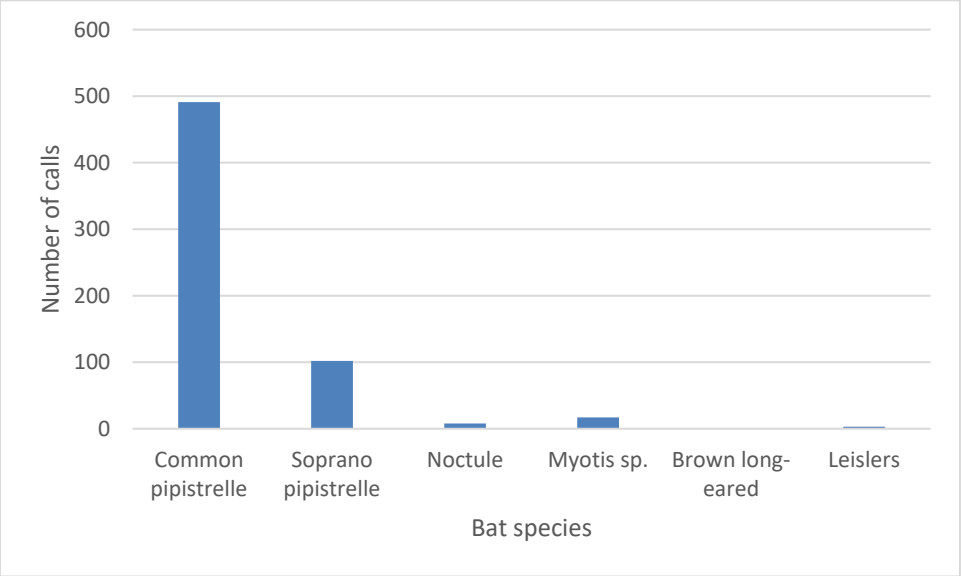


Figure 3.8.3 Bar chart of bat species recorded in June 2025

3.8.11. There was a significant increase in bat calls in June compared to May, particularly those of common pipistrelles which have increased from 64 to 491. However, myotis calls showed a sharp decline with just 17 calls identified in June, compared to 132 in May. No lesser horseshoe bats or serotine were recorded in June, although Leisler's bats were present with a peak count of three.

3.8.12. Table 3.8.6 summarises the statistical analysis of bat calls for June 2025.

Table 3.8.6 Statistical analysis of bat calls for June 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	491	98.2	62	62.93298	42	161	39	187
Soprano pipistrelle	102	20.4	16	8.163333	15	21	14	36
Noctule	8	1.6	1	1.854724	0	2	0	5
Myotis sp.	17	3.4	2	2.497999	2	4	1	8
Brown long-eared bat	1	0.2	0	0.4	0	0	0	1
Leisler's bat	3	1	1	0.894427	0	2	0	2

AUGUST STATIC RESULTS

3.8.13. The static detector recorded a total of 1234 bat calls, comprising of 844 common pipistrelle, 170 soprano pipistrelle, 49 noctule bats, 120 unidentified myotis, 41 brown long-eared bast, and ten serotines. Table 3.8.7 outlines the number of bat recordings per night.

Table 3.8.7 Bat calls recorded in August 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp.	Brown long-eared bat	Serotine	Summary
08/08/2025	769	45	2	35	12	2	865
09/08/2025	22	57	6	32	13	2	132
10/08/2025	27	39	15	24	7	3	115
11/08/2025	21	20	18	15	4	1	79
12/08/2025	5	9	8	14	5	2	43

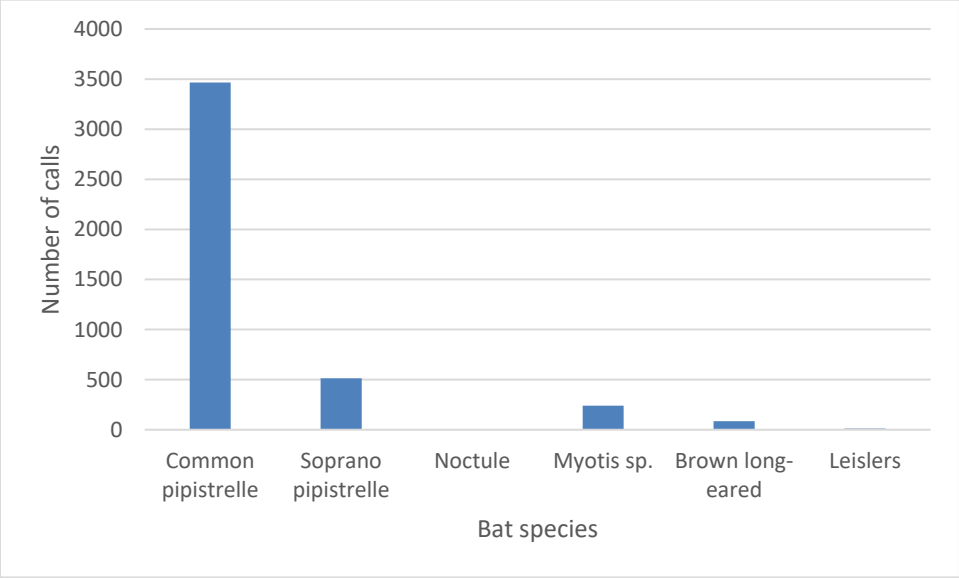


Figure 3.8.5. Bar chart of bat species recorded in August 2025

3.8.14. Similarly to other months, common pipistrelle was identified the most, reaching up to 844 passes, which is significantly higher than that at the beginning of the 2025 season, where just 30 common pipistrelle passes were recorded. Over 100 passes for both soprano pipistrelle and myotis species were also recorded, whilst brown long-eared bats and serotine were recorded in much lower abundances (41 and 10 calls respectively).

3.8.15. Table 3.8.8 summarises the statistical analysis of bat calls for August 2025.

Table 3.8.8 Statistical analysis of bat calls for August 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	844	168.8	22	300.19	21	27	5	769
Soprano pipistrelle	170	34	39	17.3	20	45	9	57
Noctule	49	9.8	8	5.88	6	15	2	18
Myotis sp.	120	24	24	8.56	15	32	14	35
Brown long eared	41	8.2	7	3.66	5	12	4	13
Serotine	10	2	2	0.63	2	2	1	3

SEPTEMBER STATIC RESULTS

3.8.16. The static detector recorded a total of 4329 bat calls, comprising of 3466 common pipistrelle, 513 soprano pipistrelle, four noctule bats, 240 unidentified myotis, 85 brown long-eared bat, 12 Leisler's bat, and eight serotine. Table 3.8.9 outlines the number of bat recordings per night.

Table 3.8.9 Bat calls recorded in September 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp.	Brown long-eared bat	Leisler's bat	Serotine	Summary
10/09/2025	374	42	0	5	13	4	1	439
11/09/2025	59	145	1	3	2	2	0	212
12/09/2025	1089	56	3	103	32	2	5	1290
13/09/2025	218	23	0	12	12	3	2	270
14/09/2025	1726	247	0	117	26	1	1	2118

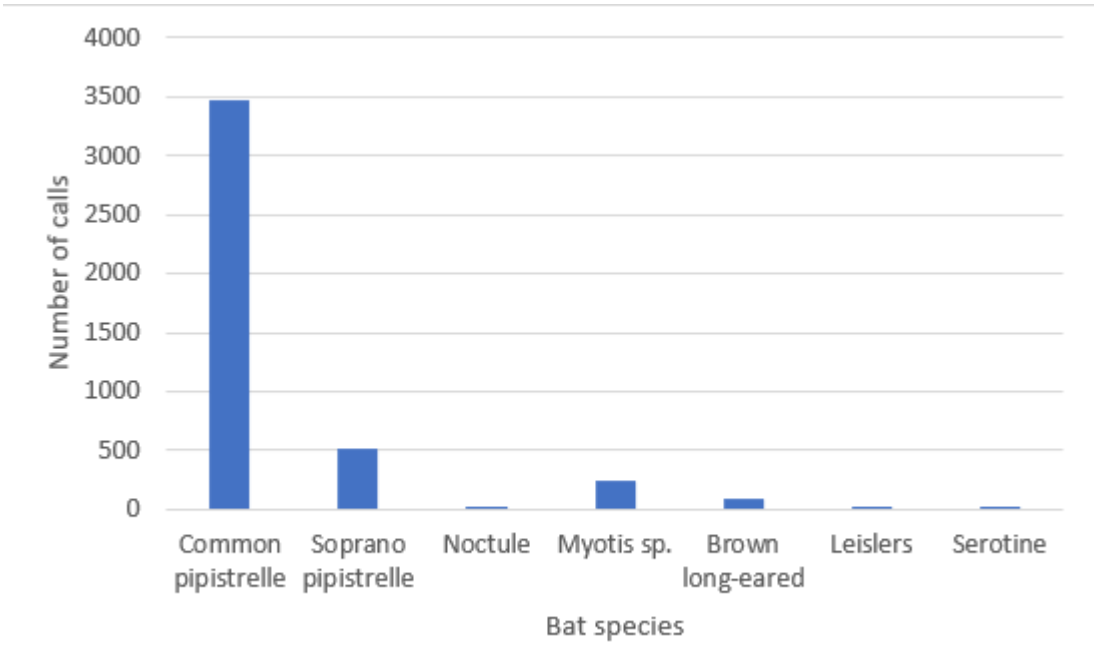


Figure 3.8.6 Bar chart of bat species recorded in September 2025

3.8.17. Following a similar trend to August, there was a significant increase in the number of bat calls from the beginning of the season, particularly those of common pipistrelle reaching up almost 3,500 passes over the five days, comprising 80% of the total recorded bat calls. The number of common pipistrelle calls doubled from August and are almost 55 times the recorded number of calls in May (earliest comparable five days).

3.8.18. The numbers of soprano pipistrelle calls also increased from 170 in August to 513 in September; myotis species doubled exactly, reaching 240; and brown long-eared bats also doubled. Leisler's bats reached a total of 12 calls whilst serotines marginally decreased to eight from a previous ten.

3.8.19. Table 3.8.10 summarises the statistical analysis of bat calls for September 2025.

Table 3.8.10 Statistical analysis of bat calls for September 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	3466	693.2	374	625.02	218	1089	59	1726
Soprano pipistrelle	513	102.6	56	83.46	42	145	23	247
Noctule	4	0.8	0	1.17	0	1	0	3
Myotis sp.	240	48	12	50.9	5	103	3	117
Brown long-eared bat	85	17	13	10.7	12	26	2	32
Leisler's bat	12	2.4	2	1.02	2	3	1	4
Serotine	8	1.8	1	1.72	1	2	0	5

OCTOBER STATIC RESULTS

3.8.20. The static detector recorded a total of 1866 bat calls, comprising of 363 common pipistrelle, 1428 soprano pipistrelle, two noctule bats, 61 unidentified myotis, and 12 brown long-eared bat. Table 3.8.11 outlines the number of bat recordings per night.

Table 3.8.11 Bat calls recorded in October 2025

Date	Common pipistrelle	Soprano pipistrelle	Noctule	Myotis sp.	Brown long-eared bat	Summary
17/10/2025	21	22	1	18	2	64
18/10/2025	335	1304	1	26	5	1671
20/10/2025	4	80	0	10	4	98
21/10/2025	3	22	0	7	1	33

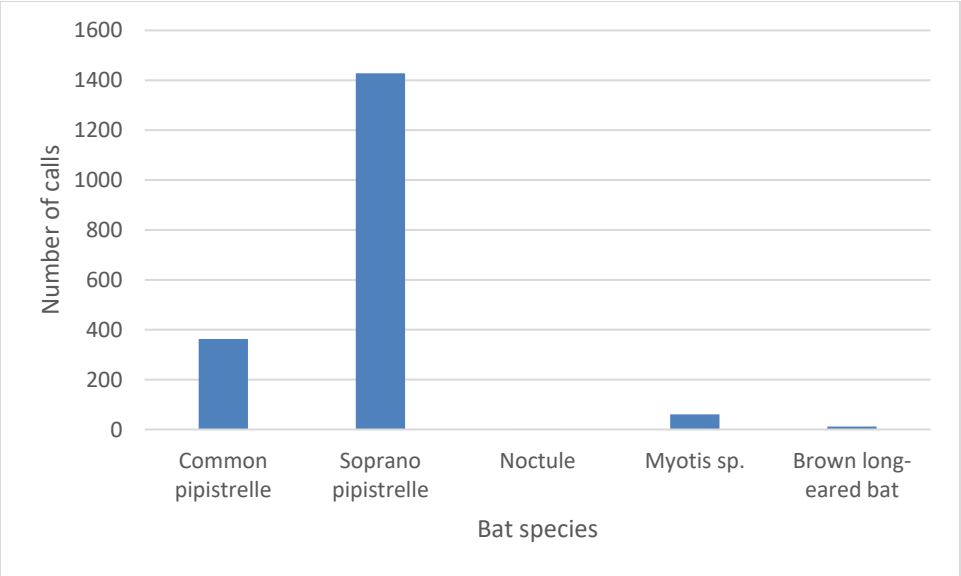


Figure 3.8.7 Bar chart of bat species recorded in October 2025

3.8.21. There was a decrease in the average number of bat calls per night (467) compared to that of September (866), which may be attributed to the cooler temperatures throughout the month. Soprano pipistrelle calls were dominant, reaching up to 1428, which comprises 77% of all bat calls recorded for October. The second dominant species was common pipistrelle, totalling 19%.

3.8.22. No Leisler's bats or serotines were identified on the static bat detectors throughout October, and other species were recorded minimally. There were few noctules recorded, totalling only two calls. This remains consistent with September whereby only four noctules were identified.

3.8.23. Table 3.8.10 summarises the statistical analysis of bat calls for October 2025.

Table 3.8.10 Statistical analysis of bat calls for October 2025

ALL DATES	COUNT	Average	Median	Std.P	0.25	0.75	Min	Max
Common pipistrelle	363	90.75	12.5	141.1991	3.75	99.5	3	335
Soprano pipistrelle	1428	357	51	547.2632	22	386	22	1304
Noctule	2	0.5	0.5	0.5	0	1	0	1
Myotis sp.	61	15.25	14	7.3951	9.25	20	7	26
Brown long-eared bat	12	3	3	1.581139	1.75	4.25	1	5

DISCUSSION

3.8.24. The static detector surveys identified a diverse range of bat species within the site, including common pipistrelle, soprano pipistrelle, brown long-eared bat, noctule, lesser horseshoe bat, Leisler's bat, and several myotis species (Daubenton's bat, whiskered bat, and natterer's bat).

3.8.25. Common and soprano pipistrelle species were most recorded throughout 2025 and were found to utilise the offsite woodland edge and offsite hedgerow along the eastern aspect of the field parcel as a commuting and foraging resource. Common pipistrelle calls were found to greatly increase throughout the season, beginning at just 30 passes in April, and increasing to a peak count of 1089 passes on 12/09/2025. There was a significant decline in October, although only four days of recordings were obtained. Figure 3.8.7 displays the trends of common pipistrelle calls through the season.

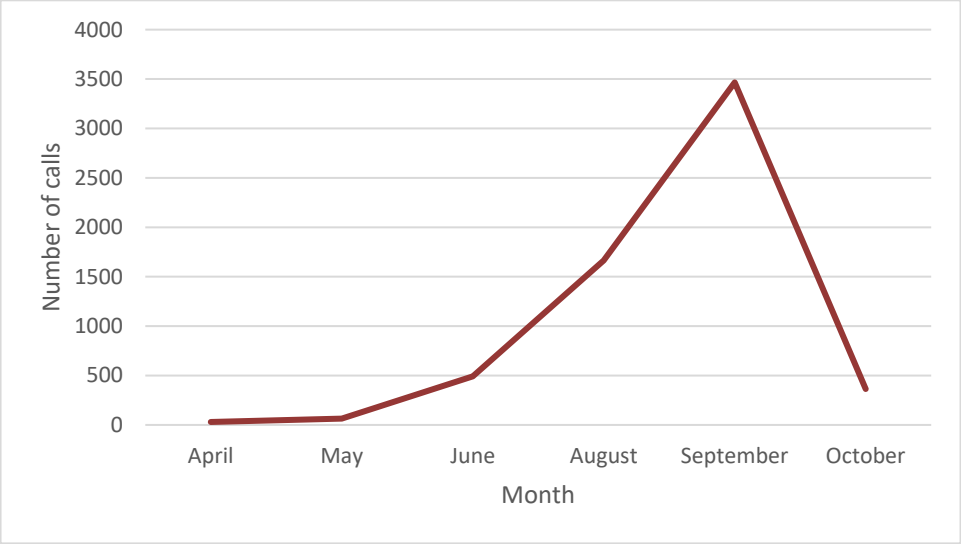


Figure 3.8.7 Trend of Pipistrellus pipistrellus calls throughout the season

3.8.26. Soprano pipistrelle calls showed the same trend, although this was observed in much lower abundances (Figure 3.8.8). There was a continued increase in soprano pipistrelle calls throughout October.

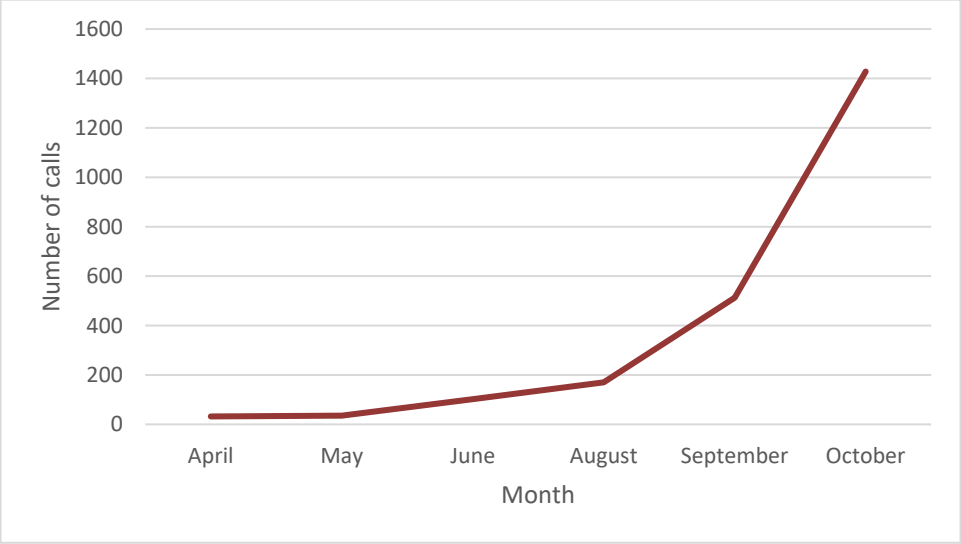


Figure 3.8.8 Trend of Pipistrellus pygmaeus calls throughout the season

3.8.27. Pipistrelle species pups are typically born in June-early July and begin gaining independence by early July. By August-September, maternity colonies usually break up, and bats move to alternative roosts ahead of autumn mating and winter hibernation. These patterns coincide with the trends identified in Figure 3.8.7. Additionally, pipistrelle species were identified as early as eight minutes after sunset during the NBW surveys. Pipistrelles

typically emerge between 20 and 30 minutes after sunset (Collins, 2023), so it is highly likely that the bat was roosting within the offsite woodland or within nearby structures. Taking into account all of the data gathered, it is concluded that a maternity site and mating site for pipistrelles is located adjacent to the site, and that the offsite woodland and woodland edge provide core foraging habitats for the roost.

3.8.28. A number of myotis species were identified on the static detectors, as well as consistently throughout the NBW surveys, albeit in lower abundances than on the detectors. Many of myotis calls are anticipated to be whiskered and daubentons bats which are anticipated to utilise the offsite woodland and associated stream for foraging and potential roosting. The preferred habitat for Daubenton's bats is above water, who favour riverine and freshwater systems (Collins, 2023). Natterer's bat which is also confidently assessed as being present through acoustic analysis and whiskered bats favour mixed woodland, tree-lined river corridors and riparian vegetation (Collins, 2023). Myotis calls were increased at the beginning and the end of the season, with 132 calls identified in May and 240 calls identified in September (Figure 3.8.9).

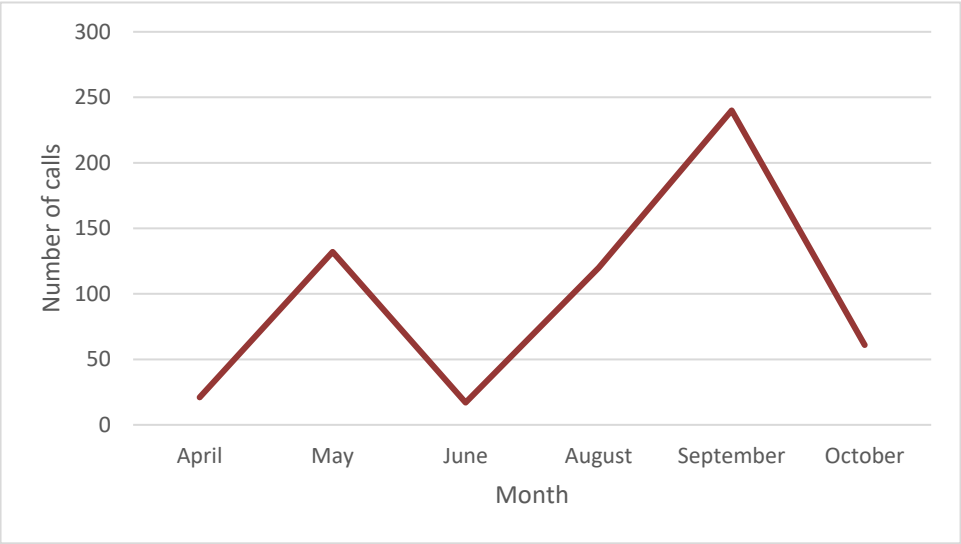


Figure 3.8.9 Trend of Myotis spp calls throughout the season

3.8.29. It is possible that myotis species utilise the offsite woodland or nearby structures as a transitional site, which is defined as "a place 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" (Collins, 2023). Local day roosts are also anticipated to be present, although the numbers are not high enough to suggest a local maternity site.

