LIZARD
Landscape Design and Ecology

ECOLOGICAL IMPACT ASSESSMENT

Land Rear of Chesapeke, Sayers Common

On Behalf of: Antler Homes

Client:	Antler Homes			
Project:	Land Rear of Chesapeke, Sayers Common			
Reference:	LLD2818-ECO-REP-007-00-EcIA			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
00	31/03/2025	Max Day MSci (Hons)	Catherine O'Reilly MCIEEM	Catherine O'Reilly MCIEEM

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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. office@lizardlandscape.co.uk W. lizardlandscapeecology.com

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake an Ecological Impact Assessment of the proposed development of Land Rear of Chesapeke, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*). A Preliminary Ecological Appraisal of the site was undertaken on the 6th of December 2022. A GCN eDNA survey, reptile survey, bat emergence surveys, and badger monitoring surveys were completed between May and July 2023. An assessment of the ecological impact of the proposals was then undertaken using this baseline data. An updated visit was completed on the 7th of March 2025 to confirm baseline conditions remained unchanged.

The survey area covers c. 1.5 ha of grassland fields located towards the south-western edge of Sayers Common. The site consists of former dwelling, alongside former horse grazing fields and barns with area of tall ruderal, hard standing, scattered trees, native hedgerows, a line of trees, a non-native hedgerow, dense scrub and a ditch. It is understood that the proposals for the construction of new residential dwellings, with associated access, parking, gardens, and public open space.

Further surveys identified a low population of grass snake, 2no. day roosts for bats within trees, badger activity, and the absence of GCN within surrounding off-site ponds. Appropriate mitigation strategies for the species shown to be present at the site are outlined herein, which could be secured through an appropriately worded planning condition, alongside a landscape creation, management, and monitoring plan.

Opportunities for ecological enhancement have been provided to allow the ecological value of the site to be maximised. As this is a full planning application, the development proposals shall be subject to the standard Biodiversity Gain Condition. A full Biodiversity Net Gain Report which discusses the baseline value of the site, and proposed habitat creation measures will accompany this application.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake an Ecological Impact Assessment of the proposed development of Land Rear of Chesapeke, Sayers Common (*Grid Reference: TQ 26509 18043– hereafter referred to as 'the site'*).

1.2 The scope of this assessment has been determined with consideration of best-practice guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and the Biodiversity: Code of practice for planning and development published by the British Standards Institute (BS 42020:2013).

1.3 An initial Preliminary Ecological Appraisal of the site was undertaken on the 6th of December 2022. The following phase 2 survey work was recommended and subsequently undertaken:

- eDNA surveys of 4no. ponds within 500m of the site on the 12th of May 2023.
- 28 days of badger sett monitoring between the 26th of May 2023 and 21st of June 2023.
- 7no. reptile survey visits between the 26th of May 2023 and the 30th of June 2023.
- Bat survey visits including dusk emergence surveys and dawn re-entry surveys between the 21st of June 2023 and the 25th of July 2023.

1.4 An updated survey was then completed on the 7th of March 2025 to confirm that that conditions on-site remain unchanged and to ensure that conclusions made still align with current best practice guidance. A summary of the results of these surveys, potential impacts of the proposals, and details of avoidance, mitigation and compensation measures have been detailed within this report. Residual impacts are then discussed once all mitigation and compensation measures have been taken into account.

Site Information

1.5 The survey area covers c. 1.5 hectares (ha) of grassland fields located towards the south-western edge of Sayers Common. The site is enclosed by mature, mixed-species hedge and treelines and is bordered by Reeds Lane to the north, residential properties to the east and west and farmland to the south.

Surrounding Landscape

1.6 The surrounding landscape is rural, with the nearest large settlement of Burgess Hill located 3.1 (km) to the east, while the properties of Hurstpierpoint are located 1.5km south-east. Surrounding land is dominated by arable fields and grazing land interspersed with small shaws and mature tree / hedge lines.

Development Proposals

1.7 It is understood that the development proposals include the construction of new residential dwellings with associated access, gardens and parking. This would necessitate the loss of grassland, hedgerows, and trees.

Report Aims

1.8 The aim of the baseline surveys and Ecological Impact Assessment has been:

- Describe baseline conditions at the site;
- Determine the importance of features which may be impacted by the scheme;
- Identify impacts of the proposed development and set out appropriate avoidance, mitigation and compensation measures;
- To identify any residual impacts;
- To provide details of enhancements to be incorporated into the scheme;
- Provide sufficient information to determine whether the project accords with relevant nature conservation policies and legislation, and where appropriate, to allow conditions or obligations to be proposed by the relevant authority.

2.0 PLANNING POLICY AND LEGISLATION

Legislation

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this EcIA includes:

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

2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Planning Policy

2.3 The National Planning Policy Framework (*NPPF*) 2024 sets out the government planning policies for England and how they should be applied. 'Chapter 15: Conserving and Enhancing the Natural Environment' states that development should be 'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.'

2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

2.5 The Mid Sussex District Plan 2014 – 2031 includes Policy DP37 relating to Trees, Woodland and Hedgerow which is summarised below:

- The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected.

- Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/ or that have landscape, historic or wildlife importance, will not normally be permitted.
- Proposals for new trees, woodland and hedgerows should be of suitable species, usually native, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows should be of a size and species that will achieve this purpose.
- Trees, woodland and hedgerows will be protected and enhanced by ensuring development:
    - incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme; and
    - prevents damage to root systems and takes account of expected future growth; and
    - where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management; and
    - has appropriate protection measures throughout the development process; and
    - takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change; and • does not sever ecological corridors created by these assets. Proposals for works to trees will be considered taking into account: the condition and health of the trees; and
    - the contribution of the trees to the character and visual amenity of the local area; and
    - the amenity and nature conservation value of the trees; and
    - the extent and impact of the works; and
    - any replanting proposals.

- The felling of protected trees will only be permitted if there is no appropriate alternative. Where a protected tree or group of trees is felled, a replacement tree or group of trees, on a minimum of a 1:1 basis and of an appropriate size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties.
- Development should be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary.

2.6 In addition, Policy DP38 sets out key policy for broader biodiversity which is summarised below:

- Biodiversity will be protected and enhanced by ensuring development:
    - Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and
    - Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and
    - Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and
    - Promotes the restoration, management and expansion of priority habitats in the District; and

- Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.

- Designated sites will be given protection and appropriate weight according to their importance and the contribution they make to wider ecological networks.
- Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution.
- Geodiversity will be protected by ensuring development prevents harm to geological conservation interests, and where possible, enhances such interests. Geological conservation interests include Regionally Important Geological and Geomorphological Sites.

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 The Multi-Agency Geographic Information for the Countryside (*MAGIC*) was consulted for all designated sites within a practicable zone of influence of the site. This included Local Nature Reserves (LNRs), National Nature reserves (NNR) and Sites of Special Scientific Interest (SSSIs) within a 2.0km radius of the site, and international statutory designated sites including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsars (Wetlands of International Importance) within a 10km radius of the site. Where SAC's designated for their bat interest are present this ZoI has been extended to 12km in accordance with recent guidance (SDNP, 2020).

3.1.2 MAGIC was also used to provide information on all Priority Habitats within a 2.0km radius of the site, and all records of granted European Protected Species Mitigation licences within a 1.0km radius of the site.

3.1.3 Updated protected / notable species records within a 2.0km radius of the site were provided by Sussex Biodiversity Records Centre (SxBRC) on the 24th of March 2025. A summary of these records is provided within *Appendix A – Biodiversity Records Summary Page*.

3.1.4 In accordance with Natural England's GCN Mitigation Guidelines (English Nature, 2001) a desktop search was undertaken to identify ponds within 500m and 250m of the site, which may have the potential to support breeding great crested newts (GCN) *Triturus cristatus,* using Ordnance Survey mapping, the *MAGIC* database and aerial photography.