3.8.30. Noctules were recorded consistently throughout the season and have been observed visually foraging high above the site. Leisler's bat, another *Nyctalus* species, was also recorded on site, with a peak count of nine calls in one night. Leisler's bats will forage in most available habitats, although will avoid improved (modified) grassland, which is comprises most of the site. Additionally, Nyctalus species favour tree roosts and are rarely found in artificial structures. As such, the offsite woodland and other habitats within the wider area are thought to be of highest value and the modified grassland on site is not considered an important resource.

3.8.31. Serotine was identified consistently throughout the season, although in low abundance. The species was not identified on any of the NBW surveys, but it is anticipated that they are also utilising the woodland edge and hedgerows for foraging.

3.8.32. Brown long-eared bat was found to utilise the site for foraging in low abundances. A peak count of 32 recordings were identified on 12/09/2025. Collins (2023) states that up to nine transect surveys could be required to achieve 95% certainty of detection for brown long-eared bats, due to their low amplitude echolocation and overall quiet foraging behaviour. It is reasonable to assume that brown long-eared bats are present where woodland blocks are present. As such, the species may be present on site in higher abundances than recorded on the static detectors and NBW surveys.

3.8.33. Two instances of lesser horseshoe bat were identified on the static detector on 30/04/2025 and 02/05/2025. Only one pass was recorded on each night, indicating that the site is not a core foraging habitat for the species. The preferred foraging habitat for the species includes broadleaved woodland well connected by potential flightpaths such as hedges, woodland edge, and riparian trees (Collins, 2023). Lesser horseshoes will cross open spaces immediately after emergence, but will seek to minimise the open distance travelled, however, the extent of this

increases with decreasing lighting levels (Collins, 2023). As lesser horseshoe bats were not identified later in the season than May, indicating that an early transitional roost is present nearby.

3.8.34. The offsite woodland, woodland edge, stream and hedgerows within the wider area provide ample foraging opportunities for lesser horseshoe bats, whilst the grassland on site provides limited value. Although the site is currently maintained as a dark habitat, increasing the suitability for light sensitive species such as horseshoe bats and myotis species. Given that only one lesser horseshoe bat was recorded on all bat static detectors, and none during the NBW surveys, the site is not anticipated to be an important resource for the species.

3.8.35. Figure 3.8.10 displays the trends in all bat assemblages throughout the season.

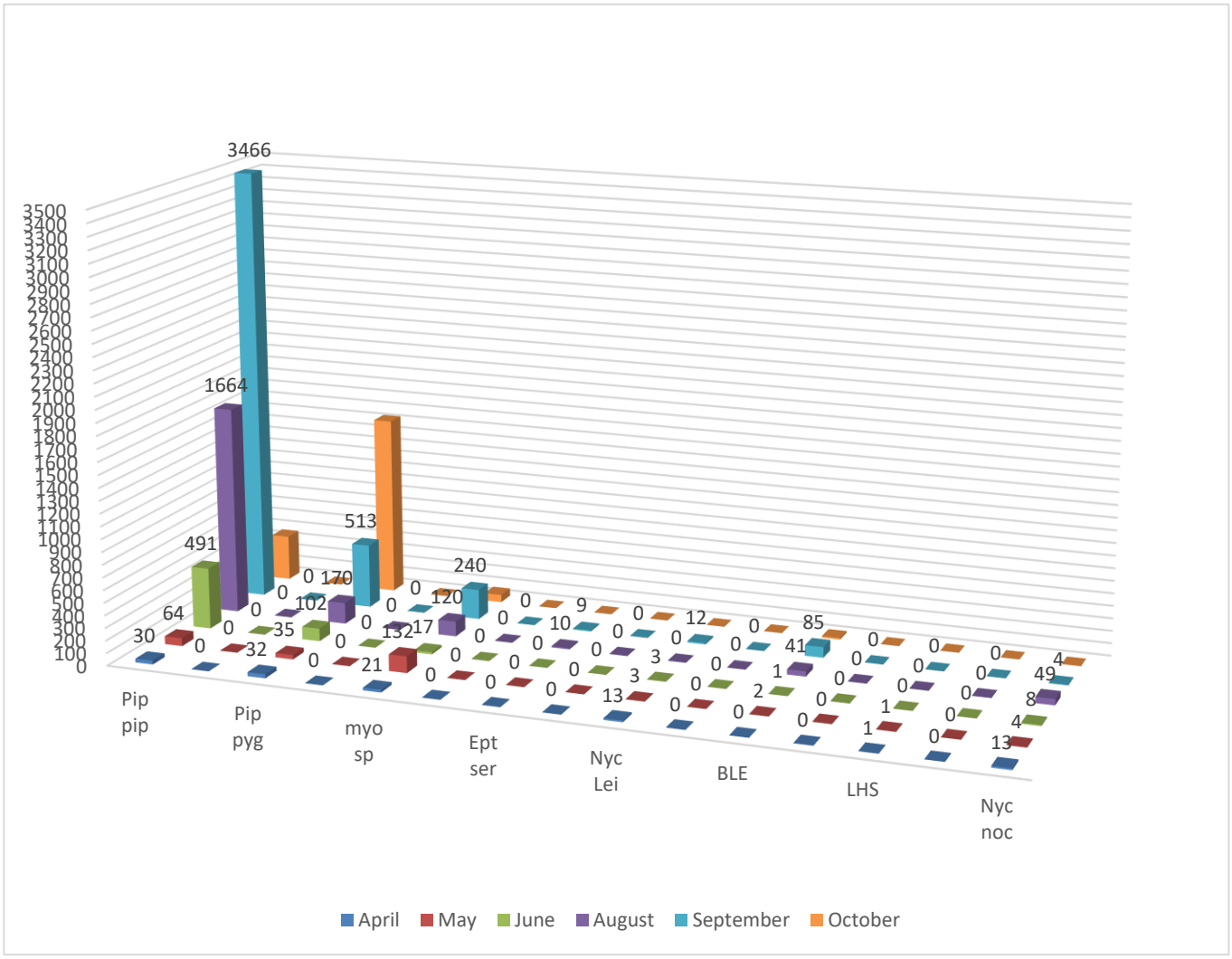


Figure 3.8.10 Changes in the numbers of bat calls per species throughout the season

ASSESSING IMPORTANCE OF SPECIES ASSEMBLAGE

3.8.36. Table 3.8.11 extracted from Table 3.3 from the bat mitigation guidelines (Reason & Wray, 2023) has been used to assess the importance of the bat assemblage on site. Queensbridge Farm is located within North/Mid Wales.

Table 3.8.11 Assessing the importance of a bat assemblage (Reason & Wray, 2023)

Rarity category [points/species]	South-west England & South Wales		Southern England		South-eastern/East Anglia to The Wash		North/mid-Wales		Central England/Mid-lands	
Widespread all geographies [score 1]	*Ppip* *Ppyg* *Paur*	Score 3	*Ppip* *Ppyg* *Paur*	Score 3	*Ppip* *Ppyg* *Paur*	Score 3	*Ppip* *Ppyg* *Paur*	Score 3	*Ppip* *Ppyg* *Paur*	Score 3
Widespread in many geographies, but not as abundant in all [score 2]	*Mmys* *Mbra* *Mdau* *Mnat* *Nnyc*	Score 10	*Mmys* *Mbra* *Mdau* *Mnat* *Nnyc*	Score 10	*Mdau* *Mnat* *Nnyc*	Score 10	*Mmys* *Mbra* *Mdau* *Mnat* *Nnyc*	Score 10	*Mmys* *Mbra* *Mdau* *Mnat* *Nnyc*	Score 10
Rarer or restricted distribution [score 3]	*Rhip* *Eser* *Nlei* *Pnat*	Score 12	*Malc* *Eser* *Nlei* *Pnat*	Score 12	*Mmys* *Mbra* *Eser* *Nlei* *Pnat*	Score 15	*Rhip*	Score 3	*Eser* *Nlei* *Pnat*	Score 9
Rarest Annex II species and very rare [score 4]	*Rfer* *Mbec* *Bbar* *Paus*	Score 16	*Rfer* *Rhip* *Mbec* *Bbar* *Paus*	Score 20	*Bbar*	Score 4		Score 20		Score 4
Thresholds	Maximum possible	41	Maximum possible	45	Maximum possible	28	Maximum possible	36	Maximum possible	26
County importance threshold: 45%	County	18	County	20	County	13	County	16	County	12
Regional importance threshold: 55%	Regional	23	Regional	25	Regional	15	Regional	20	Regional	14
National importance threshold: 70%	National	29	National	32	National	20	National	25	National	18

3.8.37. Pipistrelle and brown long-eared bats are common and widespread throughout Wales and are therefore assigned the lowest score (one point). Noctule and myotis species are not as abundant in some regions of Wales and are therefore assigned a score of two. Lesser horseshoe bat is restricted in distribution and are not commonly recorded and are assigned a score of three.

3.8.38. Leisler's bat and serotine were also recorded on site, although is not included within Table 3.8.11 for Wales. As Leiser's bat and serotines are generally geographically restricted, but are not listed as Annex II species, they have been assigned a score of three for the purposes of assessing species assemblage importance in Table 3.8.12.

3.8.39. Table 3.8.12 demonstrates the score assigned to the site, for the importance of the bat assemblage recorded.

Table 3.8.12 Scoring per species identified on site

Species Recorded	Latin (Short)	Rarity category	Score
Common pipistrelle	Ppip	Widespread all geographies	1
Soprano pipistrelle	Ppyg	Widespread all geographies	1
Brown long-eared bat	Paur	Widespread all geographies	1
Noctule	Nnyc	Widespread in many geographies but not as abundance in all	2
Daubenton's Bat	Mdau	Widespread in many geographies but not as abundance in all	2
Whiskered Bat	Mmys	Widespread in many geographies but not as abundance in all	2
Natterer's Bat	Mnat	Widespread in many geographies but not	2

		as abundance in all	
Lesser Horseshoe Bat	Rhip	Rarer of restricted distribution	3
Leisler's Bat	Nlei	N/A for North Wales.	3
Serotine	Eser	N/A for North Wales.	3
Total			20

3.8.40. The total score for the site is 20, which equates to 55% of the maximum possible assemblage score (36). According to Table 3.8.11, the bat assemblage on site is assessed as having **"Regional Importance".**

SUMMARY

3.8.41. Surveys confirmed a diverse bat assemblage including pipistrelles, myotis species, noctule, Leisler's, serotine, brown long-eared, and occasional lesser horseshoe. Common and soprano pipistrelles were dominant, with seasonal trends indicating a nearby maternity and mating roost and reliance on offsite woodland edge and hedgerows for commuting and foraging. Myotis activity suggests use of transitional roosts linked to the woodland and stream. Noctule and Leisler's bats forage above the site, while brown long-eared bats are likely under-recorded but present in the nearby woodland. Lesser horseshoe bats were rarely detected, confirming the site is not a core resource. Overall, the modified grassland on site offers limited value, whereas offsite woodland, hedgerows, and riparian habitats provide key resources of high local importance.

3.8.42. The bat assemblage on site is assessed as having **"Regional Importance".**

3.9. BATS (ROOSTING)

3.9.1. The site comprises short, modified grassland fields, with no structures or trees suitable for roosting bats.

3.9.2. The offsite woodland to the south of the site may present some potential roosting features for woodland bats. Given that bats were recorded so close to their typical emergence times during the NBW surveys, it is likely that some of these bats utilise the woodland or other structures adjacent to the site boundary.

3.10. BIRDS

3.10.1. The local data search returned a total of 101 records of bird species within 1 km from the site, forming 31 different species. Species include but are not limited to; house sparrow (*Passer domesticus*), chaffinch (*Fringilla coelebs*), greenfinch (*Chloris chloris*), dunnock (*Prunella modularis*), wood pigeon (*Columba palumbus*), wren (*Troglodytes troglodytes*), black-headed gull (*Chroicocephalus ridibundus*), sparrowhawk (*Accipiter nisus*), goldcrest (*Regulus regulus*), meadow pipit (*Anthus pratensis*), stock dove (*Columba oenas*), red kite (*Milvus milvus*), song thrush (*Turdus philomelos*), starling (*Sturnus vulgaris*), and collared dove (*Streptopelia decaocto*).

3.10.2. The site comprises short, modified grassland, which provides limited value for nesting birds, due to providing limited cover. Surrounding treelines also provide suitable perches for birds of prey which will predate on the eggs and chicks of ground nesting birds.

3.10.3. The hedgerow along the northern aspect of the site will provide nesting provisions for common passerine species such as wren (*Troglodytes troglodytes*), blackbird (*Turdus merula*), dunnock (*Prunella modularis*), and goldfinch (*Carduelis carduelis*), anticipated to be present within the local area. During the habitat walkover, great tit (*Parus major*), jackdaw (*Corvus monedula*), song thrush (*Turdus philomelos*), wren (*Troglodytes troglodytes*), and marsh tit (*Poecile palustris*) were observed within the offsite woodland.

3.10.4. The site provides limited value for nesting birds, although common species are likely present.

3.11. BADGERS

3.11.1. The data search returned one record of badger (*Meles meles)* within 1 km from the site and its location is to remain confidential.

3.11.2. The badger walkover did not find any setts present within the site, or within 30 m from the site boundary. No field signs of the species were identified including latrines, mammal paths, footprints, or fur.

3.11.3. The site continues to provide suitable sett building and foraging habitats, and it is likely that setts could be present on site in the future. It is likely that badgers utilise the site for foraging.

3.12. EUROPEAN HEDGEHOG

3.12.1. The data search returned one record of European Hedgehog (*Erinaceus europaeus*) within 1 km from the site and the species is anticipated to be present within the site given the adjacent woodland and onsite hedgerows.

3.13. BROWN HARE

3.13.1. The data search returned no records of brown hare (*Lepus europaeus*) within 1 km from the site. The open farmland habitat in the wider landscape could be suitable for brown hare. Brown hares could occasionally commute through the site, although it is not anticipated to provide high value in itself.

3.14. WATER VOLE AND OTTER

3.14.1. The data search returned no records of water voles (*Arvicola amphibius*) within 1 km from the site. There is a stream located within the offsite woodland, approximately 30 m south from the site boundary. The stream is sufficient distance from the site that direct impacts upon water voles (are not anticipated, and they are not considered further within this assessment

3.14.2. The data search returned no records of otters (*Lutra lutra)* within 1 km from the site. The stream provides some value for otters, as it provides suitable commuting features to the wider landscape, which provide ample terrestrial habitats for the species. During the walkover, no field signs of the species were identified, and no holts were identified. Overall, otter may occasionally be present within the offsite stream, and the offsite woodland provides suitable terrestrial habitats. The habitats on site (short, modified grassland) provide limited value.

3.15. HAZEL DORMOUSE

3.15.1. The data search returned no records of hazel dormouse (*Muscardinus avellanarius*) within 1 km from the site. The PEA completed by Arbtech detail that the offsite woodland provides value for hazel dormouse. However, consultations with the County Ecologist found the species are not present within the region, due to a failed reintroduction scheme in the past.

3.15.2. Additionally, the site now comprises only short, modified grassland which provides negligible value for the species. Hazel dormouse are not considered present on site and are not considered further within the report.

4. EMBEDDED MITIGATION

4.1.1. The original development sought to incorporate several glamping pods within the offsite woodland. This raised numerous concerns regarding maintaining the integrity of woodland, especially given that a portion of it is designated as ancient, which is an irreplaceable habitat, as well as impacts upon associated protected fauna such as bats.

Relocation of Glamping Pods

4.1.2. After a number of stakeholder consultations including Arbtech Consulting Ltd, Collington Winter Environmental Ltd, and Wrexham County Council (Emma Broad, County Ecologist), the decision was made to pull the proposed glamping pods from the woodland and have them situated within the existing modified grassland field, maintaining a minimum of a 15 m buffer from the woodland edge. By doing so, the potential ecological impacts of the development were dramatically reduced, as the development is now restricted only to low-quality modified grassland habitats, which provide little ecological value for many species. As such, the development only poses a minor risk to low numbers of protected species, which can be sufficiently mitigated against with a series of precautionary measures (See Section 6).

4.1.3. The woodland will be retained and protected through development, and there will be no loss of irreplaceable ancient woodland habitats or Lightwood and Queensbridge Dingle LWS. There is now no tree felling proposed, which will maintain the structure of the woodland. Furthermore, there is no risk of damaging or destroying potential bat roosts within the offsite woodland, which are anticipated to be present given the results of the NBW and static detector surveys.

4.1.4. There is no longer any risk to damaging or destroying notable fungi, flora, or bryophytes which may have been present within the woodland.

Retention of any Valuable Habitats

4.1.5. Most of the site comprises poor modified grassland habitats of low ecological importance. However, there is a single native hedgerow along the northern aspect of the site, which may provide a suitable refuge area or linear commuting feature for low numbers of fauna. This habitat is to be retained in its entirety, to allow for the continuity of these resources.

4.1.6. All offsite habitats are also to be retained, including the woodland and hedgerow along the eastern aspect of the grassland field parcel, which have proved valuable features for fauna, particularly foraging bats.

Sensitive Landscape Design

4.1.7. A detailed landscaping scheme has been designed by DAC Landscape Architecture (See Appendix 11.4 for the full plans), which incorporates a mosaic of various new habitats. The varied habitats provide a multitude of different niches for local fauna, predominantly foraging and refuge areas.

4.1.8. The proposed landscaping scheme transforms the site from its current state of species-poor modified grassland into a mosaic of complementary habitats that will support a far greater diversity of fauna and significantly increase the site's ecological value including:

- Areas of enhanced grassland and new wildflower meadow will provide nectar and pollen sources for invertebrates, which in turn support a wide range of higher trophic levels, including birds and bats.
- Proposed canopy trees, multi-stem specimens, and a bareroot understorey mix introduce vertical structure and complexity. This layered planting provides nesting and foraging opportunities for birds, cover for small mammals such as hedgehogs, and a rich invertebrate community.
- Hedgerows and scrub planting around the car park and within the site create connective corridors, linking habitats and offering shelter and food resources for a wide range of wildlife including hedgehogs and badgers. Once mature, these will also provide ample nesting habitats for birds. These features also contribute to structural diversity, which is especially important for species sensitive to open landscape, such as lesser horseshoe bats identified on site.

- The scheme retains existing semi-natural features, ensuring continuity of habitat and providing immediate ecological function while new planting establishes.

- Pathways are designed with minimal impact materials, and hidden seating areas are embedded within planting, encouraging sensitive human use while leaving substantial areas undisturbed for wildlife.

- The scheme uses low-level, wildlife-sensitive bollards, ensuring that large areas of the site remain dark. This will minimise disturbance to commuting and foraging bats, especially lesser horseshoe and myotis species, which are highly sensitive to light spill and are known to be present on site.

4.1.9. The high levels of bat activity on site were considered the most significant ecological constraint to the development, prior to pulling the pods out of the woodland and before the detailed landscape design was received. However, the proposed development will substantially improve the site for bats, given that all existing valuable features are to be retained, allowing for the continuity of foraging resources which already support a diverse assemblage of bat species. The habitats aim to promote a healthy invertebrate abundance, providing a reliable and high-quality food source for all bat species recorded on the NBW/static surveys. The various number of habitats provides structural habitat diversity which will benefit clutter-adapted bats such as myotis and brown long-eared, as well as provide ample commuting corridors for all species.

4.1.10. Existing woodland and hedgerows are retained and buffered, maintaining current bat foraging resources while supplementing them with newly created habitats. This ensures continuity and rapid uptake by bats once the new habitats mature.

Bat Boxes

4.1.11. As an ecological enhancement to the site, a minimum of three bat boxes will be installed on retained trees within the offsite woodland habitat to provide additional roosting provisions. Two Schwegler 2F Universal Bat Box (or similar) should be installed to cater to the widest variety of bat species, as identified on site. There should also be at least one Schwegler 1FF Flat Bat Box (or similar) to provide additional roosting opportunities for crevice dwelling bats such as pipistrelles.

4.1.12. The bat boxes will be installed on aspects facing between south-east to south-western facing aspect, as this will provide additional heat throughout the day. Care should be taken to make sure boxes are not angled in such a manner to allow rain to enter them. Boxes are to be affixed to vertical surfaces on retained trees at a minimum height of 4 m.

4.1.13. Bat boxes are considered self-cleaning and require minimal maintenance once installed. The boxes are made of hard-wearing material that is generally long-lasting. Bat boxes should be checked periodically (e.g. every two years) to assess their use and the condition of the boxes. If any boxes are identified as damaged or missing, they are to be replaced with a box of similar specification.

4.1.14. Only those holding the appropriate Natural England Class 2 bat licence may open and inspect these boxes. It is an offence for anyone without this licence to open a bat box. If a bat box becomes occupied by a bird, the nest must be left in situ until after the bird nesting season

Bird Boxes

4.1.15. As an ecological enhancement to the site, a minimum of three bird boxes will be installed on retained trees within the offsite woodland habitat to provide additional nesting provisions. The Vivara Pro Woodstone 32mm nest box (externally mounted) has been selected to encourage a number of species including 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*).