3.2 Preliminary Ecological Appraisal

3.2.1 The initial field survey was undertaken on the 6th of December 2022 by a Suitably Qualified Ecologist (Catherine O'Reilly, MCIEEM, 9 years professional experience). Weather conditions were cool (c. 7°C), with a light south-westerly wind (Beaufort Scale 2), 20% cloud cover and dry.

3.2.2 The field survey comprised a walkover inspection of the site and immediately adjacent land and boundaries features, in which ecological features were noted and mapped in accordance with principles of the UKHabs-Professional Classification System v1.1 (Butcher *et al*, 2020).

3.2.3 An updated field survey was undertaken on the 7th of March 2025 by a Suitably Qualified Ecologist (Max Day MSci (Hons), 2 years professional experience). Weather conditions were mild (c.14°C), with a light south-easterly wind (Beaufort Scale 1-2), 20% cloud cover and dry. Habitats were recorded according to the updated UKHabs Classification System (v2.01) as described within the UK Habitats Manual (UKHabs Ltd., 2023). A minimum mapping unit of 25m^2 was used and habitats were identified to at least level 4 wherever practicable. Habitat categories were slightly amended to be consistent with those used as part of Biodiversity Net Gain calculations.

3.2.3 A list of plant species was compiled, together with an estimate of abundance. In addition, Target notes were used where necessary to provide supplementary information on features which were particularly interesting or significant to specific construction proposals, or too small to map.

3.2.4 The survey methodology was extended to provide more detail in relation to the sites potential to support rare or protected fauna, as described by the *Chartered Institute of Ecology and Environmental Management's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017)*. The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual (Gent and Gibson, 2003)* and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins (4th ed.), 2023*).

3.3 Daytime Bat Walkover Survey

3.3.1 A Preliminary Bat Roost Assessment was undertaken on the 6th of December 2022 by an experienced, licenced bat surveyor (Catherine O'Reilly 2016-20460-CLS-CLS) who undertook an internal and external assessment of all buildings and ground level assessment of trees within the proposed construction zone in accordance with *Bat Conservation Trust's Good Survey Guidelines (2016)*.

3.3.2 An updated Daytime Bat Walkover (DBW) survey was then undertaken on the 7th of March 2025 by a suitably experienced surveyor (Max Day; Accredited Agent Under 2016-20460-CLS-CLS). This was completed in accordance with the updated guidance *Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition* (Collins, 2023).

3.3.2 The DBW surveys entailed a slow walkover of the site, during which time the surveyor identified any structures, trees and other features that could be suitable for bats to roost in, and any habitats which could be suitable for bats to commute, forage or swarm in.

3.3.3 During these surveys any direct evidence of bats was searched for and recorded, such as grease marks, urine stains, bat droppings, feeding remains and dead / live bats. Furthermore, any structures or trees which offered features with the potential to support bats were noted. For trees this included the identification of features such as, but not limited to, cracks, crevices and holes naturally formed by trees. For structures this included the identification of features such as, but not limited to, slipped, missing or uneven tiles, gaps around the soffit / barge board, raised flashing.

Evaluation Criteria

3.3.4 In the updated survey all suitable bat habitat was assessed in accordance best practice criteria (Collins, 2023), which is outlined herein. During the survey all trees within and immediately adjacent to the site were assessed using the following criteria:

Table No. 02 – Criteria for Assessing the Bat Roosting Suitability of Trees

Suitability	Description
None	Either no potential roosting features in the tree, or highly unlikely to be any.
FAR	Further assessment required to establish if potential roosting features are present in the tree.
PRF	A tree with at least one potential roosting feature present.

3.3.5 If it was possible to adequately assess a Potential Roosting Feature (PRF) from ground level then this was completed, and the feature classified as either:

- **PRF-I**: Feature only suitable for individual or very small numbers of bats, either due to size or lack of suitable surrounding habitat; or
- **PRF-M**: PRF is suitable for multiple bats and therefore has the potential to be used by a maternity colony.

3.3.6 Furthermore, all structures were assessed externally, and internally wherever possible for their potential to support bats, using the following criteria:

Table No. 03 – Criteria for Assessing the Bat Roosting Suitability of Structures

Potential Suitability	Description
None	No habitat features on site likely to be used by any roosting bats at any time of year.
Negligible	No obvious habitat features on site likely to be used by roosting bats. However, some small uncertainty remains, as bats can use small and apparently unsuitable features occasionally.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these do not provide enough shelter, space, protection, appropriate conditions or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.
Moderate	A structure with one of more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but unlikely to support a roost of high conservation status, irrespective of species conservation status.

Potential Suitability	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat, with the potential to support high conservation status roosts irrespective of species conservation status.
Confirmed	Direct evidence of bats identified.

3.3.7 Finally, an assessment of the winter hibernation potential of the structures was made, in accordance with the following criteria:

Table No. 04 – Criteria for Assessing the Winter Bat Roosting Suitability of Structures and Trees

Potential Suitability	Description
Low	No or very limited potential winter roosting habitat
Moderate	Non classic site
High	'Classic sites', which offer stable humidity and consistent temperatures throughout the winter period, such as underground sites, cellars, tunnels etc.

3.4 Badger Walkover Survey

Initial Survey

3.4.1 The initial field survey was undertaken on the 6th of December 2022 by an experienced ecologist. The survey area covered the red line boundary of the site, and all land within a 30m radius (where access was available). An updated survey was conducted on the 7th of March 2025 to confirm that the conclusions of this survey remained relevant.

3.4.2 The survey area was systematically searched for any evidence of badger such as:

- Setts.
- Latrines.
- Snuffle Holes.
- 'Push-unders' through boundary fencing.
- Hair caught on fencing or sett entrances.
- Prints left in mud or sand.
- Mammal tracks.

3.4.3 Any evidence was then mapped to allow the status and distribution of badger activity to be assessed.

3.5 Other Phase 2 Surveys

3.5.1 The initial PEA of the site undertaken on the 6th of December 2022 identified the need for further phase 2 protected species survey work ahead of planning, which has subsequently been completed. The methodology and results of this survey work are provided in the following appendices:

- Appendix B – GCN eDNA Survey Report (2023).
- Appendix C – Reptile Survey Report (2023).
- Appendix D – Bat Emergence Survey Report (2023).

3.5.2 A summary of these surveys and an assessment of the potential impacts of proposals, alongside recommendations for mitigation are provided herein.

3.6 Badger Sett Monitoring

3.6.1 All potential badger setts on site were subject to a period of 28 days continuous monitoring between 26th May and 21st June 2023. Setts were monitored using 2no. Spypoint LINK-LTE infrared cameras which captured still images and video.

3.6.2 Where found, setts were categorised as follows:

Table No. 02 – Sett Classification

Sett Type	***Description***
Main	Several holes with well worn pathways between. Signs of active use.
Annex	Usually within 150 m of the main sett and are usually connected with one or more well worn pathways between. They usually have several holes, but may not be in use all the time.
Subsidiary	Over 50m from the main sett, with no obvious pathway. Small number of holes (generally 3-5) and are not continuously active.
Outlier	1-2 holes which are used sporadically. Not pathways connecting to other setts. May be used by foxes and rabbits.

3.6.3 Sett entrances were mapped and their usage recorded. Entrances were classified as:

- Active – a hole clear of debris, with signs of recent excavation. Bedding balls may be present along with other signs of badger occupation.
- Partially active – a hole which shows no recent sign of occupation and may have debris and leaf litter to the entrance. Hole could be returned to regular use with minimal excavation.
- Disused – a hole which is blocked with debris or collapsed, and which could only be used again with significant excavation.