4.1.16. The bird boxes will be installed on aspects facing between north-east and north-west. Bird boxes are most effective when positioned on a north-east to north-west facing aspect to prevent overheating during the summer nesting season. Woodstone Nest boxes are to be affixed to vertical surfaces on retained trees at a minimum height of 5m.

4.1.17. The following maintenance measures are to be completed, following the installation of the boxes:

- Bird boxes will require periodic checking and cleaning, (e.g. once every two years).
- Unhatched eggs may be removed legally between September and January and must then be disposed of.
- Disused nests must be removed and cleaned using boiling water to remove parasites. Boxes should be left to dry before replacing the lid. Insecticides and flea powders must not be used.
- If any boxes are identified as damaged or missing, they are to be replaced with a box of similar specification.

4.1.18. Note bird boxes must only be opened and cleaned outside the bird nesting season (March to August, inclusive).

5. LIKELY SIGNIFICANT EFFECTS

5.1. ECOLOGICAL RECEPTORS WITHOUT ANY SIGNIFICANT LIKELY EFFECTS

5.1.1. The habitats on site comprise poor-quality modified grassland, which provides little ecological value, and is not assessed as any sort of priority habitats. Its loss will not have any detrimental impacts upon habitat availability in the wider landscape.

5.1.2. There is a stream located within the offsite woodland, approximately 30 m south from the site boundary. The stream is sufficient distance from the site that impacts upon water voles (*Arvicola amphibius*) are not anticipated. The installation of the glamping pods will cause minimal ground disturbance. As such, they are not considered further within this assessment.

5.1.3. Hazel dormouse is considered absent from site and are not considered further.

5.1.4. No non-native invasive species are present on site or adjacent, and no further considerations are required.

5.2. LIKELY SIGNIFICANT EFFECTS

Statutory Designated Sites

5.2.1. The site falls within the Impact Risk Zone of the River Dee and Bala Lake SSSI, located approximately 1.4 km northwest of the site, and Midland Meres & Mosses Ramsar is located approximately 8 km southeast from the site boundary. The sensitivity of the receptor is assessed as **'High'** due to being of international and national importance.

5.2.2. A Habitat Regulations Assessment (HRA) produced by Collington Winter Environmental Ltd (Ref: 20-2789 RPT: 001) which details that:

5.2.3. Without mitigation, there is the possibility of a direct impact upon otters, a qualifying feature of River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.

5.2.4. Indirect impacts upon the River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC include:

- **Water pollution:** there could be an increase in runoff to the SAC.
- **Non-native invasive species:** recreational pressures could aid in the spread of non-native invasive species.
- **RTAs involving otters:** increased numbers of vehicles on roads within the Dee catchment could increase the number of otter fatalities.

5.2.5. Indirect impacts upon the Midland Meres & Mosses Ramsar include:

- **Eutrophication:** dog waste from increased walkers could contribute to excess nutrients into the wetlands.
- **Non-native invasive species:** recreational pressures could aid in the spread of non-native invasive species.

5.2.6. The magnitude of the impact is assessed as **'Moderate'** as any changes to the qualifying features of the sites would result in an alteration to the baseline conditions.

5.2.7. The impact is assessed a **Major-Moderate Adverse.**

Habitats and Non-Statutory Sites

5.2.8. Ancient woodland is located adjacent to the southern aspect of the site which is also designated as Lightwood and Queensbridge Dingle LWS. The sensitivity of the receptor is assessed as **'High',** as the habitat is of high importance and is not resilient to changes.

5.2.9. Although the woodland is to be retained, there is a risk of accidentally damaging or degrading the habitat through accidentally pollution incidents. The magnitude of impact is assessed as Moderate, as the woodland would remain

insitu, but may be of a lesser quality, causing a material change in baseline conditions.

5.2.10. The impact is assessed a **Major-Moderate Adverse.**

Invertebrates

5.2.11. The site currently provides limited value for invertebrate species. As such, the sensitivity of the receptor is assessed as **'**Low'. The proposed landscaping scheme introduces wildflower meadow, species-rich grassland, native scrub, hedgerows, and woodland edge planting, replacing species-poor modified grassland. These habitats provide a wide variety of nectar, pollen, and larval food plants, alongside sheltered microhabitats and structural diversity. As such, the magnitude of impact is assessed as 'High' due to a total alteration to the baseline conditions on site.

5.2.12. The impact is assessed as **Moderate-Minor Beneficial.**

Herptiles and Other Common Mammals

5.2.13. There is a low risk of accidentally injuring or killing great crested newts, common amphibians, reptiles, brown hare, and hedgehogs during vegetation removal. The sensitivity of the receptor has been assessed as 'Low' as no significant populations of each species are anticipated to be present, given the availability of only suboptimal habitats on site. The magnitude of the impact is assessed as 'Moderate' due to a potential loss of some individuals within a small population equating to a partial material change of baseline conditions.

5.2.14. The impact is assessed as **Minor Adverse.**

5.2.15. The landscaping scheme will replace species-poor grassland with a mosaic of wildflower meadow, scrub, hedgerows, and woodland edge, creating a structurally diverse environment. These features provide basking, foraging, and refuge opportunities for reptiles and amphibians, while also offering commuting routes, cover, and rich feeding habitats for terrestrial mammals such as hedgehog and brown hare. The result is a site far more suitable for a wider range of fauna, with improved connectivity to the surrounding landscape. As such, the magnitude of impact is assessed as 'High' due to a total alteration to the baseline conditions on site.

5.2.16. The impact is assessed as **Moderate-Minor Beneficial.**

Badgers

5.2.17. There is a risk of damaging or destroying new badger setts, should they be present on site or adjacent. The sensitivity of the receptor has been assessed as **'Low'** as no badger setts are currently present on site, making them of current low importance. Badgers are also tolerant to anthropogenic disturbance. The magnitude of the impact is assessed as **'Moderate'** due to a potential loss of some individuals within a small population equating to a partial material change of baseline conditions.

5.2.18. The impact is assessed as **Minor Adverse.**

5.2.19. The introduction of wildflower meadow, scrub, hedgerows, and woodland edge will significantly improve foraging opportunities for badgers by increasing earthworm and beetle availability. Hedgerows and scrub also provide cover for commuting and sett-building, while retained woodland ensures continuity of habitat. Together, these measures enhance the site's value for badgers and strengthen ecological connectivity with the wider area. As such, the magnitude of impact is assessed as 'High' due to a total alteration to the baseline conditions on site.

5.2.20. The impact is assessed as **Moderate-Minor Beneficial.**

Bats (Roosting)

5.2.21. The site supports a regionally important assemblage of bats, with a total of ten species identified through NBW surveys and static bat detector surveys. The sensitivity of the receptor is assessed as **'High'**, as the species assemblage includes those sensitive to change.

5.2.22. The proposed development will also incorporate a number of bat boxes, increasing the number of roosting provisions within the offsite woodland. The magnitude of impact is assessed as 'Moderate' as there will be a material increase in roosting opportunities.

5.2.23. The impact is assessed a **Major-Moderate Beneficial.**

Bats (Foraging and Commuting)

5.2.24. The site supports a regionally important assemblage of bats, with a total of ten species identified through NBW surveys and static bat detector surveys. The sensitivity of the receptor is assessed as **'High'**, as the species assemblage includes those sensitive to change. There is a risk of disturbing foraging and commuting bats through introduced construction lighting. The sensitivity of the receptor is assessed as **'Moderate'**, the site supports regionally important bat assemblage. Some of these species are less tolerant to low light conditions.

5.2.25. The impact is assessed a **Major-Moderate Adverse.**

5.2.26. The scheme will markedly improve the site for the ten bat species recorded. The conversion of specie-poor modified grassland to wildflower meadow and species-rich grassland will significantly increase flying insect abundance, benefitting foraging bats such as noctule, Leisler's, serotine, and pipistrelles. New scrub, hedgerows, and woodland edge create structurally diverse habitats and sheltered flight paths ideal for clutter-adapted species including *Myotis* spp. and brown long-eared bats. Retained woodland and sensitive understorey planting provide continuity and support for light-sensitive species, including occasional lesser horseshoe. Wildlife-sensitive lighting ensures dark corridors remain intact, safeguarding commuting routes. Together, these measures provide abundant prey, new linear commuting features, and a greater diversity of foraging niches, directly enhancing the site's value for the full assemblage of bats present. As such, the magnitude of impact is assessed as 'High' due to a total alteration to the baseline conditions on site.

5.2.27. The impact is assessed as **Major Beneficial.**

Birds

5.2.28. There is a risk of damaging or destroying nests as well as disturbing nesting birds through noise. The sensitivity of the receptor has been assessed as **'Low'** as the site provides very little value for nesting birds due to comprising modified grassland, and populations nesting birds generally have some capacity to absorb material changes. The magnitude of the impact has been assessed as '**Moderate'** as disturbance could cause a material change in breeding success on site.

5.2.29. The impact is assessed as **Minor Adverse.**

5.2.30. The proposed development will also incorporate a number of bird boxes, increasing the number of nesting provisions within the offsite woodland. The magnitude of impact is assessed as 'Moderate' as there will be a material increase in nesting opportunities.

5.2.31. The impact is assessed a **Major-Moderate Beneficial.**

6. PROPOSED MITIGATION

6.1. GENERAL POLLUTION CONTROL MEASURES

6.1.1 Measures will be taken throughout the construction phase to avoid pollution incidents, which may indirectly affect terrestrial, and aquatic habitats and associated protected/notable fauna. Pollution prevention and control strategies will be adhered to at all times. Any accidental damage to retained and adjacent habitats or fuel spillages within proximity to the site and/or adjacent habitats will be reported to the site manager and the Project Ecologist.

6.1.2 Retained habitats are to be appropriately fenced as 'Biodiversity Protection Zones' and all staff personnel undertake a site induction on their working limits in regard to protected species and habitats within the vicinity of the site. Approximately a 15 m buffer is to be maintained from the woodland. Until the buffer zone is planted up, it will be protected with Heras fencing and appropriate signage.

6.1.3 It is recommended a Construction and Environmental Management Plan (CEMP) is produced detailing the pollution control measures and remedial measures, throughout the construction phase. This will aid in protecting the offsite ancient woodland habitats, including the offsite stream and Lightwood and Queensbridge Dingle LWS.

6.2. GENERAL LIGHTING CONTROL MEASURES

6.2.1 Proposed lighting is to follow the protocols outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Bats and Artificial Lighting at Night" (2023). Proposed lighting may impact species on site and within the local area which are sensitive to light. Directional lighting will be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these. Lighting is not to be directed towards retained habitats and surrounding habitats.

6.2.2 Construction lighting is not to be directed towards retained habitats and surrounding habitats and can be adopted through the production of a CEMP.

6.3. DESIGNATED SITES

6.2.3 The recommended CEMP and habitat protection measures will ensure that Lightwood and Queensbridge Dingle LWS is protected.

6.2.4 The HRA produced by Collington Winter Environmental Ltd (Ref: 20-2789 RPT: 001) details a series of mitigation measures to minimise potential significant adverse impacts on European designated sites within 10 km from the site. The mitigation measures are listed below.

Direct impacts upon otters

6.2.5 A precautionary working method will be implemented during construction, including the following measures:

- A toolbox talk will be given to contractors regarding the possible presence of otters at the site.
- A pre-commencement inspection of the site will be undertaken for otters.
- Heras fencing will be erected around the working area to prevent encroachment within 8m of the watercourse.
- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.
- The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which otters could use.
- Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that otters could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

6.2.6 In the unlikely event that an otter holt or den is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Water pollution

6.2.7 It is considered that there could be an increase in water pollution within the designated sites because of the proposed scheme should effluent be managed irresponsibly. However, an increase in water usage on site alone is not likely to impact the designated sites so as long as mitigation measures are followed.

6.2.8 The development is currently greenfield, as such, a suitable surface water management proposal will be required for the proposed development. A formal drainage strategy should be produced detailing that any effluent from the glamping pods will be contained within a closed-circuit system (such as connection to the main sewers or septic tanks) and not discharged into groundwater or watercourses.

6.2.9 Furthermore, there should be no use of herbicides, pesticides or fertilisers as well as any chemical dosing on site that have the potential to leach into groundwater or watercourses and ultimately into the designated sites. See Section 6.4 for the recommended associated documentation.

6.2.10 It is to be noted that the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.

6.2.11 To further mitigate impacts, it is recommended that a Homeowners Pack is made available to all visitors of the development highlighting the sensitivity of the area and impacts caused because of recreational disturbance.

Non-Native Invasive Species, Eutrophication, and RTAs involving otters

6.2.12 It is recommended that the new lodges include a welcome pack for guests highlighting the sensitivity of the area and impacts caused because of recreational disturbance, as well as awareness of local otters.

6.2.13 The Homeowners' packs should comprise, but are not limited to;

- Introduction letter to the pack, setting out the issue and providing a contents page of included documents.
- Description of River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar and their features which should include a map explaining the boundaries of the designated site.
- An explanation of the sensitivities of features to recreational disturbance and key sensitive times for the features of River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar.
- List any access restrictions in the local area (e.g. under the Countryside and Rights of Way Act 2000 or Byelaws).
- Suggestions of alternative recreational sites (i.e. parks, walking or cycling routes).
- Code of conduct (i.e. not disturbing nesting birds, remaining on marked pathways to avoid spreading disease, refraining from BBQs and bonfires which may cause fire damage to priority habitats, biosecurity measures relating to the spread of Phytophthora ramorum, keeping dogs on leads during sensitive times of year and in areas known to be susceptible to Phytophthora ramorum).
- Legal penalties for disobeying the code of conduct.
- Suggested areas for hiking, running, and horse-riding opportunities for people to get involved in the local natural environment (including volunteering opportunities).
- Information on otter populations within the River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC, their terrestrial habitat requirements, home ranges, and crepuscular nature, making them more wary when driving at dusk and dawn.

6.2.14 The following principles to be followed for the packs;

- The homeowner packs are tailored to the location of the development and River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar:
- Tailored to the audience using clear and easy to understand language.
- An appropriate format is used to present and share the householder packs (i.e. print, size).

6.4. HABITATS AND LANDSCAPE BENEFITS FOR FAUNA

HMMP

6.4.1. It is recommended that the habitats detailed within the landscaping plan are managed through a formal Habitat Management and Monitoring Plan (HMMP) to ensure their successful creation and long-term management. This will ensure that the habitats maintain a good ecological standard, and the benefits detailed for all fauna species are provided.

6.5. BADGERS

Precautionary Working Methods

6.5.1. Badgers are known to be present throughout the local area. As such, the following Precautionary Working Methods will be adhered to during the construction phase to ensure that no badgers are impacted by the proposed development (Badger Trust, 2023):

- All site personnel should be fully briefed concerning the method statement, the presence of badgers, the mitigation measures to be followed, the relevant legislation, the penalties imposed and who to contact should they need to.
- Ensure excavations or trenches left overnight are covered or have an escape route such as a shallow gradient at one or both ends.
- Ensure excavations or trenches are inspected each morning and evening to ensure no badgers have become trapped.
- Open pipework with a diameter of more than 120mm should be properly covered or capped at the end of the working day to prevent badgers from entering and becoming trapped.
- During the work, the storage of any chemicals should be contained in such a way that they cannot be accessed or knocked over by any roaming badgers.
- The storage of topsoil or other “soft” building materials within the site should be given careful consideration. Badgers will readily adopt such mounds and dig setts which would then be afforded the same protection as established setts. To avoid the adoption of such mounds, they should be subject to daily inspections before work commences or alternative measures put in place, such as being fenced off for higher-risk areas.
- Litter, tools and potentially dangerous materials on site should be cleared at the end of the working day. Care should be taken that there are no sharp metal objects or pointed protrusions on the ground which could seriously injure a badger due to their poor eyesight.
- Ensure no dogs are brought to the work site.
- Security lighting should be kept to a minimum and away from setts to avoid disturbance to any badgers on site.
- Fires should be lit only in secure compounds away from areas of badger activity and should be fully extinguished at the end of the working day.
- Badger paths must not be blocked to ensure access to foraging areas is maintained.

6.5.2. Adherence to these measures should be confirmed to planners at regular intervals by the project ecologist.

6.6. HERPTILES (REPTILES AND AMPHIBIANS)

Reasonable Avoidance Measures

6.6.1. Due to the presence of only suboptimal habitats on site, the following RAMs are to be undertaken during construction:

- A designated working area will be maintained to minimise total working area, which will be marked out by the ecologist (where necessary). A fence and/or sign will be situated to mark the working areas to ensure no contractors and vehicles do not enter areas which have not been checked for herptiles.
- Any vegetation on site to be cleared should first be strimmed to approximately 15 cm and left overnight, allowing any animals the chance to naturally disperse from site. A fingertip search of any vegetated areas should then be undertaken to check for the presence of herptiles.
- Once the ecologist has declared all areas of potential for herptiles have been checked, the proposed works can continue unsupervised.
- Storage of materials is to be on pallets i.e. raised off the ground and on areas of hard standing or tarmac. No

materials to be stored on vegetation.

- All working areas are to be maintained as bare ground or hardstanding throughout the construction phase.
- All open pits and pipes are to be covered during the night, with a check for presence of herptiles conducted prior to covering.
- If excavations are exposed and/or created, a slope will be positioned within the excavation to allow amphibians and mammals to escape should they fall in.
- In the unlikely chance, a great crested newt is located during the RAM's, all works must cease immediately, and Natural Resources Wales contacted for advice. No great crested newt is to be handled and the refugia is to be placed back to provide suitable cover.

6.7. BAT ACTIVITY

Sensitive Lighting Strategy

6.7.1. Any proposed lighting/existing lighting should follow the guidance outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Bats and Artificial Lighting at Night" (2023).

6.7.2. An External Lighting Scheme has not been produced on the writing of this report. As such, the following recommendations are to be considered within the scheme to minimise impacts of lighting. The recommendations are as follows:

- Keep site lighting to minimum levels.
- Luminaries should lack UV elements and preferably LED lighting with a warm white light should be used over cool white light (ideally <2700Kelvin).
- Lighting should feature peak wavelengths greater than 550nm.
- Light placement should be downward facing to prevent excess horizontal or vertical light spill.
- The use of integrated fittings such as cowls, shields, louvres and hoods, that effectively contain light spill from unintended areas.
- Avoid illuminating habitats of value.
- Use of timed security lights should be set on motion-sensors and using short, 1-minute timers, to minimise light use.
- Column heights of lighting can be considered to minimise light spill.

6.7.3. The sensitive lighting strategy will protect valuable foraging and commuting habitats for bats, allowing for the availability of foraging resources on site, particularly species less tolerant to introduced lighting. The introduced lighting all comprises low level specifications, which will minimise the impacts upon commuting and foraging bats. Nevertheless, the site will provide some form of additional lighting, which currently does not exist on site, although this will not be directed towards any retained habitats, which were found to be utilised by commuting and foraging bats. The woodland edge and hedgerows will be maintained as a 'dark corridor' to allow for the continuity of these features, and any proposed lighting will be strategically designed to minimise light spill onto created habitats.

Working Restrictions

6.7.4. To further minimise disturbance to foraging and commuting bats, it is recommended that the proposed working areas are restricted to commencing a minimum of one hour after sunrise and concluding a minimum of one hour before sunset. These working restrictions should be in place between March-November, which are the predominant months bats may be active within the site.

6.8. BIRDS

Nesting Bird Check

6.8.1. Any necessary vegetation clearance is to be undertaken outside the main breeding bird season of March to September, inclusive. If not possible, an ecologist is to carry out a nesting bird check within 48 hours of its removal. Active nests will be protected, and a buffer marked out with appropriate fencing (such as Heras fencing), until the young have fledged. The project ecologist will determine the required buffer area based on species and the status of breeding conditions.

6.8.2. Birds listed on Schedule 1 of the Wildlife & Countryside act 1981 are afforded extra protections whilst nesting which will be identified by the ecologist.

6.9. EUROPEAN HEDGEHOG

Considerations during Construction

6.9.1. During site clearance, any vegetation which has become denser is to be cleared by hand and in a directional manner to ensure no sheltering hedgehogs are impacted by the works. If hedgehogs are located, they will be carefully moved by hand to an area outside of infilling workings to suitable cover. The PWMs outlined for badgers will aid in protecting hedgehogs on site.

6.10. BROWN HARE

Considerations during Construction

6.10.1. Brown hare is a naturally agile species and should disperse upon approach The PWMs outlined for badgers will aid in protecting brown hare on site.

6.11. SUMMARY

6.11.1. The mitigation hierarchy has been considered within the site development design. Avoidance of potential impacts have been prioritised. Where significant adverse effects cannot be avoided other forms of mitigation has been completed to minimise potential impacts on local fauna, as detailed in Table 6.11.1.