3.6.4 A summary of recorded activity is summarised within *Appendix E – Badger Monitoring Results*.

3.7 Ecological Impact Assessment

3.7.1 The methodology for Ecological Impact Assessment (EcIA) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (CIEEM): 'Guidelines for Ecological Impact Assessment' (CIEEM, 2018). This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (or change). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.7.2 The CIEEM guidelines (2018) state that ecological features should be considered within a 'defined geographical context'. The geographical frame of reference used to determine ecological importance in this assessment is detailed below:

- International and European;
- National;
- Regional;
- County;
- District;
- Local;
- Site Level;
- Negligible.

3.7.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- Its inclusion as a Designated Site or other protected area;
- The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);
- The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);
- The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;
- The sites social and economic value.

3.7.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within *'Guidelines for Ecological Impact Assessment in the UK and Ireland*' (*CIEEM, 2018*). When describing impacts the assessment refers to characteristics such as the extent; magnitude; duration; frequency; and, reversibility of the impact in order to provide justification for any conclusions about the nature and likelihood of the impact described.

3.7.5 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. This assessment then considers residual impacts (*once all mitigation has been taken into account*), with any significant effects highlighted. A significant effect is defined as "*an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*". Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

3.8 Constraints and Limitations

3.8.1 Due to the field survey consisting of only one site visit, certain species, particularly some of the flowering plants, may not have been visible or may have been otherwise inconspicuous at the time of the survey and hence overlooked. These are accepted constraints associated with the UKHabs Survey Methodology.

3.8.2 No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological value has been made.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

4.1.1 There were no statutory sites identified within a potential zone of influence of the site; the nearest statutory site is Wolstonbury Hill SSSI, located c. 4km south.

4.1.2 The site is located within the Impact Risk Zone for Wolstonbury Hill SSSI; however, development proposals do not meet the criteria which would require the LPA to consult with Natural England.

Non-Statutory Protected Areas

4.1.4 Sites of Nature Conservation Importance (SNCIs) or Local Wildlife Sites (LWSs) are designations applied to the most important non-statutory nature conservation sites. They are recognised by the National Planning Policy Framework (2024) and as such are material considerations when assessing planning applications.

4.1.5 There are no LWSs or SNCIs located within 1.0km of the site. However, the following Designated Road Verge (DRV) and areas of Irreplaceable Habitat were recorded:

Table No. 02 – Non-Statutory Protected Sites

Site	Location
Sayers Common Wood – Ancient Woodland	*0.13km E*
Furze Field – Ancient Woodland	*0.20km N*
Mill Lane DRV	*1.78km NE*

Pond Study

4.1.6 18no. of ponds were identified within 500m of the site, of which 2no. are within 250m based on OS mapping and satellite imagery. The closest of which (P1) is located c. 140m north. *See Figure No. 01 - Surrounding Pond Plan* below:

Figure No. 01 – Surrounding Pond Plan showing 250m and 500m buffer. Contain OS data © Crown Copyright and database rights 2025.

Priority Habitat

4.1.7 Within 2.0km of the site there are *Priority Habitats* of *Lowland Mixed Deciduous Woodland* (much of which is *Ancient and Semi-Natural Woodland*), *Traditional Orchards, Ponds,* and *Hedgerows.*

4.2 Existing Habitat Assessment

4.2.1 Habitats within and adjacent to the site include:

- *Modified Grassland*
- *Buildings*
- *Developed Land; Sealed Surface*
- *Artificial Unvegetated; Unsealed Surface*
- *Ruderal / Ephemeral*
- *Blackthorn Scrub*
- *Bramble Scrub*
- *Native Hedgerow with Trees*
- *Native Hedgerow*
- *Non-Native and Ornamental Hedgerow*
- *Line of Trees*
- *Ditches*

Modified Grassland

4.2.2 The majority of the site comprised 5no. large fields (GR02-GR06) and an unmanaged front garden (GR01) to the north. These grassland areas had a sward height of 10 – 20cm at the time of the survey and were dominated by grasses with an average of 3-5 species/m^2. Common agricultural grasses such as perennial rye grass *Lolium perenne*, Yorkshire fog *Holcus lanatus* and creeping bent *Agrostis stolonifera* dominated the sward, with frequent areas of curly dock *Rumex crispus* and creeping buttercup *Ranunculus repens* present. Common fleabane *Pulicaria dysenterica* and pendulous sedge *Carex pendula* were identified within wetter areas while common nettle *Urtica dioica* extended from the margins in areas.