Table 6.11.1 Summary

Ecological Feature	Mitigation/Compensation	Relevant Legislation and Planning Policy	Reports to Secure Adoption of Measure
Designated sites	*Information packs for guests staying at Queensbridge Farm* *Appropriate drainage measures* *Precautions for otters* *Pollution control measures outlined in the CEMP*	*Wildlife and Countryside Act 1981* *RAMSAR Convention* *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*	*CEMP, HRA, Formal Drainage Strategy*
Habitats (and all benefits that established habitats will provide for fauna)	*Pollution control measures outlined in the CEMP* *Long-term management of created habitats*	*Planning Policy Wales* *Section 7 of the Environment (Wales) Act 2016*	*CEMP, Landscape Planting Plan and HMMP*
Badger	*Precautionary measures during the construction phase.*	*Protection of Badgers Act 1992.*	*CEMP*
Herptiles	*Reasonable Avoidance Measures*	*The Conservation of Habitats and Species Regulations 2017 (as amended) and by UK law by the Wildlife and Countryside Act 1981 (as amended).* *Section 7 of the Environment*	*CEMP*

		(Wales) Act 2016	
Bats	*Protection measures of retained habitats and lighting mitigation.* *Working restrictions.*	*The Conservation of Habitats and Species Regulations 2017 (as amended) and by UK law by the Wildlife and Countryside Act 1981 (as amended).* *Section 7 of the Environment (Wales) Act 2016*	*CEMP and External Lighting Plan*
Breeding Birds	*Removal of vegetation outside of the breeding bird season. If not possible, a nesting bird check required.*	*With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended) and Bird species listed on Schedule 1 of the Act receive further protection.* *Section 7 of the Environment (Wales) Act 2016*	*CEMP*
Hedgehog	*Precautionary measures during vegetation removal.*	*Section 7 of the Environment (Wales) Act 2016*	*CEMP*
Brown Hare	*Precautionary measures during vegetation removal.*	*Section 7 of the Environment (Wales) Act 2016*	*CEMP*

7. RESIDUAL IMPACTS

Negligible adverse residual effects

7.1.1 Negligible adverse residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Accidental pollution of retained ancient woodland and Lightwood and Queensbridge Dingle LWS.
- Accidental injury or death of common amphibians and reptiles.
- Accidental injury or death of badgers, brown hare, or hedgehog. Damage to or destruction of new setts (if applicable).
- Noise disturbance for bats.
- Damage or disturbance to nesting birds and their nests, eggs, or young through construction works and noise.
- Recreational pressures spreading invasive species in River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar.
- Increase in RTCs involving otters associated with River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.
- Increases in eutrophication in Midland Meres & Mosses Ramsar.
- Water pollution to River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.

7.1.2 The recommended CEMP will ensure that the offsite woodland and Lightwood and Queensbridge Dingle LWS is protected against any accidental pollution or degradation during construction.

7.1.3 The precautionary working methods are deemed sufficient to protect individual amphibians, reptiles, and other terrestrial mammals on site, resulting in very little change from baseline conditions.

7.1.4 Restricted working hours will prevent any impacts of construction noise on foraging and commuting bats, and in turn protect other nocturnal fauna.

7.1.5 The site provides very little value for nesting birds currently. As such, it is unlikely that any nesting birds will be encountered on the modified grassland during works. The nesting bird check will ensure that should any be identified, they will remain insitu, undisturbed, until the young have fledged, allowing for breeding success.

7.1.6 The proposed scheme will incorporate only seven glamping pods, which is not anticipated to generate any significant increases in recreational pressures, eutrophication, or RTCs involving otters at nearby designated sites. The proposed information packs provided to guests will ensure that they possess environmental awareness regarding invasive species, picking up dog waste, and being mindful of otters, further minimising the potential impacts.

7.1.7 River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC is located over 1 km from the proposed development site, and is not likely to experience high levels of water pollution as a result of development. However, it cannot be discounted without mitigation. The provision of a detailed drainage plan which prevents discharge into natural waterways or groundwater will ensure that no additional water pollution reaches River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.

Minor adverse residual effects

8.1.1 Minor adverse residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Introduced lighting for bats.

8.1.2 The sensitive lighting strategy will protect valuable foraging and commuting habitats for bats, allowing for the availability of foraging resources on site, particularly species less tolerant to introduced lighting. The introduced lighting all comprises low level specifications, which will minimise the impacts upon commuting and foraging bats. Nevertheless, the site will provide some form of additional lighting, which currently does not exist on site, although

this will not be directed towards any retained habitats, which were found to be utilised by commuting and foraging bats. The woodland edge and hedgerows will be maintained as a 'dark-corridor' to allow for the continuity of these features and any proposed lighting will be strategically designed to minimise light spill onto created habitats.

Major beneficial residual effects

8.1.3 Major beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- New habitats on site providing abundant prey, new linear commuting features, and a greater diversity of foraging niches, directly enhancing the site's value for the full assemblage of bats present.

Moderate-Minor beneficial residual effects

8.1.4 Moderate-Minor beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Increased prey abundances, foraging resources and sett building habitats for badgers.
- Increased habitat value in relation the new mosaic of wildflower meadow, scrub, hedgerows, and woodland edge, creating a structurally diverse environment. These features provide basking, foraging, and refuge opportunities for reptiles and amphibians, while also offering commuting routes, cover, and rich feeding habitats for terrestrial mammals such as hedgehog and brown hare.
- The proposed landscaping scheme introduces wildflower meadow, species-rich grassland, native scrub, hedgerows, and woodland edge planting, replacing species-poor modified grassland. These habitats provide a wide variety of nectar, pollen, and larval food plants, alongside sheltered microhabitats and structural diversity for invertebrates.

Major-Moderate beneficial residual effects

8.1.5 Major-Moderate beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- An increase in nesting provisions for birds relating to new bird boxes in offsite woodland.
- An increase in roosting provisions for bats relating to new bat boxes in offsite woodland.

Geographical importance

8.1.6 The ecological receptors on site are assessed as the following geographical importances:

- International Importance: River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar.
- UK Importance: None
- Regional Importance: foraging bat assemblage.
- County Importance: None
- Local Importance: invertebrates; common amphibians and reptiles; badgers, brown hare, and hedgehog.

8. CUMULATIVE IMPACTS

8.1.1 The area surrounding the site has a history of small householder and residential development. A review of the relevant planning portal (undertaken on 24th September 2025) identified the following planning applications surrounding the site boundary:

- Numerous small householder applications.
- **P/2019/0669** - JONELL QUEENSBRIDGE OVERTON WREXHAM LL13 0LE: CONVERSION OF BARN TO FORM DWELLING TOGETHER WITH SINGLE-STOREY EXTENSION (REFUSED)
- **P/2018/0229** - LAND AT KNOLTON BRYN FARM KNOLTON OVERTON WREXHAM LL13 0LE: OUTLINE PLANNING APPLICATION TO ERECT AGRICULTURAL WORKERS DWELLING WITH ASSOCIATED ACCESS (APPEAL ALLOWED)
- **P/2023/0578** - METHODIST CHAPEL KNOLTON OVERTON WREXHAM LL13 0LE: TRAWSNEWID CAPEL I ANNEDD / CONVERSION OF CHAPEL INTO A DWELLING (GRANTED)
- **P/2025/0167** - TROTTING MARE CARAVAN PARK, KNOLTON, OVERTON, WREXHAM, LL13 0LE: REPLACEMENT OF 18 NO TOURING PITCHES WITH 18 NO STATIC CARAVANS WITH ALL ASSOCIATED WORKS (UNDER CONSULTATION)

8.1.2 There is minimal planning applications within the surrounding area dated within recent years. Many of the applications relate only to small-scale extensions; loft conversions; and agricultural buildings, with most pre-dating 2010. These applications will not have any significant cumulative impacts upon any ecological receptors.

8.1.3 There are several applications dated between 2018-2023 relating to single dwellings, which are not anticipated to cause significant cumulative impacts upon any ecological receptor.

8.1.4 A planning application for the replacement of 18 no touring pitches with 18 no static caravans with all associated works is currently under consultation approximately 1.4 km southeast from the site boundary. There is not anticipated to be any cumulative impacts as there is no net gain of holiday provisions above baseline and therefore no additional impacts on water pollution, highways, or recreational pressures.

8.1.5 Overall, there are not any cumulative impacts anticipated as a result of development.

9. CONCLUSION

9.1 LEGISLATION

9.1.1 The assessment considered the presence of protected and notable species within the site. The proposed scheme has addressed all legal issues with respect to ecology.

9.1.2 In order to allow the proposed development to proceed in accordance with relevant legislation and policy, a CEMP is required to ensure fauna and flora on site is protected from harm during site clearance and the operational phase and to ensure the proposed works is in line with the Wrexham County Council Planning Policy.

9.1.3 In addition, it is recommended that a HMMP is produced to detail proposed species and long-term management of proposed habitats.

9.2 PLANNING POLICY

National

9.2.1 Implementation of the proposed impact avoidance, mitigation and compensation measures outlined in this report will minimise the potential significant negative residual impacts in the zone of influence of the proposed scheme.

Local

9.2.2 In line with the Future Wales: the National Plan 2040, the assessment has demonstrated that ecological surveys have been completed (including surveys for species and habitats of principal importance where appropriate) to enable a suitable assessment of the potential impact on biodiversity on and off site. Where necessary, the assessment also demonstrates how the development will protect, mitigate and / or enhance biodiversity.

9.2.3 The impact avoidance, mitigation, and compensation measures, when implemented will ensure that there is no negative residual effect due to the proposed developed on listed habitats and fauna detailed on Section 7 of the Environment (Wales) Act 2016.

9.2.4 The proposed development at Queensbridge Farm demonstrates strong alignment with Planning Policy Wales, particularly its requirement for all developments to deliver a Net Benefit for Biodiversity (NBB). The scheme avoids significant ecological harm by relocating the glamping pods from ancient woodland to species-poor modified grassland, thereby protecting irreplaceable habitats and sensitive species. Valuable features such as hedgerows and offsite woodland are retained and buffered, and no tree felling is proposed. The ecological assessment confirmed the absence of significant populations of protected species within the development footprint, and appropriate mitigation measures are in place for species that may be present, including badgers, hedgehogs, and amphibians. The landscaping scheme introduces a mosaic of habitats—wildflower meadows, native scrub, hedgerows, and woodland edge planting—that will significantly enhance the site's ecological value. These habitats support a wider diversity of fauna and promote ecosystem resilience through increased structural diversity and connectivity. Additional enhancements include the installation of bat and bird boxes and the implementation of a Habitat Management and Monitoring Plan (HMMP) to ensure long-term ecological benefits. Sensitive lighting and pollution control measures further protect nocturnal and aquatic species, maintaining dark corridors for commuting bats such as lesser horseshoe and Myotis species. In line with the Chief Planner's 2019 guidance, which states that developments failing to deliver NBB should be refused, this scheme clearly demonstrates a net gain in biodiversity and ecosystem resilience. As such, it fully complies with both national and local planning policy and sets a strong precedent for sustainable development in ecologically sensitive areas.

9.3 SUMMARY OF IMPACT ASSESSMENT

9.3.1 The proposed scheme with its avoidance, mitigation, compensation and enhancement proposals will minimise risk of no unlawful actions occurring during the site clearance and operational/ restoration phase. Ecological enhancements will ensure the site is to be of greater benefit to the local wildlife.

9.3.2 This report has been prepared in relation to the proposed development effects on nearby designated site, habitats, and protected species. The assessment has been informed by a PEA and range of Phase 2 surveys, including NBW surveys; bat static surveys; updated habitat walkovers; and a badger walkover. Other habitats and species were protected through other mitigation measures where further surveys are deemed disproportionate to the risk.

9.3.3 Many of the likely significant effects are beneficial and predominantly surround the new habitat creation including introduction of wildflower meadow, scrub, hedgerows, and woodland edge which will provide a significant ecological enhancement to the site by providing a range of new niches for fauna, including birds, bats, herptiles, and terrestrial mammals.

9.3.4 Likely significant adverse effects include impacts upon European designated sites; accidental pollution incidents impacting adjacent ancient woodland; lighting and noise impacts on bats; disturbing nesting birds; and accidental harm to herptiles and terrestrial mammals.

9.3.5 Embedded mitigation includes:

- The relocation of the glamping pods out of the ancient woodland and into the adjacent modified grassland field.
- The retention of any valuable habitats including woodland and native hedgerow.
- A detailed, sensitive landscape design with major benefits for local fauna.
- The provision of bird and bat boxes in the retained woodland.

9.3.6 Mitigation measures have been outlined which are deemed sufficient to reduce the likely significant effects through construction.

9.3.7 Negligible adverse residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Accidental injury or death of common amphibians and reptiles.
- Accidental injury or death of badgers, brown hare, or hedgehog. Damage to or destruction of new setts.
- Noise disturbance for bats.
- Damage or disturbance to nesting birds and their nests, eggs, or young through construction works and noise.
- Recreational pressures spreading invasive species in River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC and Midland Meres & Mosses Ramsar.
- Increase in RTCs involving otters associated with River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.
- Increases in eutrophication in Midland Meres & Mosses Ramsar.
- Water pollution to River Dee and Bala Lake/ Afon Dyfrdwy A Llyn Tegid SAC.

9.3.8 Minor adverse residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Introduced lighting for bats.

9.3.9 Major beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- New habitats on site providing abundant prey, new linear commuting features, and a greater diversity of foraging niches, directly enhancing the site's value for the full assemblage of bats present.

9.3.10 Moderate-Minor beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- Increased prey abundances and sett building habitats for badgers.
- Increased habitat value in relation the new mosaic of wildflower meadow, scrub, hedgerows, and woodland edge, creating a structurally diverse environment. These features provide basking, foraging, and refuge opportunities for reptiles and amphibians, while also offering commuting routes, cover, and rich feeding habitats for terrestrial mammals such as hedgehog and brown hare.
- The proposed landscaping scheme introduces wildflower meadow, species-rich grassland, native scrub, hedgerows, and woodland edge planting, replacing species-poor modified grassland. These habitats provide a wide variety of nectar, pollen, and larval food plants, alongside sheltered microhabitats and structural diversity for invertebrates.

9.3.11 Major-Moderate beneficial residual effects are anticipated as a result of development upon the following receptors, should the recommended mitigation be adhered to:

- An increase in nesting provisions for birds relating to new bird boxes in offsite woodland.
- An increase in roosting provisions for bats relating to new bat boxes in offsite woodland.

10. BIBLIOGRAPHY

- Arbtech Consulting Ltd (2025). Preliminary Ecological Appraisal, Queensbridge Farm.
- Bat Conservation Trust and Institute of Lighting Professionals (2023). Bats and artificial lighting at Night – Bats and the Built Environment Series.
- British Hedgehog Preservation Society / People's Trust for Endangered Species (2019). Hedgehogs and Development. BHPS / PTES.
- British Trust for Ornithology, Birds of Conservation Concern (December 2021). < https://www.bto.org/sites/default/files/publications/bocc-5-a5-4pp-single-pages.pdf> Last Accessed 2022.
- CIEEM (2019). Guidelines for Preliminary Ecological Appraisal. CIEEM.
- Collins (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (Fourth Edition). The Bat Conservation Trust, London.
- Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746. Available online at britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf IEA (1995). Guidelines for Baseline Ecological Assessment. E & F Spon.
- IEA (1995). Guidelines for Baseline Ecological Assessment. E & F Spon.
- Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.
- Welsh Government (2024) Planning Policy Wales, Edition 12. Available at: https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf

11. APPENDIX

11.1 UKHABITAT MAP



Queensbridge Farm
Baseline Habitats

- Native Hedgerow - h2a
- Modified Grassland - g4
- Red Line Boundary
- Offsite Mixed Woodland - w1

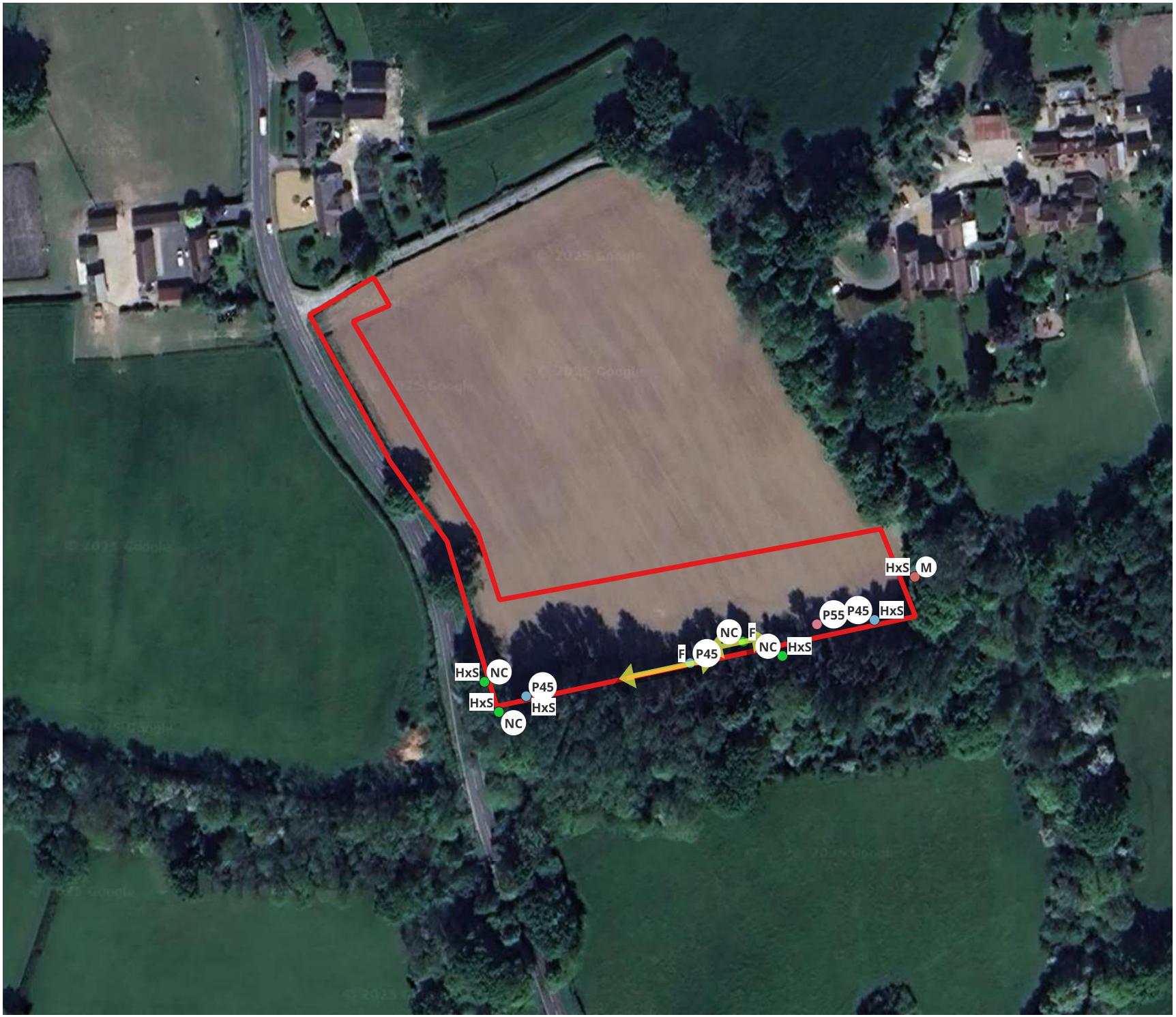
Scale: 1:1800
Drawn By: CW
Checked By: CO
Approved By: CO

Collington Winter
environmental

Client: Steven Heighway
Site: Grange Road, Overton
Project Number: 20-2789

© Collington Winter Environmental 2025

11.2 NIGHT-TIME BAT WALKOVER MAPS



Queensbridge Farm
Bat Survey
Date: 07.05.2025

07.05.25

- NC - Noctule
- P45 - Common Pipistrelle
- P55 - Soprano Pipistrelle
- M - Myotis
- Red Line Boundary

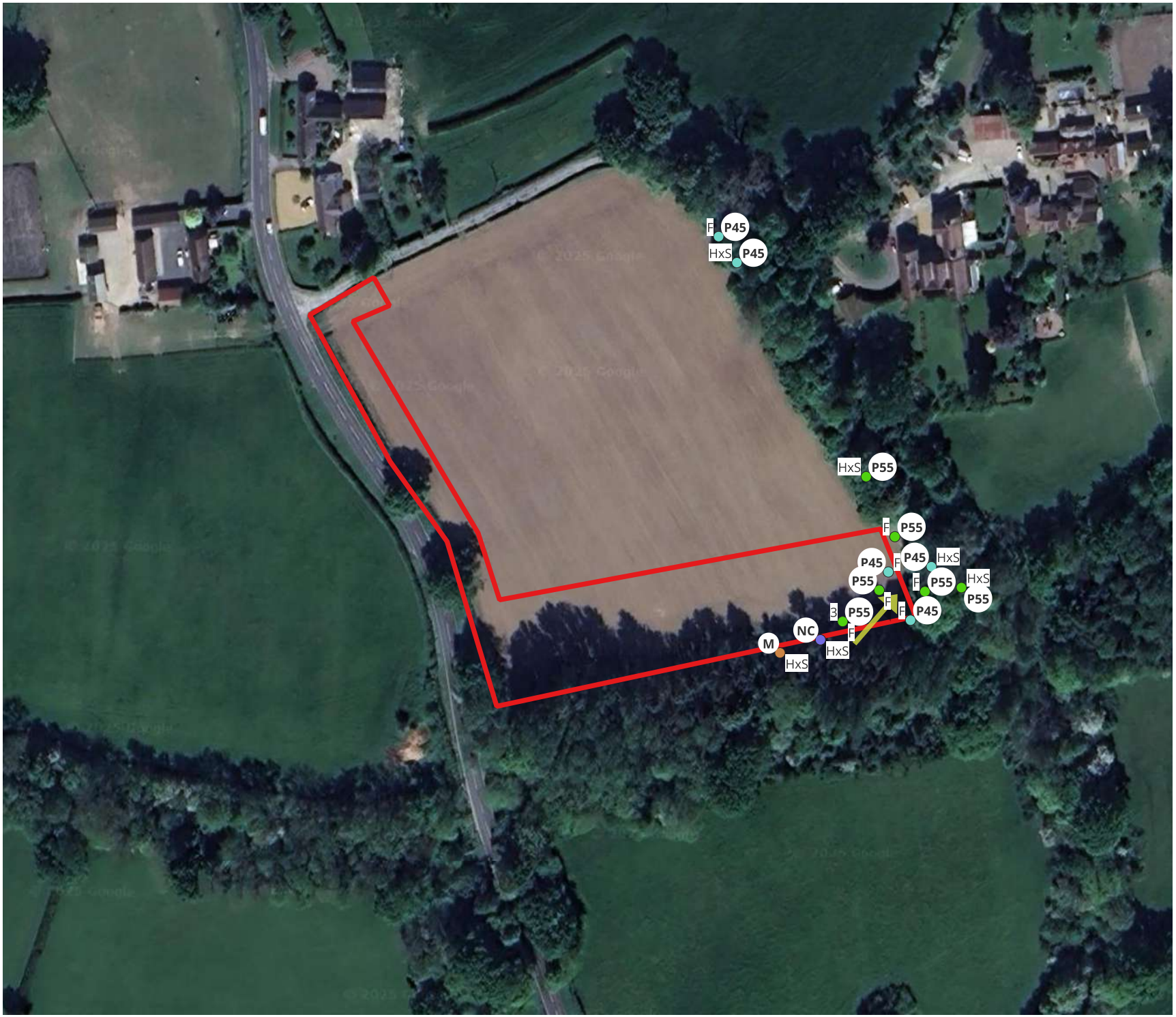
F - Foraging
HxS - Heard not Seen

Scale: 1:1800
Drawn By: CW
Checked By: CO
Approved By: CO

Collington Winter environmental

Client: Steven Heighway
Site: Grange Road, Overton
Project Number: 20-2789

© Collington Winter Environmental 2025



Queensbridge Farm
Bat Survey
Date: 10.09.2025

10.09.25

- M - Myotis
- NC - Noctule
- P45 - Common Pipistrelle
- P55 - Soprano Pipistrelle
- Red Line Boundary