4.2.3 The northern and eastern fields exhibited a slightly greater species diversity, with occasional / rare vetch *Vicia sp.,* timothy *Phleum pratense* and dove's-foot crane's-bill *Geranium molle*, although species diversity in general remained poor. The modified grassland on site was of low diversity and was assessed to be of **site value.**

Image 01 – View north within the former front garden (GR01). Individual trees are visible.

Image 02 – View south within the north-most field (GR02). Non-Native and Ornamental Hedgerow (H04) visible to the right.

Image 03 – View across the eastern field (GR05).

Seasonally Wet Modified Grassland with Ruderal / Ephemeral

4.2.4 The southern-most field (GR06) comprised tussocky Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata* and false oat *Arrhenatherum elatius* grasses with locally dominant areas of creeping buttercup *Ranunculus repenes* and occasional dock *Rumex* sp. and creeping cinquefoil *Potentilla reptans*.

4.2.5 An area towards the centre of the field was flooded and wet underfoot at the time of both surveys, with vegetation indicative of waterlogging including soft rush *Juncus effusus*, hemlock water dropwort *Oenanthe crocata*, common fleabane and water mint *Mentha aquatica*. In addition, the presence of water-starwort *Callitriche* sp. was also noted within small puddles adjacent to the ditch. This field parcel was more structurally diverse and was considered to be of **site value.**

Images 04 and 05 – View of the southern field (GR06), with significant evidence of flooding. Line of trees (TL01) visible to rear (right).

Buildings

4.2.6 4no. different buildings were recorded on site, each of differing construction and ages. These included a derelict dwelling to the northern section of the site (building B1), derelict stables to the centre (B3) and 2no. steel-frame buildings containing an indoor riding school (B3) and stables (B4). A full preliminary roost assessment of these buildings is detailed within section 4.3.

Image 06 – Northern aspect of B04, assessed as offering 'low' bat roost suitability.

Image 07 – Building B02 and B03, assessed as offering 'negligible' bat roost suitability.

Developed Land; Sealed Surface

4.2.7 A small area of tarmac hardstanding was identified to the west of the site, directly east of the indoor riding school and stables. This habitat was considered to be of **negligible value.**

Image 08 – Hardstanding with Building B01 shown to the left of frame.

Artificial Unvegetated; Unsealed Surface

4.2.8 A sand and rubber menage was identified towards the centre of the site. Ephemeral species such as mouse-ear chickweed *Cerastium sp.* and hairy bittercress *Cardamine hirsute*, alongside blackthorn *Prunus spinosa* and white willow *Salix alba* saplings had begun to colonise these areas at the time of survey. This habitat was considered to be of **negligible value.**

Ruderal / Ephemeral

4.2.9 The compacted gravel access track and parking area to the north of the bungalow (B1) has become dominated by ruderal and ephemeral species such as willowherb *Epilobium* sp., ground ivy *Glechoma hederacea*, and wood avens *Geum urbanum*, alongside scattered bramble *Rubus fruticosus* agg. scrub at the time of survey. This common successional habitat was considered to be of **site value.**

Image 09 – Sparsely vegetated ground with ruder/ephemeral and scattered bramble scrub.

Blackthorn Scrub

4.2.10 A dense stand of blackthorn *Prunus spinosa* was present across the centre of the southern field, with dense blackthorn also extending from the boundaries by 4-5m. This common and widespread habitat was considered to be of **site value.**

Bramble Scrub

4.2.11 Areas of bramble *Rubus fruticosus* agg. scrub were identified extending from around the margins of the field parcels, particularly within the southern field and behind buildings B2-B4. This common and widespread habitat was considered to be of **site value.**

Native Hedgerow (Priority Habitat)