F - Foraging
HxS - Heard not Seen

Scale: 1:1800
Drawn By: CW
Checked By: CO
Approved By: CO

Collington Winter environmental

Client: Steven Heighway
Site: Grange Road, Overton
Project Number: 20-2789

© Collington Winter Environmental 2025



Queensbridge Farm
Bat Survey
Date: 15.07.2025

15.07.25

- BLE - Brown Long-eared
- M - Myotis
- NC - Noctule
- P45 - Common Pipistrelle
- P55 - Soprano Pipistrelle
- S - Serotine
- Red Line Boundary

Scale: 1:1800
Drawn By: CW
Checked By: CO
Approved By: CO

Collington Winter environmental

Client: Steven Heighway
Site: Grange Road, Overton
Project Number: 20-2789

© Collington Winter Environmental 2025

11.3 PRELIMINARY ECOLOGICAL APPRAISAL (ARBTECH, 2025)

Kayleigh Davies BSc (Hons) MSc,
Consultant Ecologist
Email: kayleighdavies@arbtech.co.uk
Arbtech Consulting Ltd
arbtech.co.uk

Preliminary Ecological Appraisal

Survey site:

Queensbridge Farm, Overton On Dee, Wrexham LL13 0LE

Client:

Steven Heighway

Survey date:

14th January 2025

Project:

This report is prepared to inform a planning application with the Wrexham County Borough Council. The proposal is described as:

10 glamping pods, small car park and a path.

PEA survey methodology and legislation can be found in the Arbtech Supplement: **PEA Methodology and Legislation - 2024.**

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion

Site Location and Context

The survey site is centred on National Grid Reference SJ 37235 40154 and has an area of approximately 3ha. The development boundary is approximately 0.7ha.

The site comprises a hedgerow lined field, with scattered trees and a woodland to the south of the site. It is situated within the outskirts of Overton. There is woodland on site that extends into the local garden landscape. Aerial imagery shows the local landscape to have a woodland and agricultural field character, with several small copses and woodland swathes in close proximity to the site. The surrounding agricultural context of the site consists of fields of a mixture of arable and pasture use with hedgerows and trees. Watercourses can be found nearby, such as River Dee located ~1km to the north and streams to the south, with the closest being directly adjacent, offsite, to the southern boundary. There are also further ponds surrounding the site. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles.

Survey Details

The site survey was undertaken by Kayleigh Davies BSc, MSc, Accredited on Natural Resources Wales Bat Licence (details on request.) and holder of Natural Resources Wales Level 1 Great Crested Newt License (details on request).

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
14/01/2025	12	71	90	5	None

Executive Summary

Bat activity surveys are required for the site to assess the site use by foraging and commuting bats.
A GLTA is required to assess the trees for bat roosting features if present before the felling of the trees.
A reptile survey is required to assess the presence or absence of reptiles on site.
eDNA of the ponds within 250m of the site is required to assess the presence of great crested newts in the area.
A phase 2 botany survey of the onsite grassland and woodland required to fully and accurately characterise & condition the woodland, assess if it is an important habitat (e.g. s.7 Annex 1, local BAP etc) and determine presence/likely absence of any important species.
Dormice survey of the woodland is required to assess the woodland for the presence of dormice.

Survey limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

The PEA survey was completed outside of the optimal survey period (April to October) limiting the identification of ground flora species. This will therefore impact habitat identification of the site and important plant species may have been missed during the initial survey. Therefore, further survey effort is required during the optimal season to offset this limitation.

Ecological Survey Factor **Conclusion, Impact or Recommendations**	**Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.**
Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4). **Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).**	
Summary of Survey Findings	The site contains mixed woodland, of which a section is designated as ancient woodland which is listed as a habitat of principal importance under Section 7 of the Environment (Wales) Act 2016 and is Irreplaceable Habitat. Furthermore, the site contains other neutral grassland which is of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). Notable habitats are present within 2km. **On-site habitat descriptions** **g3c** – Other neutral grassland The site consists of a pasture field, which is subject to regular management via mowing. There is a presence of bare ground and damage on site, likely due to the use of machinery on the site. Species composition consists of perennial rye (D), meadow buttercup (A), meadowgrass (F), clover (F), sorrel (F), bramble (O), nettle (O), butchers broom (O), broad leaved dock (R), wood avens (R). Grass sward length is uniform and has an average length of ~15cm. **w1h** – Other woodland – mixed There is a woodland to the south of the site. Tree species present include Lawson's cypress (D), Fir (A), Larch (F), Elder (O) and Ash (R). There is a mix of age class present with saplings and mature trees observed. There are some fallen trees within the woodland parcel with some deadwood observed. The ground flora consisted of ivy (D), holly (A), bramble (F), nettle (O) broad leaved dock (R). The banks of the wood are sloped and there are sections of bare ground throughout. No observed invasive species present. The woodland onsite is connected to further woodland that is designated as ancient woodland. The woodland within the site boundary itself, when consulting historic maps, was not present in the 1900s and is therefore considered a recent

	woodland (Shropshire VI-5 – 1901 (Appendix 4)). However, due to the season the survey was conducted, ancient woodland indicators may not have been present and further survey effort is recommended to fully assess the woodland on site. **h2a** – Native Hedgerow The hedgerow onsite has varying height sections and species present include hawthorn (D) and blackthorn (A) with ivy (F), nettle (O) and bramble (R). The hedgerow within the survey site boundary to the north is ~1.6m in height and ~0.7m in width. There are sections of vertical gaps throughout the onsite hedgerow which amount to <10% of the hedgerow surrounding the field. The observed section within the survey boundary has no observed gaps. Offsite habitats **r2b** – Other river and streams The stream just offsite to the south of the site is ~2m wide and ~15cm – 32cm deep. The stream is flowing with limited submerged vegetation. The banks are observed to be steep with sparse vegetation. The stream floor consists of stones and rock. **Local notable habitats** The following are local notable habitats that were returned from COFNOD (local environmental record centre) within a 2km radius of the site and the closest records. - ***Ancient woodland – onsite (see appendix 1.e), ~960m northwest, ~616m east, 1km east, 1.15km southeast, 1.2km south and ~165km west.*** - Traditional Orchard - ~20m north, ~85m north, ~325m northwest, ~552m southwest, ~750m south, ~760m south, ~770m south and ~1.2km east. - Semi-Improved Grassland - ~960m. - Coastal Floodplain and Grazing March - ~1km north. - Lowland Meadows - ~1km east and ~1.4km northwest. - Lowland Fens and Reedbeds - ~1.4km northwest.
Foreseen Impacts	**On-site habitats** The proposed development will result in the loss of grassland and sections of woodland. Sections of the woodland within the development line boundary are designated as ancient woodland, and therefore it is likely that the remaining woodland to be impacted is a habitat of principal importance and irreplaceable habitat. This could result in a net loss in biodiversity at the site. Furthermore the survey was conducted outside of the optimal season for botanical surveys. **Notable habitats**

	Onsite construction activities will result in removal of an unknown number of trees. Although the trees that would be removed would not be within the designated ancient woodland, the construction will occur <10m away from the ancient woodland designation. This will cause direct impacts to the woodland such as root damage, pollution and dust run off.
Recommendations	**On-site habitats** Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). On site construction may result in the damage or destruction of the designated ancient woodland that covers a section of the site without mitigation. **Notable habitats** It is recommended that the pods are positioned insofar as possible away from the designated ancient woodland. If this is not possible, further surveys are required on the onsite woodland. A Phase 2 botanical survey will be required to determine if the grassland and woodland on the site is a habitat of principal importance. This survey of the woodland must be undertaken between April-May, with April being the preferred month in accordance with current survey guidelines. The grassland is recommended to be surveyed between May to September, with June being the preferred month in accordance with current survey guidelines. The survey is likely to be required before planning permission can be granted. **Green Infrastructure Assessment** Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity.
Locality and Designated Sites	
Summary of Survey Findings	**On-site designations** The site is designated as Lightwood and Queensbridge Dingle Local Wildlife Site (LWS), located to the southern aspect of the site, encompassing 0.27ha of the survey site boundary of the woodland and is discussed below (also see appendix 1e). **Statutory designated sites (within 2km)** There are 2 statutory sites within 2km of the site, as detailed below: - Shell Brook Pastures Site of Special Scientific Interest (SSSI) - ~1km southwest - *The pastures support a range of plants characteristic of this type of grassland including Quaking Grass Briza media, Timothy Phleum pratense, Meadow Fescue Festuca pratensis, Cowslip Primula veris and the uncommon Adder's Tongue Fern Ophioglossum vulgatum, Pepper Saxifrage Silaum silaus, Hoary Ragwort Senecia erucifolius, Dyer's Greenweed Genista tinotoria and Green-winged*

	Orchid Orchis morio. Typical plants of the wet flushes associated with springs and in marshy ground in the valley bottom are Hairy Sedge Carex hirta, Sneezewort Achillea ptarmica, Ragged Robin Lychnis flos-cuculi and Fleabane Pulicaria dysenterica. One of the pastures includes the margin of an area of Alder carr (woodland) with a dense stand of Great Horsetail Equisetum telmateia. - River Dee and Bala Lake (SSSI) Special Area of Conservation (SAC) - ~1.4km northwest - *The lake has abundant pike, perch, brown trout, roach and eel. It also contains the gwyniad, a fish unique to the locality and listed as critically endangered by the IUCN due to the introduction of the invasive and non-native ruffe, and the very rare mollusc Myxas glutinosa (the glutinous snail). According to legend, whilst the Dee itself flows through the lake, the waters never mix. However this was not confirmed by the detailed limnological work undertaken from the 1990s, to understand and manage the occurrence of algal blooms on the lake.* **Non-statutory designated sites** Biological records was obtained from COFNOD (Local Environmental Record Centre) which revealed the presence of the following non-statuatory sites within 2km: - ***Lightwood and Queensbridge Dingle Local Wildlife Site (LWS) – onsite to the south.*** - Morris, Helt Wood and Neile's Wood - ~900m north. - Llan Y Cefn (LWS) - ~1km northwest. - Caerowlin Wood and Meadows (LWS) - ~1.7km northeast. - Nantclimbers Grassland and The Dukes - ~1.7km southeast.
Foreseen Impacts	**On-site designations** The proposed plans include the incorporation of glamping pods to the south of the site. Construction will include the removal of an unknown number of trees within this designation. Furthermore, although the ponds will be suspended off the ground, the construction of the pods will involve disturbance of the ground flora and will increase recreational pressure to this local wildlife site due to the use of these pods and further indirect effects such as pollution or tree damage could occur during construction. **Statutory and non-statutory designated sites** No direct impacts to any further offsite designated sites (not including the above on-site designation) will occur as a result of the proposed development. However, due to the proximity of the site to Morris, Helt Wood and Neile's Wood (LWS), indirect effects such as pollution or habitat damage could occur during construction. Similarly the proposed development could result in increased recreational pressure to further nearby areas.
Recommendations	**On-site designations** Habitats on site, especially the woodland habitats should be protected so far as possible and enhanced where possible. Suggested enhancements will be subject to the results of the further botany surveys onsite.

	Suggested enhancements are included within the Green Infrastructure Statement. **Statutory and non-statutory designated sites** Best practice measures to minimise the possibility of pollution affecting onsite Lightwood and Queensbridge Dingle LWS and other nearby LWS must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.
Invasive / Non-native species	
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.
Foreseen Impacts	N/A
Recommendations	No further surveys but remain vigilant.
Invertebrates	
Summary of Survey Findings	The habitats present on-site, including grassland, hedgerow, stream and woodland, likely provide invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates. **Biological Records Data (2km)** - There is one record of small heath situated ~580m north. - There is one record of blood-vein situated ~700m south. - There is one white-letter hairstreak situated ~1km. - There is one record of pale eggar situated ~1.9km north.
Foreseen Impacts	Grassland will be removed during construction. Furthermore, an unknown number of trees will be felled and ground flora within the woodland will be disturbed to facilitate the proposed works. The loss of such habitats whilst of good habitat for invertebrates is likely to be inconsequential to local invertebrate populations owing to the presence of more extensive habitat locally.
Recommendations	No further surveys. **Suggested biodiversity enhancements**

	The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates. Further incorporation of a site appropriate NVC community of wildflowers will further enhance the site for invertebrates.
Bats	
Summary of Survey Findings	**Biological Records Data (2km)** There are no records for bats within 2km of the site boundary. **Foraging and commuting habitat** Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of grassland, arable land, hedgerow and woodland. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Furthermore the woodland onsite provide foraging habitat for bats. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. **Roosting habitat** Trees on site were not assessed for roosting habitat due to the number of trees within the woodland and the unknown number of trees to be felled to facilitate the work. Once this is known, a ground level tree assessment (GLTA) will be required to assess the trees to be felled for their suitability for roosting bats.
Foreseen Impacts	**Roosting habitat [Trees]** The felling of onsite trees before a ground level tree assessment is undertaken may result in the death or injury of roosting bats if present. **Foraging and commuting habitat** The proposed development will result in the loss of small areas of grassland and an unknown number of trees will be felled to facilitate the works. Due to the change of use of the land and the felling of the trees within the woodland, this may impact commuting and foraging bats within the area if not mitigated for. **Artificial lighting**

	The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.
Recommendations	**Roosting habitat [Trees]** Trees to be felled for the proposed works will be subject to a ground level tree assessment to assess the trees for the suitability for roosting bats. **Foraging and commuting habitat** Bat activity surveys, comprising walked transects and static monitoring, will be required to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. Due to the value of the habitats present on the site a total of three visits, one per season between spring and autumn, will be required to gather sufficient information to enable a full assessment to be made. **Artificial lighting** A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting-2 **Suggested biodiversity enhancements** The installation of two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be included on retained trees on site. They will be suitable for pipistrelles (which have been identified locally through EPSL data). Suitable bat boxes include Beaumaris Bat Box or Schwegler 1B Bat Box or similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Birds	
Summary of Survey Findings	**Biological Records Data (2km)** - There is one record of reed bunting situated ~430m north. - There is one record of sparrowhawk situated ~430m northeast. - There are two records of black headed gull of which the closest is ~650m south. - There are four records of coal tit of which the closest is ~700m north. - There is one record of fieldfare situated ~700m south.

	- There are three records of goldcrest of which the closest is situated ~700m south. - There are two records of grey wagtail of which the closest is situated ~1.3km north. - There is one record of tawny owl situated ~1.3km north. - There is one record of red kite situated ~1.3km north. - There is one record of redwing situated ~1.3km northeast. - There is one record of Canada goose situated ~1.5km northwest. - There is one record of garden warbler situated ~1.6km south. - There is one record of cormorant situated ~1.7km north. - There is one record of kingfisher situated ~1.7km north. **Trees and vegetation** No bird nests were identified within the vegetation on-site; however they all offer nesting opportunities and nest-building resources for birds. **Barn owls** The grassland on site provide habitat for barn owls to forage. Furthermore, the woodland provides further value for foraging barn owls. **Overwintering birds** Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
Foreseen Impacts	**Trees** The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. **Barn owls** The removal of the small section of other neutral grassland is considered inconsequential to barn owl populations. However, the glamping pods within the woodland will impact on barn owl habitat, however due to the further barn owl habitat surrounding the site, the removal of the unknown number of trees to allow the glamping pods is not anticipated to be consequential for barn owls. **Overwintering birds** None foreseen.

Recommendations	**Trees** Any vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. **Barn owls** The retainment of onsite grassland and trees as so far as possible, and a low lighting strategy for the site will limit impacts to barn owls on site. **Overwintering birds** None required. **Suggested biodiversity enhancements** The installation of a minimum of two bird boxes on mature trees around the site boundaries will provide additional nesting habitat for birds e.g. Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Barn Owl Nestbox (trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Reptiles	
Summary of Survey Findings	**EPSL data and local records** A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. No records of reptiles were returned from COFNOD within 2km of the site. **Biological Records Data (2km)** There are no records for reptiles within 2km of the site boundary.

	Habitat suitability Habitats recorded on site are assessed to provide foraging, commuting, basking and refuge opportunities for reptiles. The hedgerow and scrub provide elevated value for reptiles as these habitats provide a suitable structure for refuge, whilst also providing foraging and commuting opportunities. The site has good connectivity to further suitable reptile habitat in the wider landscape via woodland. The presence of reptiles on site cannot be discounted. **Wider landscape** The adjacent sections of the stream and woodland are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted.
Foreseen Impacts	The loss woodland habitat could result in a reduction in reptile habitat and site clearance could result in the death or injury of reptiles, if present.
Recommendations	Reptile surveys will be required to determine presence or likely absence of reptiles on the site. This will comprise the deployment and monitoring of artificial refugia over seven visits and such surveys must be undertaken between April, May and September, in accordance with current survey guidelines (Gent & Gibson, 2003). **Suggested biodiversity enhancements** The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials).
Amphibians	
Summary of Survey Findings	**EPSL and survey data and biological records data** There is one record of common toad within 2km returned from COFNOD. This is located 1.86km to the north. There are no records of great crested newt returned from COFNOD within 2km. Great crested newts exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton *et al.* 2001). **Biological Records Data (2km)** - There is one record of common toad situated ~1.9km north. **Aquatic habitat suitability (including ponds within 500m)**

Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). There are no ponds on site. There are ~8 ponds within 250m of the site boundary and a further ~19 ponds within 500m of the site for a total of ~27 ponds. These include P1 (within adjacent residential area) ~146m to the northeast of the survey site boundary, P2 ~120m south, P3 ~147m east, P4 ~210m north, P5 ~220m north, P6 ~230m southwest, P7 ~250m east and P8 ~255m southeast. These ponds are all suitably connected to site via hedge and tree lined fields.

Terrestrial habitat suitability

The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of hard standing and amenity grass offer sub-optimal habitat for terrestrial amphibians. The hedgerows may offer refuge for these species, however given the urban nature of the surrounding landscape (i.e. dominated by roads and hard standing which are sub-optimal for amphibians) it is unlikely that amphibians will migrate on to site. Further, there is limited suitable terrestrial habitat across the wider landscape reducing the likelihood of amphibians being present on site and across the surrounding areas.

Foreseen Impacts

When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of <0.6ha of grassland and woodland. If great crested newts are present within the closest pond of ~120m to the south of the site, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces an **Amber risk score**, which states: **Offence Likely** (see F**igure 1** below).

Table 1: rapid risk score from Natural England.

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.5 - 1 ha lost or damaged	0.3
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3

	Rapid risk assessment result: **AMBER: OFFENCE LIKELY**
Recommendations	Environmental DNA (eDNA) surveys will be required of P1-8 located to the northwest of the site (where accessible) to determine the presence or absence of great crested newts. This will comprise collecting water samples and sending them off for laboratory analysis and such surveys must be undertaken between mid-April and June, in accordance with current survey guidelines (Biggs et al, 2014). **Suggested biodiversity enhancements** The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
Summary of Survey Findings	There are 7 records of badger returned from COFNOD within 2km of the site. These are summarised: • There is one record of a disused sett located ~1km to the northeast. • There are three records of badgers dead on the road, with closest located ~1.2km south. • There are two unknown record types. No badger setts were noted on site or within a 30m radius of the site. Further, no evidence of foraging badgers was noted within the development area. However, the site was considered suitable for badger sett excavation and foraging habitat.
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Small sections of other neutral grassland will be removed during construction and construction of the glamping pods will result in the loss of an unknown number of trees and some ground flora. The woodland habitats are observed to be of high value for badgers due to the sloping banks and the woodland onsite. Construction activities could result in the death or injury of badgers, if present.

Recommendations	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
Riparian animals	
Summary of Survey Findings	The stream located within the onsite woodland, just outside of the survey site boundary, has suitability to support riparian mammals. The stream is further connected to other water courses in the wider area and with the surrounding woodland, there is foraging habitat presence for riparian mammals. The stream has limited submerged vegetation, and limited vegetated banks and has cover from the oversailing trees. No field signs of otter, such as droppings, tracks or holts were identified during the survey. No field signs of water voles such as droppings, holes or prints were observed during the surveys. **Biological Records Data (2km)** There are no records for riparian mammals within 2km of the site boundary.
Foreseen Impacts	**Otters** The proposed development will not result in the loss of any riparian habitats and no works will be undertaken within 8m of the watercourse (as per Environment Agency regulations). However, due to the presence of the watercourse within close

	proximity of the site, indirect effects such as pollution could occur during construction. Furthermore, construction activities could result in the death or injury of otters, if present. **Water voles** No works will be undertaken within 5m of the top of the banks of the watercourse. Therefore, no impacts are anticipated on water vole as a result of the proposed development.
Recommendations	**Otters** Owing to the nature of the proposed development and the low potential for impacts to otter, further otter surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of otters at the site. • A pre-commencement inspection of the site will be undertaken for otters. • Heras fencing will be erected around the working area to prevent encroachment within 8m of the watercourse. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which otters could use. • Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that otters could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that an otter holt or den is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Water voles** Owing to the nature of the proposed development and the low potential for impacts to water voles, further water vole surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of water vole at the site. • Heras fencing will be erected around the working area to prevent encroachment within 5m of the watercourse. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which water voles could use.

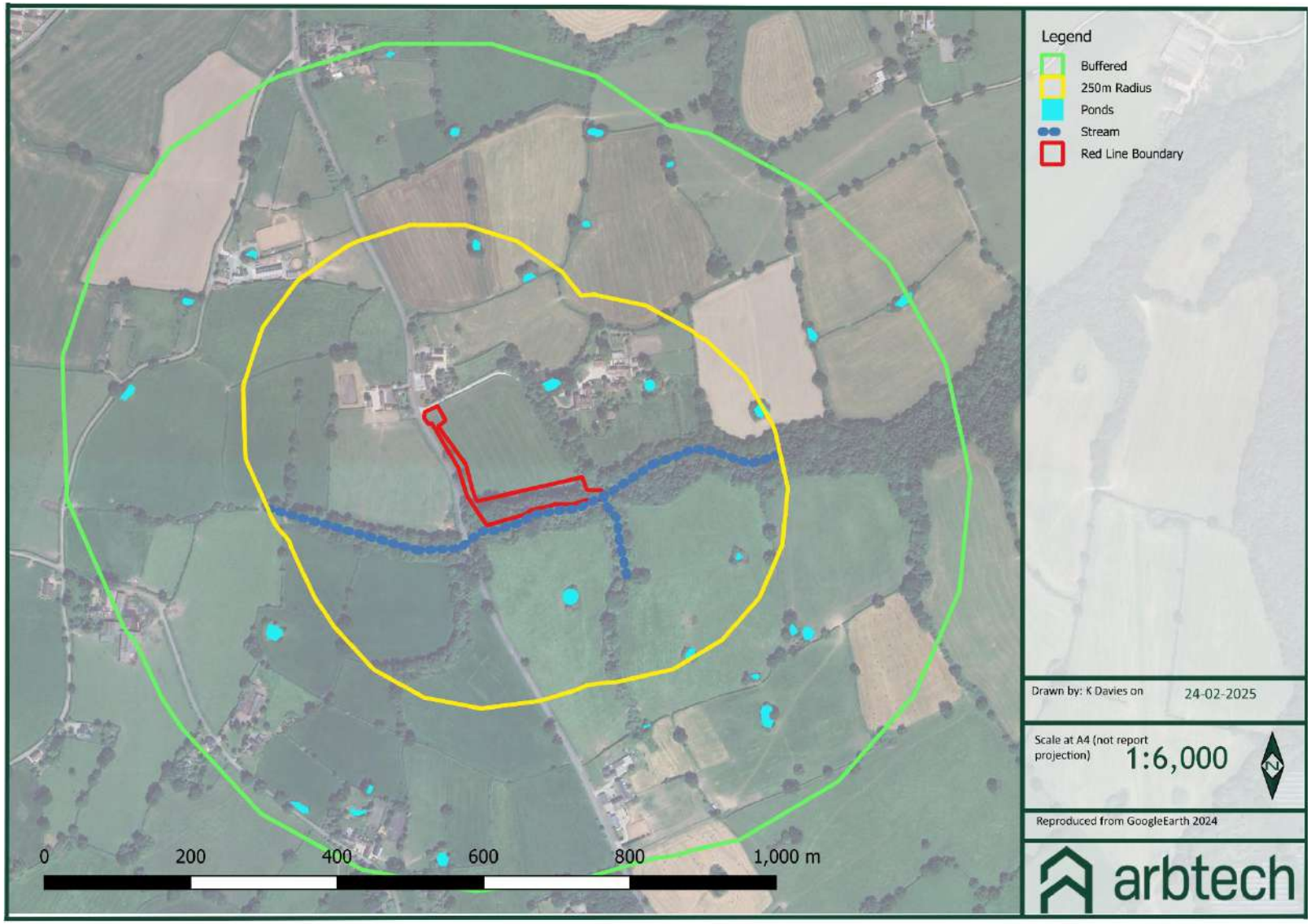
	• Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that water vole could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that water voles or evidence of water voles is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** Planting species rich grassland close to the watercourse to increase foraging opportunities for water voles. Planting native trees and shrubs close to the watercourse to increase opportunities for shelter for otters.
Hazel dormouse	
Summary of Survey Findings	**EPSL data and local records** A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. **Habitat suitability** Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright *et al.* 1994). The woodland onsite extends to the east and consists of >20ha of woodland with hedgerow lined fields surrounding the woodland.
Foreseen Impacts	Although the removal of small sections of the other neutral grassland onsite will be considered inconsequential to dormice, the construction activity within the woodland will result in the disturbance of ground flora and the removal of an unknown number of trees. The loss of such habitats could result in the disturbance of dormouse nests and supporting habitat and could result in the fragmentation of the local landscape. Furthermore, site clearance could result in the death or injury of dormice, if present.
Recommendations	Hazel dormouse surveys will be required to determine presence or likely absence of dormice on the site. This will comprise the deployment and monitoring of nest tubes and boxes as well as nut searches artificial refugia over several months between April and November, in accordance with current survey guidelines (Bright et al, 2006). The surveys are likely to be required before planning permission can be granted.
Other e.g. hedgehog	

Summary of Survey Findings	The woodland and hedgerow onsite provides high value foraging and commuting opportunities for hedgehogs, with connections to further woodland habitat nearby. **Biological Records Data (2km)** - There are three records of hedgehog of which the closest is situated ~1.3km north.
Foreseen Impacts	Other neutral grassland will be removed during construction, along with disturbance to the ground floor of the woodland for the installation of the camping pods. The loss of the grassland is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
Recommendations	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. **Suggested biodiversity enhancements** The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

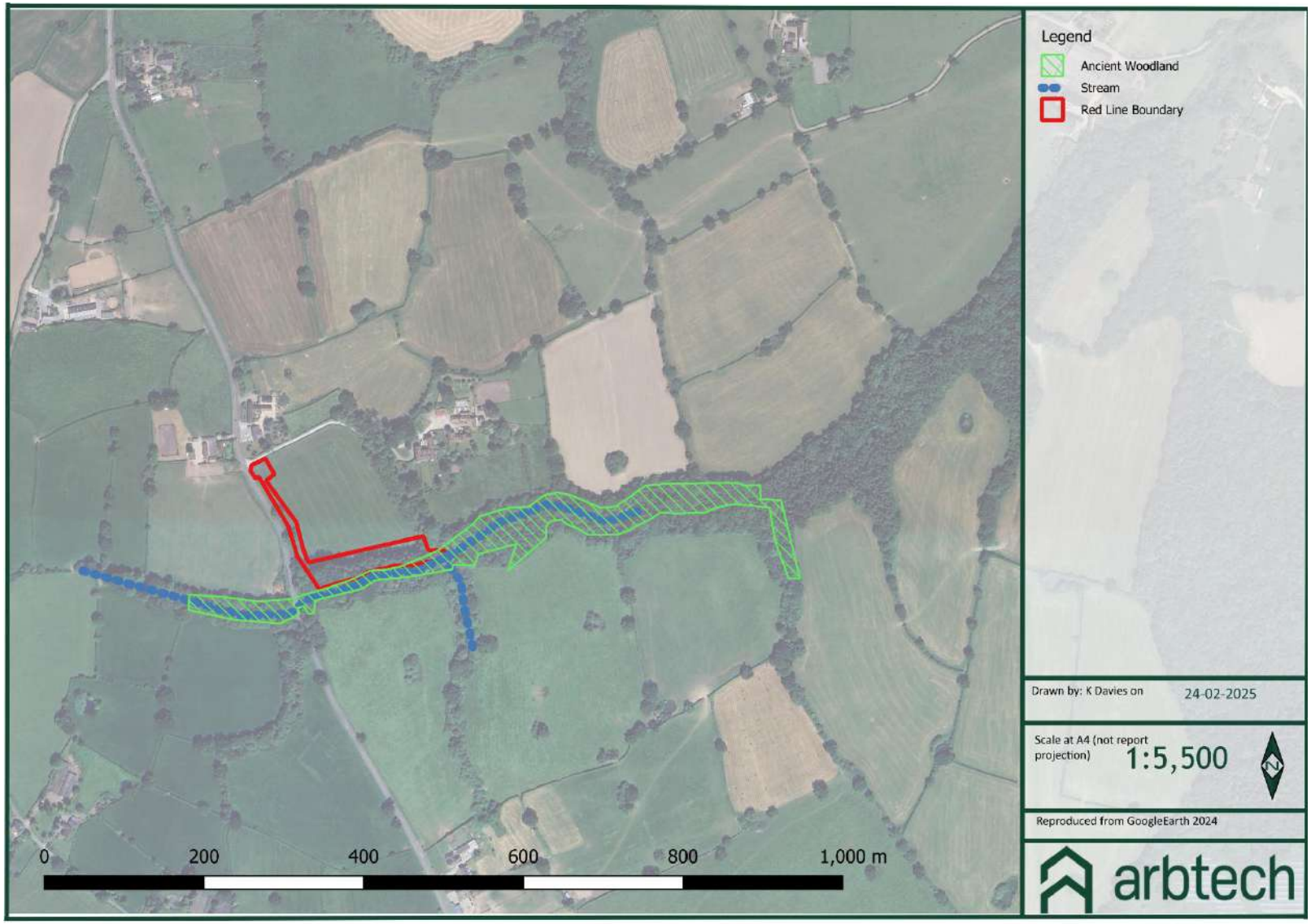
Appendix 1: PEA Map



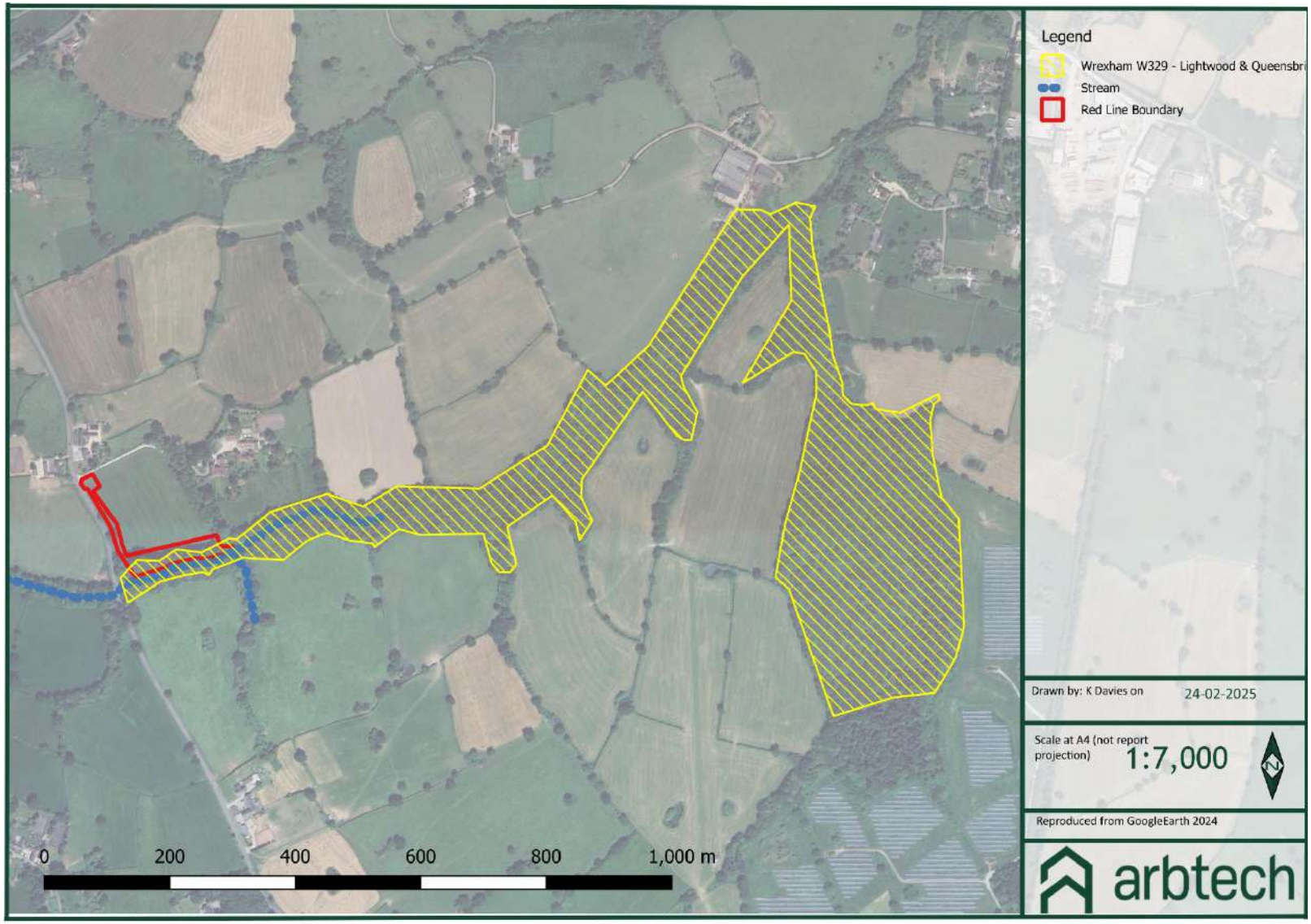
Appendix 1b: Pond Map



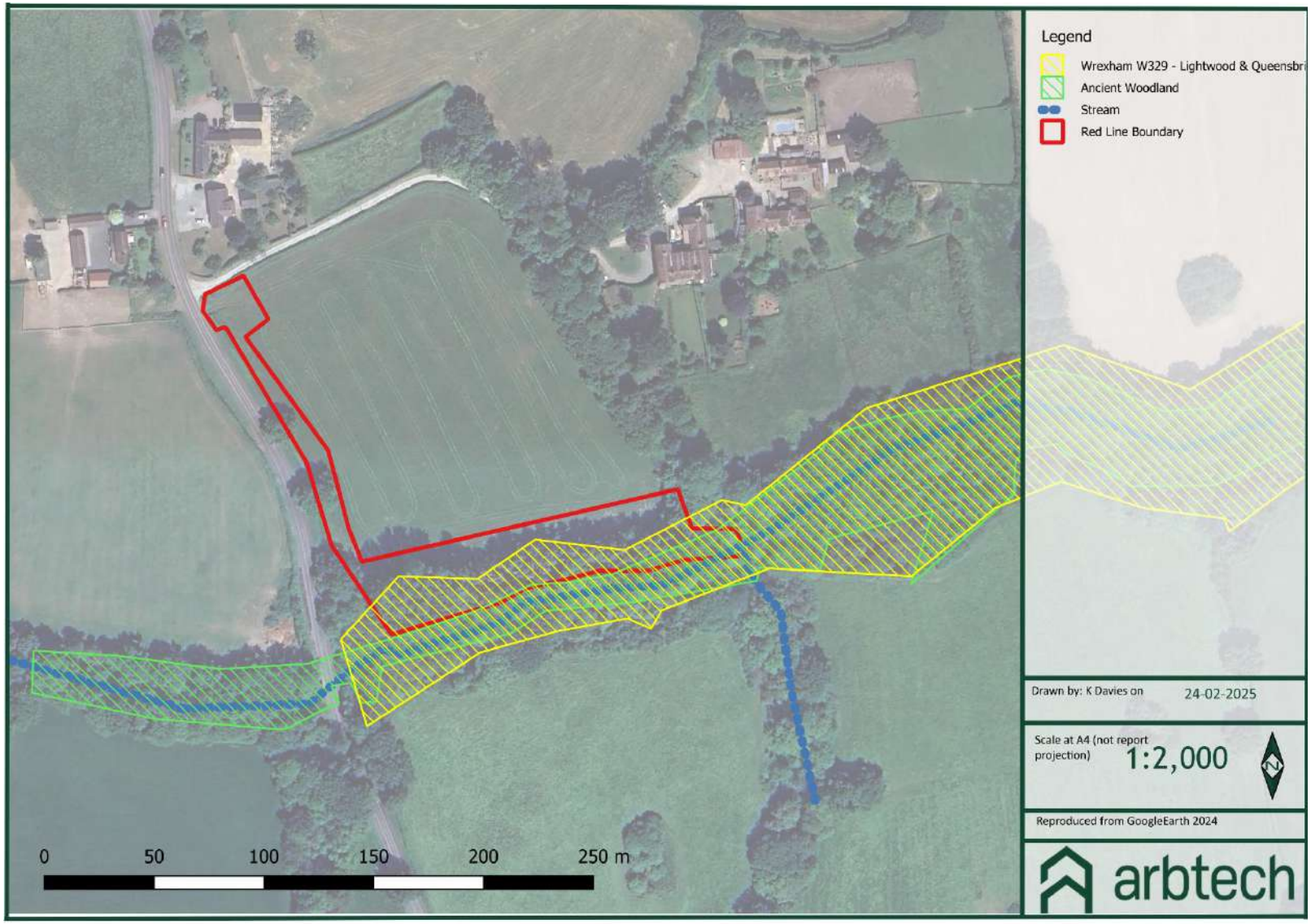
Appendix 1c: Ancient Woodland Location Map



Appendix 1d: Local Wildlife Site Map



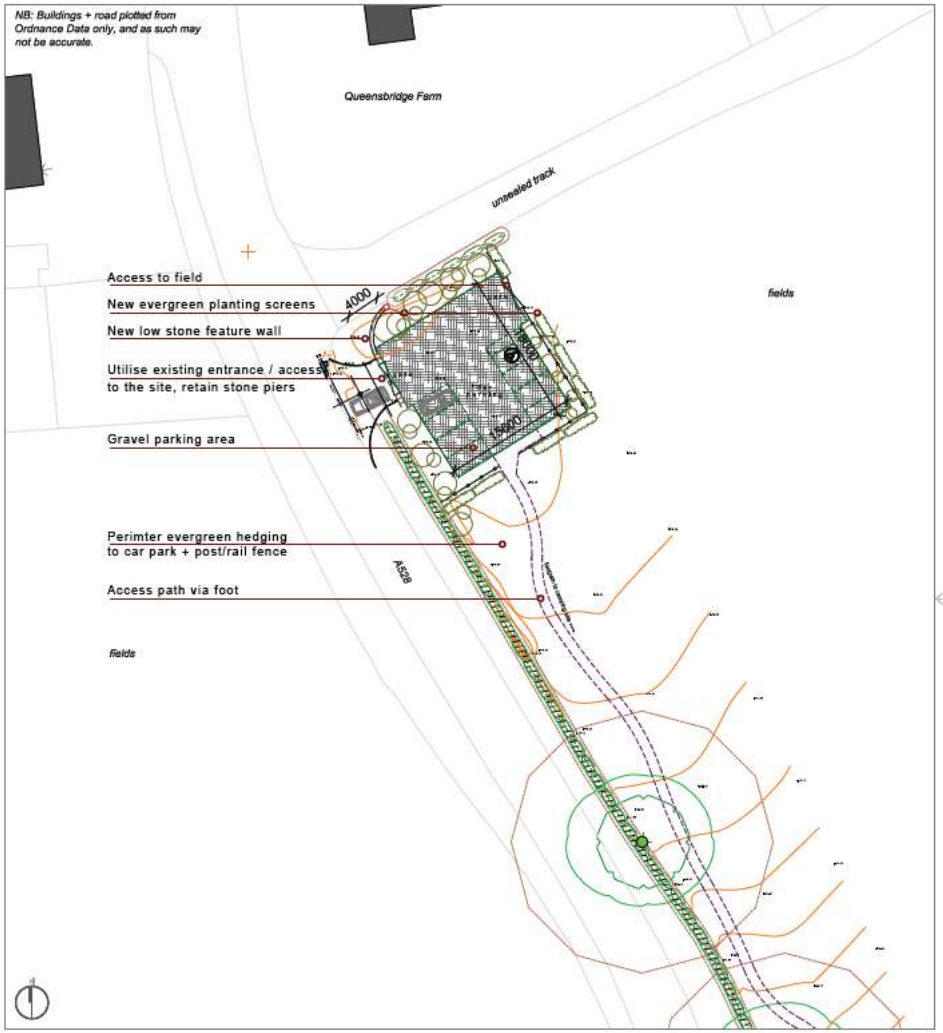
Appendix 1e: Onsite Designations And Notable Habitats