4.2.12 A length of native hedgerow bordered the northern field along the eastern and southern field boundary. In addition, the western and northern boundary of the eastern field comprised native hedgerows. These hedgerows were dominated by blackthorn with areas of willow and bramble present. Ground flora included lord-and-ladies *Arum maticulatum*, cleavers *Gallium aparine*, and ivy *Hedera helix*. These linear features were considered to be of **site value.**

Native Hedgerow with Trees (Priority Habitat)

4.2.13 A length of hedgerow was identified across the centre of the site, running north to south. Species included abundant blackthorn and bramble with frequent elder *Sambucus nigra*. The shrub layer was unmaintained at the time of survey and reaches a height of c. 3-4m. Mature oaks and standing deadwood emerged from the shrub layer at varying densities throughout the hedgerow. This priority habitat feature was considered to be of **local value.**

Image 10 – Native hedgerow with mature trees present within centre of site (H03).

Non-Native and Ornamental Hedgerow

4.2.14 Large areas of the western boundary were formed of Leyland cypress *Cupressus x leylandii* hedging which has been allowed to reach a height of c. 6-8m. This non-native hedgerow was considered to be of **site value.**

Line of Trees

4.2.15 A mature line of trees separated the southern-most field from the main body of the site (TL01). This comprised mature oak *Quercus robur*, ash *Fraxinus excelsior* and white willow *Salix alba.* In addition, an boundary lines of trees were identified along the southwest and southeast site boundaries, with a similar composition. These were considered to be of **local value.**

4.2.16 A white willow (T17) was identified within TL01 adjacent to the stream which was described on the Woodland Trust's Ancient Tree Inventory as a veteran. This tree was a multi-stemmed specimen with significant hollowing cavity on the southern aspect. This tree was considered to qualify as a veteran under the definition provided within Schedule 1 of the *Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024*; however, it would not qualify under the definitions provided within *BS5837:2012* and the NPPF. Overall, this tree was not considered to be a true veteran but was considered to be of **local value.**

Image 11 – White willow (T17) with hollowing visible at base of main stem. Located within line of trees (TL01) adjacent to ditch.

Ditches

4.2.17 A shallow ditch runs alongside the public footpath to the southern section of the site. The ditch held c. 10-15cm of water at the time of the survey with a slow flow rate. Banks were relatively shallow and vegetated with hemlock water dropwort *Oenanthe crocata* and common nettle *Urtica dioica*. This stream continued to flow west into the wider catchment of the Upper Adur and was therefore considered to be of **local value.**

Image 12 – Ditch present across south of the site with marginal vegetation and scrub present.

Invasive Species

4.2.18 No invasive species were identified on-site or in immediately adjacent off-site areas.

Legend

- Red Line Boundary

Baseline Habitats

- Artificial unvegetated, unsealed surface
- Blackthorn scrub
- Bramble scrub
- Developed land; sealed surface
- Modified grassland
- Ruderal/Ephemeral
- Buildings

Baseline Hedgerows

- Non-native and ornamental hedgerow
- Line of trees
- Native hedgerow
- Native hedgerow with trees

Baseline Watercourses

- Ditches

Baseline Individual Trees

- Existing Medium Urban Tree
- Existing Medium Veteran Tree
- Existing Small Urban Tree

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. office@lizardlandscape.co.uk W. lizardlandscapeecology.com

Client

Antler Homes

Project Title & Location

Land Rear of Chesapeke, Sayers Common

Drawn by	Approved by	Rev	Date
MD	CO	01	31/03/25

25 50 m

1:2,000

Figure No. 02 - Site Habitat Plan

4.3 Protected Species Assessment

Amphibians

Desk Study

4.3.1 26no. records of great crested newt *Triturus cristatus* exist within 2.0km of the site, as well as records of common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and palmate newt *Lissotriton helveticus.* The closest GCN record is located 575m north of the site, recorded in 2013.

4.3.2 There are a total of 18no. ponds within 500m of the site. 2no. of these are located within 250m of the proposed development, the nearest being 140m north.