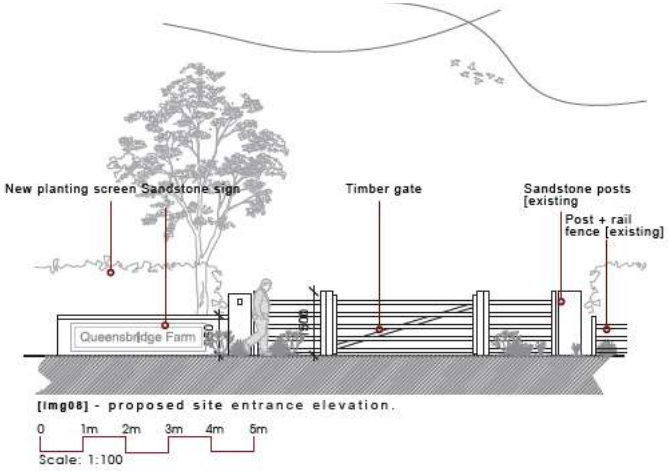
Appendix 2: Location map



Appendix 3: Proposed plan



[img07] - proposed car park layout plan.
0m 10m 20m 30m
Scale: 1:500

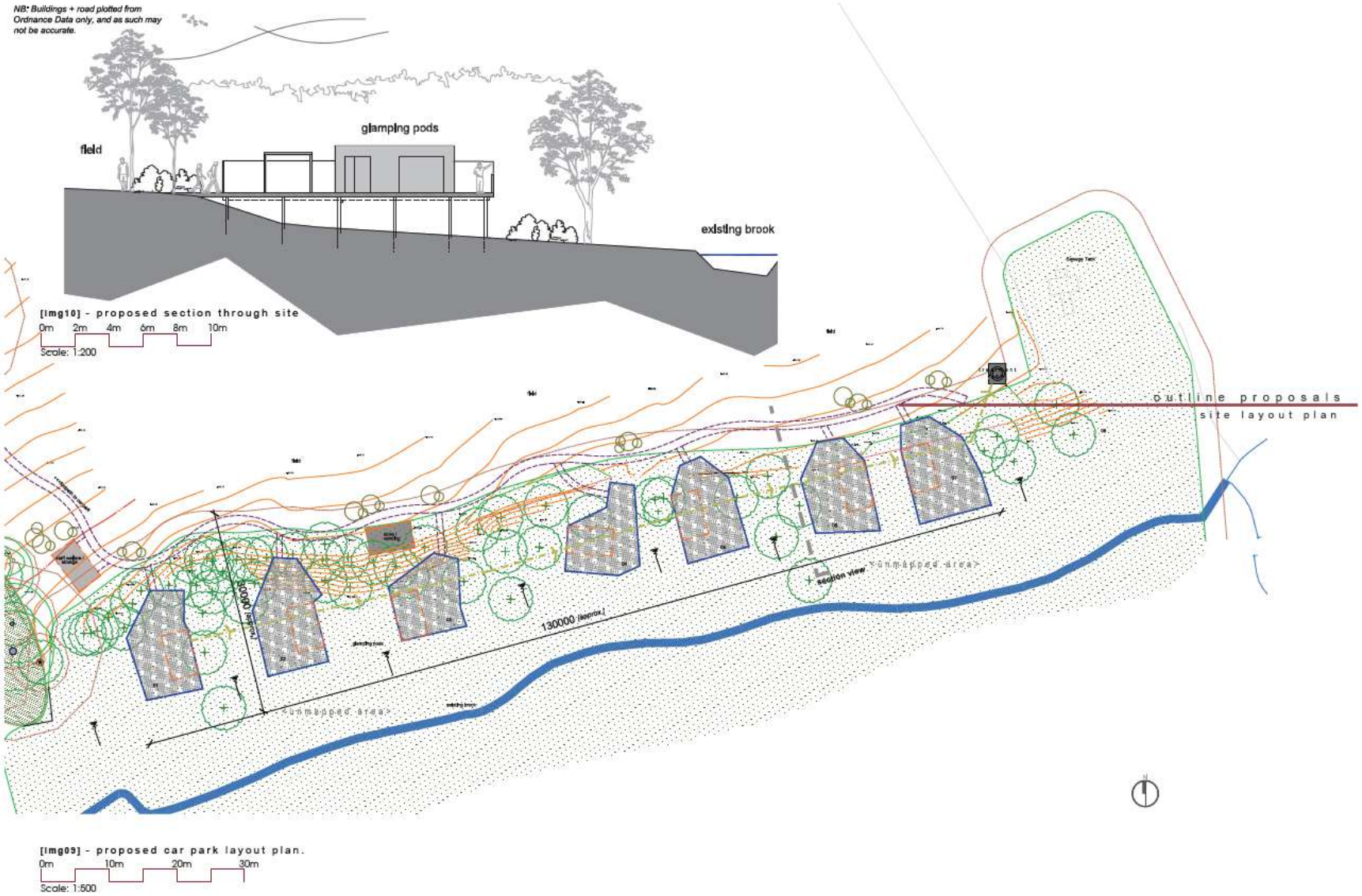


[img08] - proposed site entrance elevation.
0 1m 2m 3m 4m 5m
Scale: 1:100

outline proposals
site layout plan



[img06] - proposed site layout plan.
0m 20m 40m 60m 80m 100m
Scale: 1:2000


NB: Buildings + road plotted from Ordnance Data only, and as such may not be accurate.
glamping pods
field
existing brook
[img10] - proposed section through site
0m 2m 4m 6m 8m 10m
Scale: 1:200
outline proposals
site layout plan
section view
<unmapped area>
130000 (approx.)
50000 (approx.)
[img09] - proposed car park layout plan.
0m 10m 20m 30m
Scale: 1:500

Appendix 4: Ordinance Map – Shropshire VI 5 - 1901



Appendix 5 - Habitat Photos

Other neutral grassland	
Photograph	**Description**
	Fig 1 – grassland on site.
Other mixed woodland	
Photograph	**Description**
	Fig 2 – woodland to the south of the site.
Native hedgerow	
Photograph	**Description**

	Fig 3 – the hedgerow to the north of the site.
Stream	
Photograph	**Description**
	Fig 4 – the stream to the south.

Limitations and Copyright

Legal

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Version control			
Status	**Issue**	**Name**	**Date**
Draft	0.1	Kayleigh Davies, BSc (Hons), MSc, Consultant Ecologist	21/02/25
Proof	0.2	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	28/02/2025
Proof 2	0.3	Fay Brotherhood, Senior Consultant, Botany/Habitats specialist FISC4	03/03/2025
Final	1.0	Kayleigh Davies, BSc (Hons), MSc, Consultant Ecologist	04/03/2025

11.4 PROPOSED LANDSCAPING PLANS (DC LANDSCAPE ARCHITECTURE, 2025)

PLAN:

NOTES:

Please do not scale from this drawing, either paper or electronic copies.

All final measurements must be checked on site by the contractor.

If there are any discrepancies noted in relation to dimensions or scale, please notify the Landscape Architect.

All works are to be carried out in accordance with the latest British Standards and/ or Codes of Practice unless otherwise stated.

This drawing is the property of DAC Landscape Architecture Ltd and must not be copied or reproduced in any way, whole or in part without the permission of the client or DAC Landscape Architecture Ltd. Copyright © of DAC Landscape Architecture Ltd.



Low intervention materials within car park

Existing hedgerow retained

Car park

Existing field retained

Bin storage area to be contained by planting

Existing hedgerow retained along Grange Road

Maintained mown strip either side of the footpath

Informal footpath routes

GRANGE ROAD



Hidden seating opportunities for visitors

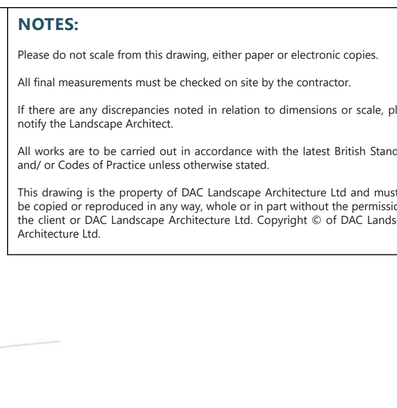
Vending

staff

Existing woodland retained



Wildflower meadow to strengthen ecological value



Trees set in informal setting

A 528

DESIGN APPROACH

The glamping pods are arranged in a linear arrangement with the connecting footpath running along the northern edge to maintain natural surveillance with a backdrop of the existing woodland which creates a natural and scenic setting.

Pockets of woodland understorey planting and trees are strategically introduced between each pod providing privacy while maintaining clear, uninterrupted views across the field from each unit.

Two discrete seating areas, incorporating swing seats or similar features, are nestled within the planting and accessed via hidden paths to create a sense of discovery and tranquillity.

An informal footpath connects the pods to the car park, winding through pockets of scrub and trees to enhance the visual appeal and soften the landscape.

Low-level, sensitive lighting is integrated along the path to ensure safety at night without disrupting the natural character. The existing grassland is to be retained and enhanced to encourage biodiversity, creating a rich habitat that supports local wildlife.

Two welfare units are provided onsite, including a staff unit and vending store for visitor use.



Informal tree planting



Native species incorporated into structural planting

LEGEND:

- **Existing trees retained**
- **Proposed native trees (large)** 12-14cm girth/ Heavy Standards
- **Proposed multi-stem trees** 200-250cm high/ min.3 leaders
- **Proposed small native trees** 8-10cm girth/ Standards
- **Proposed native canopy layer** Bareroot stock with whip planting/ 1.5m centres
- **Proposed native hedgerow** Surrounding the car park
- **Proposed woodland understorey layer** Planted at 3p/m²
- **Proposed native scrub mix** Planted at 1m centres
- **Retained and enhanced species rich grassland**
- **Existing field retained**
- **Glamping pods and associated decking** To architects details
- **Lighting bollards** Low level and sensitive to local wildlife
- **Proposed footpaths (2m wide)** Compacted gravel with timber edging

0m 10m

Scale - 1:200

N

REVISION NOTES:

Rev	Initials	Description	Date
P2	MC	Updated in line with latest site plan	08-09-25
P1	DC	First issue	08-07-25

CLIENT: Mr S. Heighway

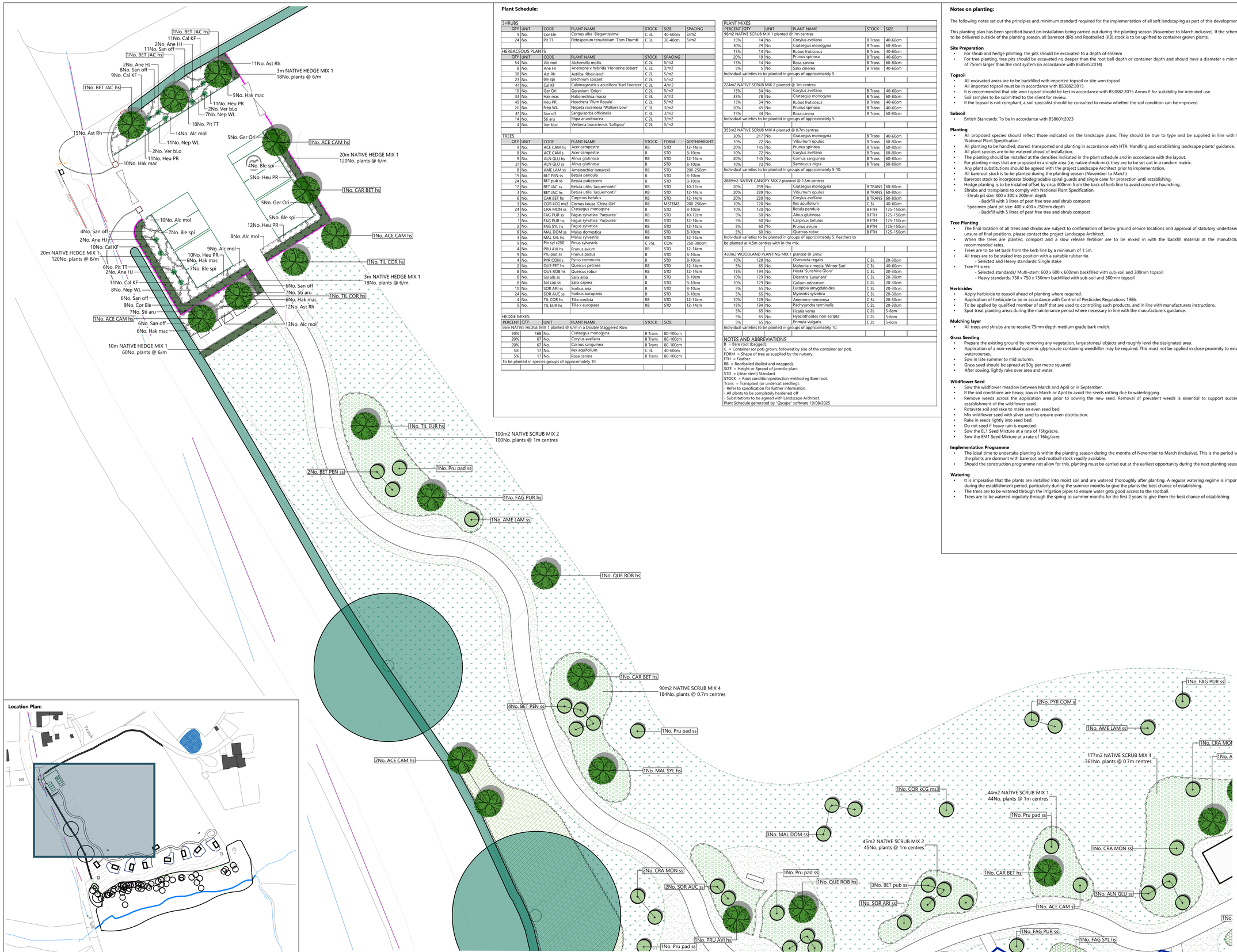
PROJECT: Glamping Site, Queensbridge Farm, Overton-on-Dee

TITLE: Landscape Masterplan

STATUS:	DATE:
For Approval	08-07-2025
DRAWING NO:	**REVISION:**
168-DAC-PL-001	P2

SCALE:	PAPER SIZE:	DRAWN BY:	CHECKED BY:
1:200	A1	MC	DC

LANDSCAPE ARCHITECTURE
Email: info@dacla.co.uk
Tel: 07973823834
Website: www.dacla.co.uk



Plant Schedule:

SHRUBS

QTY	UNIT	CODE	PLANT NAME	STOCK	SIZE	SPACING
9	No.	Cor Ele	Cornus alba 'Elegantissima'	C 3L	40-60cm	3/m2
24	No.	Pit TT	Pittosporum tenuifolium 'Tom Thumb'	C 3L	30-40cm	3/m2

HERBACEOUS PLANTS

QTY	UNIT	CODE	PLANT NAME	STOCK	SPACING
54	No.	Alc mol	Alchemilla mollis	C 2L	5/m2
8	No.	Ane HJ	Anemone x hybrida 'Honorine Jobert'	C 2L	3/m2
38	No.	Ast Rh	Astilbe 'Rheinland'	C 2L	5/m2
23	No.	Ble spi	Blechnum spicant	C 2L	5/m2
41	No.	Cal KF	Calamagrostis x acutiflora 'Karl Foerster'	C 3L	4/m2
10	No.	Ger Ori	Geranium 'Orion'	C 2L	5/m2
33	No.	Hak mac	Hakonechloa macra	C 3L	3/m2
49	No.	Heu PR	Heuchera 'Plum Royale'	C 2L	5/m2
26	No.	Nep WL	Nepeta racemosa 'Walkers Low'	C 3L	3/m2
41	No.	San off	Sanguisorba officinalis	C 3L	3/m2
14	No.	Sti aru	Stipa arundinacea	C 2L	3/m2
4	No.	Ver bLo	Verbena bonariensis 'Lollipop'	C 2L	5/m2

TREES

QTY	UNIT	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
9	No.	ACE CAM hs	Acer campestre	RB	STD	12-14cm
8	No.	ACE CAM s	Acer campestre	B	STD	8-10cm
9	No.	ALN GLU hs	Alnus glutinosa	RB	STD	12-14cm
21	No.	ALN GLU ss	Alnus glutinosa	B	STD	8-10cm
8	No.	AME LAM ss	Amelanchier lamarckii	RB	STD	200-250cm
19	No.	BET PEN ss	Betula pendula	B	STD	8-10cm
24	No.	BET pub ss	Betula pubescens	B	STD	8-10cm
12	No.	BET JAC ss	Betula utilis 'Jaquemontii'	RB	STD	10-12cm
3	No.	BET JAC hs	Betula utilis 'Jaquemontii'	RB	STD	12-14cm
6	No.	CAR BET hs	Carpinus betulus	RB	STD	12-14cm
3	No.	COR kCG ms3	Cornus kousa 'China Girl'	RB	MSTEM3	200-250cm
24	No.	CRA MON ss	Crataegus monogyna	B	STD	8-10cm
3	No.	FAG PUR ss	Fagus sylvatica 'Purpurea'	RB	STD	10-12cm
1	No.	FAG PUR hs	Fagus sylvatica 'Purpurea'	RB	STD	12-14cm
2	No.	FAG SYL hs	Fagus sylvatica	RB	STD	12-14cm
6	No.	MAL DOM ss	Malus domestica	RB	STD	8-10cm
3	No.	MAL SYL hs	Malus sylvestris	RB	STD	12-14cm
9	No.	Pin syl c250	Pinus sylvestris	C 75L	CON	250-300cm
4	No.	PRU AVI hs	Prunus avium	RB	STD	12-14cm
9	No.	Pru pad ss	Prunus padus	B	STD	8-10cm
4	No.	PYR COM s	Pyrus communis	B	STD	8-10cm
2	No.	QUE PET hs	Quercus petraea	RB	STD	12-14cm
8	No.	QUE ROB hs	Quercus robur	RB	STD	12-14cm
6	No.	Sal alb ss	Salix alba	B	STD	8-10cm
8	No.	Sal cap ss	Salix caprea	B	STD	8-10cm
10	No.	SOR ARI ss	Sorbus aria	B	STD	8-10cm
24	No.	SOR AUC ss	Sorbus aucuparia	B	STD	8-10cm
4	No.	TIL COR hs	Tilia x europaea	RB	STD	12-14cm
5	No.	TIL EUR hs	Tilia x europaea	RB	STD	12-14cm

HEDGE MIXES

PERCENT	QTY	UNIT	PLANT NAME	STOCK	SIZE
56m NATIVE HEDGE MIX 1 planted @ 6/m in a Double Staggered Row					
50%	168	No.	Crataegus monogyna	B Trans	80-100cm
20%	67	No.	Corylus avellana	B Trans	80-100cm
20%	67	No.	Cornus sanguinea	B Trans	80-100cm
5%	17	No.	Ilex aquifolium	C 3L	40-60cm
5%	17	No.	Rosa canina	B Trans	80-100cm
To be planted in species groups of approximately 10.					

PLANT MIXES

PERCENT	QTY	UNIT	PLANT NAME	STOCK	SIZE
96m2 NATIVE SCRUB MIX 1 planted @ 1m centres					
15%	14	No.	Corylus avellana	B Trans	40-60cm
30%	29	No.	Crataegus monogyna	B Trans	60-80cm
15%	14	No.	Rubus fruticosus	B Trans	40-60cm
20%	19	No.	Prunus spinosa	B Trans	40-60cm
15%	14	No.	Rosa canina	B Trans	60-80cm
5%	5	No.	Salix cinerea	B Trans	40-60cm
Individual varieties to be planted in groups of approximately 5.					
224m2 NATIVE SCRUB MIX 2 planted @ 1m centres					
15%	34	No.	Corylus avellana	B Trans	40-60cm
35%	78	No.	Crataegus monogyna	B Trans	60-80cm
15%	34	No.	Rubus fruticosus	B Trans	40-60cm
20%	45	No.	Prunus spinosa	B Trans	40-60cm
15%	34	No.	Rosa canina	B Trans	60-80cm
Individual varieties to be planted in groups of approximately 5.					
355m2 NATIVE SCRUB MIX 4 planted @ 0.7m centres					
30%	217	No.	Crataegus monogyna	B Trans	40-60cm
10%	72	No.	Viburnum opulus	B Trans	60-80cm
20%	145	No.	Prunus spinosa	B Trans	60-80cm
10%	72	No.	Corylus avellana	B Trans	60-80cm
20%	145	No.	Cornus sanguinea	B Trans	60-80cm
10%	72	No.	Sambucus nigra	B Trans	60-80cm
Individual varieties to be planted in groups of approximately 5-10.					
268m2 NATIVE CANOPY MIX 2 planted @ 1.5m centres					
20%	239	No.	Crataegus monogyna	B TRANS	60-80cm
20%	239	No.	Viburnum opulus	B TRANS	60-80cm
20%	239	No.	Corylus avellana	B TRANS	60-80cm
10%	120	No.	Ilex aquifolium	C 3L	40-60cm
10%	120	No.	Betula pendula	B FTH	125-150cm
5%	60	No.	Alnus glutinosa	B FTH	125-150cm
5%	60	No.	Carpinus betulus	B FTH	125-150cm
5%	60	No.	Prunus avium	B FTH	125-150cm
5%	60	No.	Quercus robur	B FTH	125-150cm
Individual varieties to be planted in groups of approximately 5. Feathers to be planted at 4.5m centres with in the mix.					
430m2 WOODLAND PLANTING MIX 1 planted @ 3/m2					
10%	129	No.	Osmunda regalis	C 3L	20-30cm
5%	65	No.	Mahonia x media 'Winter Sun'	C 3L	40-60cm
15%	194	No.	Hosta 'Sunshine Glory'	C 3L	20-30cm
10%	129	No.	Dicentra 'Luxuriant'	C 3L	20-30cm
10%	129	No.	Galium odoratum	C 2L	20-30cm
5%	65	No.	Europbia amygdaloides	C 3L	20-30cm
5%	65	No.	Myosotis sylvatica	C 3L	20-30cm
10%	129	No.	Anemone nemerosa	C 3L	20-30cm
15%	194	No.	Pachysandra terminalis	C 2L	20-30cm
5%	65	No.	Ficaria verna	C 2L	5-6cm
5%	65	No.	Hyacinthoides non-scripta'	C 2L	5-6cm
5%	65	No.	Primula vulgaris	C 2L	5-6cm
Individual varieties to be planted in groups of approximately 10.					

NOTES AND ABBREVIATIONS

B = Bare root (bagged).
C = Container (or pot) grown, followed by size of the container (or pot).
FORM = Shape of tree as supplied by the nursery.
FTH = Feather.
RB = Rootballed (balled and wrapped).
SIZE = Height or Spread of juvenile plant.
STD = (clear stem) Standard.
STOCK = Root condition/protection method eg Bare root.
Trans = Transplant (or undercut seedling).
- Refer to specification for further information.
- All plants to be completely hardened off
- Substitutions to be agreed with Landscape Architect.
Plant Schedule generated by "Dacape" software 19/08/2025

Notes on planting:

The following notes set out the principles and minimum standard required for the implementation of all soft landscaping as part of this development.

This planting plan has been specified based on installation being carried out during the planting season (November to March inclusive). If the scheme is to be delivered outside of the planting season, all Bareroot (BR) and Rootballed (RB) stock is to be uplifted to container grown plants.

Site Preparation
- For shrub and hedge planting, the pits should be excavated to a depth of 450mm
- For tree planting, tree pits should be excavated no deeper than the root ball depth or container depth and should have a diameter a minimum of 75mm larger than the root system (in accordance with BS8545:2014)

Topsoil
- All excavated areas are to be backfilled with imported topsoil or site won topsoil
- All imported topsoil must be in accordance with BS3882:2015
- It is recommended that site won topsoil should be test in accordance with BS3882:2015 Annex E for suitability for intended use.
- Soil samples to be submitted to the client for review.
- If the topsoil is not compliant, a soil specialist should be consulted to review whether the soil condition can be improved.

Subsoil
- British Standards: To be in accordance with BS8601:2023

Planting
- All proposed species should reflect those indicated on the landscape plans. They should be true to type and be supplied in line with HTA 'National Plant Specification'.
- All planting to be handled, stored, transported and planting in accordance with HTA 'Handling and establishing landscape plants' guidance.
- All plant species are to be watered ahead of installation.
- The planting should be installed at the densities indicated in the plant schedule and in accordance with the layout.
- For planting mixes that are proposed in a single area (i.e. native shrub mix), they are to be set out in a random matrix.
- Any plant substitutions should be agreed with the project Landscape Architect prior to implementation.
- All bareroot stock is to be planted during the planting season (November to March)
- Bareroot stock to incorporate biodegradable spiral guards and single cane for protection until establishing.
- Hedge planting is to be installed offset by circa 300mm from the back of kerb line to avoid concrete haunching.
- Shrubs and transplants to comply with National Plant Specification.
  - Shrub pit size: 300 x 300 x 200mm depth
    - Backfill with 3 litres of peat free tree and shrub compost
  - Specimen plant pit size: 400 x 400 x 250mm depth
    - Backfill with 5 litres of peat free tree and shrub compost

Tree Planting
- The final location of all trees and shrubs are subject to confirmation of below ground service locations and approval of statutory undertakers. If unsure of final positions, please contact the project Landscape Architect.
- When the trees are planted, compost and a slow release fertiliser are to be mixed in with the backfill material at the manufacturers recommended rates.
- Trees are to be set back from the kerb line by a minimum of 1.5m.
- All trees are to be staked into position with a suitable rubber tie.
  - Selected and Heavy standards: Single stake
- Tree Pit sizes:
  - Selected standards/ Multi-stem: 600 x 600 x 600mm backfilled with sub-soil and 300mm topsoil
  - Heavy standards: 750 x 750 x 750mm backfilled with sub-soil and 300mm topsoil

Herbicides
- Apply herbicide to topsoil ahead of planting where required.
- Application of herbicide to be in accordance with Control of Pesticides Regulations 1986.
- To be applied by qualified member of staff that are used to controlling such products, and in line with manufacturers instructions.
- Spot treat planting areas during the maintenance period where necessary in line with the manufacturers guidance.

Mulching layer
- All trees and shrubs are to receive 75mm depth medium grade bark mulch.

Grass Seeding
- Prepare the existing ground by removing any vegetation, large stones/ objects and roughly level the designated area.
- Application of a non-residual systemic glyphosate containing weedkiller may be required. This must not be applied in close proximity to existing watercourses.
- Sow in late summer to mid autumn.
- Grass seed should be spread at 50g per metre squared
- After sowing, lightly rake over area and water.

Wildflower Seed
- Sow the wildflower meadow between March and April or in September.
- If the soil conditions are heavy, sow in March or April to avoid the seeds rotting due to waterlogging.
- Remove weeds across the application area prior to sowing the new seed. Removal of prevalent weeds is essential to support successful establishment of the wildflower seed.
- Rotavate soil and rake to make an even seed bed.
- Mix wildflower seed with silver sand to ensure even distribution.
- Rake in seeds lightly into seed bed.
- Do not seed if heavy rain is expected.
- Sow the EL1 Seed Mixture at a rate of 16kg/acre.
- Sow the EM1 Seed Mixture at a rate of 16kg/acre.

Implementation Programme
- The ideal time to undertake planting is within the planting season during the months of November to March (inclusive). This is the period when the plants are dormant with bareroot and rootball stock readily available.
- Should the construction programme not allow for this, planting must be carried out at the earliest opportunity during the next planting season.

Watering
- It is imperative that the plants are installed into moist soil and are watered thoroughly after planting. A regular watering regime is important during the establishment period, particularly during the summer months to give the plants the best chance of establishing.
- The trees are to be watered through the irrigation pipes to ensure water gets good access to the rootball.
- Trees are to be watered regularly through the spring to summer months for the first 2 years to give them the best chance of establishing.

Notes:

Please do not scale from this drawing, either paper or electronic copies.

All final measurements must be checked on site by the contractor.

If there are any discrepencies noted in relation to dimensions or scale, please notify the Landscape Architect.

All works are to be carried out in accordance with the latest British Standards and/ or Codes of Practice unless otherwise stated.

This drawing is the property of DAC Landscape Architecture Ltd and must not be copied or reproduced in any way, whole or in part without the permission of the client or DAC Landscape Architecture Ltd. Copyright © of DAC Landscape Architecture Ltd.

Legend:

SOFT

Existing Trees Retained

Proposed native trees
Girth: 12-14cm/ Heavy Standard
Height: 3.5-4.5m high
Fixings: Single tree stake and rubber tie

Proposed small trees
Girth: 8-10cm/ Standards
Height: 2-3m high
Fixings: Single tree stake and rubber tie

Proposed Shrub Planting
Stock size: 3-5L containers
Feature specimens: 10-12L
Density: 3-5p/m2
Mulch: 75mm depth bark mulch

Proposed Native Hedgerows
Density: 6 per linear metre (planted as a double staggered row)
Height: 80-100cm
Stock: Bareroot and protected with spiral guards

Proposed native scrub mix
Stock size: 60-80cm/ bareroot stock
Density: 1m centres
Mulch: 75mm depth bark mulch

Proposed woodland understorey layer
Stock size: 30-40cm/ 3L containers
Density: 3/m2
Mulch: 75mm depth bark mulch

Proposed native canopy layer
Stock size: 60-80cm & 125-150cm feathers/ bareroot stock
Density: 1.5m centres
Mulch: 75mm depth bark mulch

Proposed species rich grass
To be Emorsgate EL1 Seed Mixture
To be maintained as cut grass

Proposed Species Rich Meadow
To be Emorsgate EM1 Seed Mixture

0 10m
SCALE 1:200

NORTH

Revision Notes:

Rev	Initials	Description	Date
P2	MC	Updated in line with architect's layout	08/09/25
P1	DC	First issue	19/08/25

Client:
Mr S. Heighway

Project:
Glamping site, Queensbridge Farm, Overton-on-Dee

Title:
Detailed Planting Plan: 1 of 3

Status:	Date:
For Approval	19-08-2025

Drawing No:	Revision:
168-DAC-PL-002	P2

Scale:	Paper Size:	Drawn by:	Approved by:
1:200	A1	DC	DC

LANDSCAPE ARCHITECTURE
Email: info@dacla.co.uk
Tel: 07973823834
Website: www.dacla.co.uk

1No. COR kCG ms3
44m2 NATIVE SCRUB MIX 1
44No. plants @ 1m centres
1No. Pru pad ss
3No. MAL DOM ss
45m2 NATIVE SCRUB MIX 2
45No. plants @ 1m centres
1No. CRA MON ss
2No. CRA MON ss
2No. SOR AUC ss
1No. Pru pad ss
1No. QUE ROB hs
3No. BET pub ss
1No. CAR BET hs
3No. ALN GLU ss
1No. SOR ARI ss
1No. ACE CAM s
1No. Pru pad ss
1No. QUE PET hs
1No. PRU AVI hs
1No. Pru pad ss
1No. FAG PUR ss
1No. FAG SYL hs
3No. BET JAC ss
1No. QUE ROB hs
1No. AME LAM ss
104m2 WOODLAND PLANTING MIX 1
312No. plants @ 3/m2
1No. TIL EUR hs
1No. AME LAM ss
3No. CRA MON ss
1No. ACE CAM s
95m2 WOODLAND PLANTING MIX 1
285No. plants @ 3/m2
2No. SOR AUC ss
1No. ACE CAM hs
1No. AME LAM ss
38m2 WOODLAND PLANTING MIX 1
114No. plants @ 3/m2
1No. QUE ROB hs
1No. SOR ARI ss
4No. BET pub ss
3No. BET JAC ss
1No. Sal cap ss
1No. MAL SYL hs
2No. SOR AUC ss
2No. SOR AUC ss
1No. ACE CAM hs
1No. Pin syl c250
1No. BET PEN ss
1No. Pin syl c250
1No. Pin syl c250
1No. TIL EUR hs
2No. SOR ARI ss
1No. CRA MON ss
3No. ALN GLU hs
2No. Sal cap ss
1No. ACE CAM s
2No. CRA MON ss
3No. SOR AUC ss
3No. ALN GLU ss
1No. ALN GLU hs
2No. SOR ARI ss
1No. ALN GLU hs
1No. Sal alb ss
1No. Sal alb ss
5No. BET pub ss
2No. SOR AUC ss
3No. ALN GLU ss
1No. QUE ROB hs
3No. ALN GLU hs
3No. CRA MON ss
1No. Sal alb ss
2No. Pin syl c250
1No. ACE CAM s
3No. ALN GLU ss
2No. BET PEN ss
5No. BET pub ss
1No. CRA MON ss
2No. Sal cap ss
1No. Sal alb ss
A 528

REFER TO DRAWING 168-DAC-PL-002 FOR PLANT SCHEDULE AND PLANTING NOTES

Location Plan:



Notes:

Please do not scale from this drawing, either paper or electronic copies.

All final measurements must be checked on site by the contractor.

If there are any discrepencies noted in relation to dimensions or scale, please notify the Landscape Architect.

All works are to be carried out in accordance with the latest British Standards and/ or Codes of Practice unless otherwise stated.

This drawing is the property of DAC Landscape Architecture Ltd and must not be copied or reproduced in any way, whole or in part without the permission of the client or DAC Landscape Architecture Ltd. Copyright © of DAC Landscape Architecture Ltd.

Legend:

SOFT

Existing Trees Retained

Proposed native trees
Girth: 12-14cm/ Heavy Standard
Height: 3.5-4.5m high
Fixings: Single tree stake and rubber tie

Proposed small trees
Girth: 8-10cm/ Standards
Height: 2-3m high
Fixings: Single tree stake and rubber tie

Proposed Shrub Planting
Stock size: 3-5L containers
Feature specimens: 10-12L
Density: 3-5p/m2
Mulch: 75mm depth bark mulch

Proposed Native Hedgerows
Density: 6 per linear metre (planted as a double staggered row)
Height: 80-100cm
Stock: Bareroot and protected with spiral guards

Proposed native scrub mix
Stock size: 60-80cm/ bareroot stock
Density: 1m centres
Mulch: 75mm depth bark mulch

Proposed woodland understorey layer
Stock size: 30-40cm/ 3L containers
Density: 3/m2
Mulch: 75mm depth bark mulch

Proposed native canopy layer
Stock size: 60-80cm & 125-150cm feathers/ bareroot stock
Density: 1.5m centres
Mulch: 75mm depth bark mulch

Proposed species rich grass
To be Emorsgate EL1 Seed Mixture
To be maintained as cut grass

Proposed Species Rich Meadow
To be Emorsgate EM1 Seed Mixture

0 10m
SCALE 1:200

NORTH

Revision Notes:

Rev	Initials	Description	Date
P2	MC	Updated in line with architect's layout	08/09/25
P1	DC	First issue	19/08/25

Client:
Mr S. Heighway

Project:
Glamping site, Queensbridge Farm, Overton-on-Dee

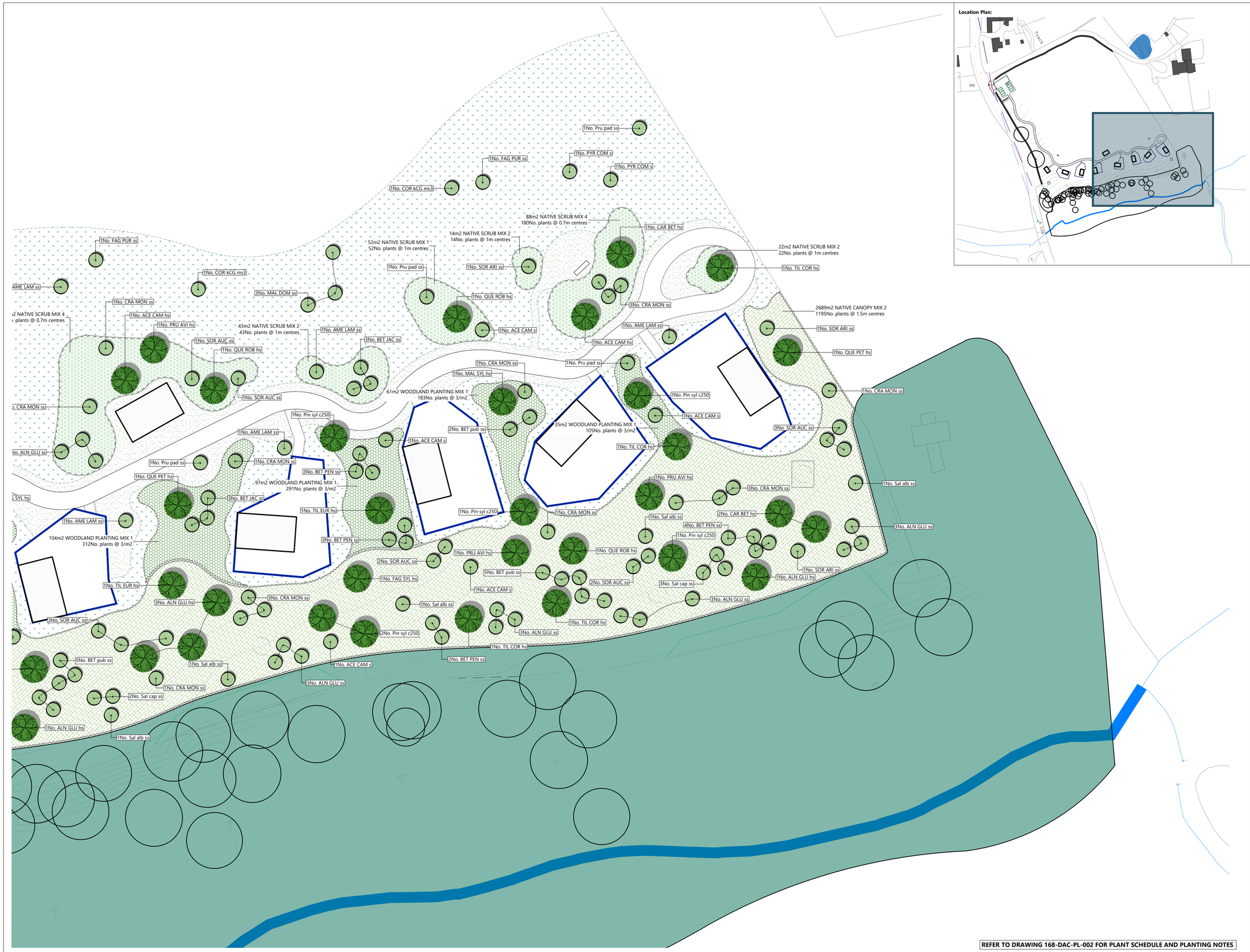
Title:
Detailed Planting Plan: 2 of 3

Status:	Date:
For Approval	19-08-2025

Drawing No:	Revision:
168-DAC-PL-003	P2

Scale:	Paper Size:	Drawn by:	Approved by:
1:200	A1	DC	DC

LANDSCAPE
ARCHITECTURE
Email: info@dacla.co.uk
Tel: 07973823834
Website: www.dacla.co.uk



Location Plan:

REFER TO DRAWING 168-DAC-PL-002 FOR PLANT SCHEDULE AND PLANTING NOTES

Notes:

Please do not scale from this drawing, either paper or electronic copies.

All final measurements must be checked on site by the contractor.

If there are any discrepencies noted in relation to dimensions or scale, please notify the Landscape Architect.

All works are to be carried out in accordance with the latest British Standards and/ or Codes of Practice unless otherwise stated.

This drawing is the property of DAC Landscape Architecture Ltd and must not be copied or reproduced in any way, whole or in part without the permission of the client or DAC Landscape Architecture Ltd. Copyright © of DAC Landscape Architecture Ltd.

Legend:

SOFT

Existing Trees Retained

Proposed native trees
Girth: 12-14cm/ Heavy Standard
Height: 3.5-4.5m high
Fixings: Single tree stake and rubber tie

Proposed small trees
Girth: 8-10cm/ Standards
Height: 2-3m high
Fixings: Single tree stake and rubber tie

Proposed Shrub Planting
Stock size: 3-5L containers
Feature specimens: 10-12L
Density: 3-5p/m2
Mulch: 75mm depth bark mulch

Proposed Native Hedgerows
Density: 6 per linear metre (planted as a double staggered row)
Height: 80-100cm
Stock: Bareroot and protected with spiral guards

Proposed native scrub mix
Stock size: 60-80cm/ bareroot stock
Density: 1m centres
Mulch: 75mm depth bark mulch

Proposed woodland understorey layer
Stock size: 30-40cm/ 3L containers
Density: 3/m2
Mulch: 75mm depth bark mulch

Proposed native canopy layer
Stock size: 60-80cm & 125-150cm feathers/ bareroot stock
Density: 1.5m centres
Mulch: 75mm depth bark mulch

Proposed species rich grass
To be Emorsgate EL1 Seed Mixture
To be maintained as cut grass

Proposed Species Rich Meadow
To be Emorsgate EM1 Seed Mixture

0 10m
SCALE 1:200

NORTH

Revision Notes:

Rev	Initials	Description	Date
P2	MC	Updated in line with architect's layout	08/09/25
P1	DC	First issue	19/08/25

Client:
Mr S. Heighway

Project:
Glamping site, Queensbridge Farm, Overton-on-Dee

Title:
Detailed Planting Plan: 3 of 3

Status:	Date:
For Approval	19-08-2025

Drawing No:	Revision:
168-DAC-PL-004	P2

Scale:	Paper Size:	Drawn by:	Approved by:
1:200	A1	DC	DC

LANDSCAPE
ARCHITECTURE
Email: info@dacla.co.uk
Tel: 07973823834
Website: www.dacla.co.uk

SECTION A-A1



SECTION B-B1



SECTION LOCATION PLAN

Not to scale



0m 5m

Scale - 1:100

N

NOTES:

Please do not scale from this drawing, either paper or electronic copies.

All final measurements must be checked on site by the contractor.

If there are any discrepancies noted in relation to dimensions or scale, please notify the Landscape Architect.

All works are to be carried out in accordance with the latest British Standards and/ or Codes of Practice unless otherwise stated.

This drawing is the property of DAC Landscape Architecture Ltd and must not be copied or reproduced in any way, whole or in part without the permission of the client or DAC Landscape Architecture Ltd. Copyright © of DAC Landscape Architecture Ltd.

REVISION NOTES:

Rev	Initials	Description	Date
P1	DC	First issue	08-09-25

CLIENT:
Mr S. Heighway

PROJECT:
Glamping Site, Queensbridge Farm, Overton-on-Dee

TITLE:
Landscape Sections

STATUS:	DATE:
For Approval	08-09-2025

DRAWING NO:	REVISION:
168-DAC-SE-005	P1

SCALE:	PAPER SIZE:	DRAWN BY:	CHECKED BY:
1:100	A1	MC	DC

LANDSCAPE ARCHITECTURE
Email: info@dacla.co.uk
Tel: 07973823834
Website: www.dacla.co.uk


Collingtonwinter
environmental