4.3.3 Extensive survey work in association with a near-by development was undertaken by ACD Environmental in 2012, with further eDNA surveys completed in 2018 and 2022. Of the 5no. ponds surveyed (2no. subject to eDNA survey), none were found to support great crested newts.

Site Assessment

4.3.4 The grassland, tall ruderal and hedgerows within the site were considered to provide suitable terrestrial habitat for GCN and common toad, with adjacent land to the south and west also considered suitable.

eDNA Surveys

4.3.5 A total of 4no. within 500m of the site were subject to eDNA survey, with water samples collected on the 12th of May 2023 before analysis by SureScreen Scientifics.

4.3.6 Analysis of the samples indicated the **likely absence** of great crested newts within these ponds. Given the absence of great crested newts during previous surveys, and negative result of these eDNA surveys, the site was considered to be of **negligible value** to GCN and no specific mitigation measures with regards this species is required.

Reptiles

Desk Study

4.3.7 SxBRC returned 45no. records of slow worm, 19no. records of grass snake, and 9no. records of common lizard within 2.0km of the site.

Site Assessment

4.3.8 Rank grassland, tall ruderal and scrub found within the site provide optimal habitat for common, widespread reptile species such as slow worm and grass snake.

Reptile Surveys

4.3.9 24no. artificial reptile refugia *(roofing felt; 1.0 x 0.50 m)* were laid out around the area on the 12th of May 2023. Mats were distributed along each field margin, covering all areas of optimal reptile habitat. Refugia was allowed to bed-in for 14 days prior to survey visits beginning on the 26th of May 2022.

4.3.10 The results of the survey recorded a peak count of 2no. adult grass snake *Natrix helvetica* on site. The distribution of these individuals was limited across the site, as both individuals were consistently found under the same refugia. These were located centrally within the site, adjacent to the central hedgerow.

Bats

Desk Study

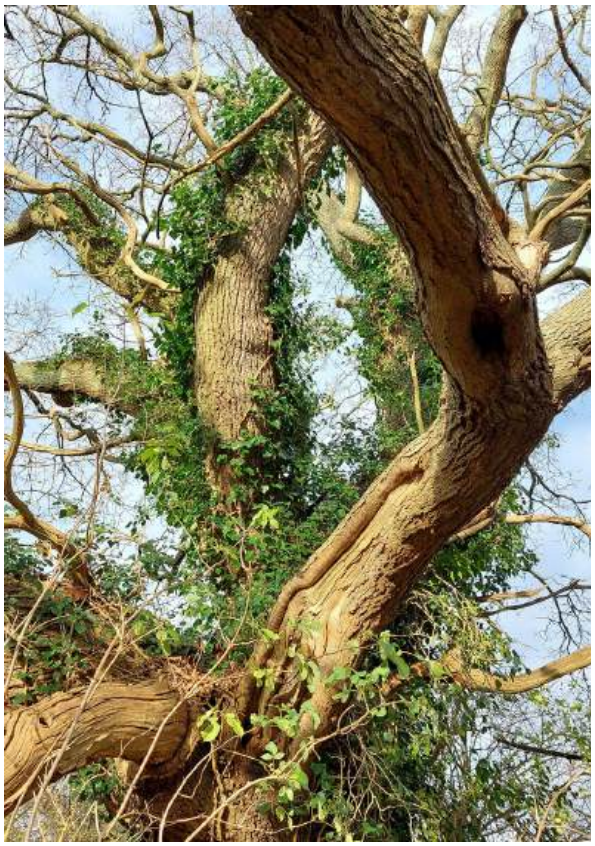
4.3.11 103no. records for bats were returned by SxBRC from within the search area. This included records for common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctula,* serotine *Eptesicus serotinus*, Brandt's *Myotis brandtii* / whiskered *Myotis mystacinus*, Natterer's *Myotis nattereri*i, Daubenton's *Myotis daubentonii*, Bechstein's *Myotis bechstenii* and barbastelle *Barbastella barbastellus* bats.

Daytime Bat Walkover - Trees

4.3.12 Various trees were identified as offering some level of bat roost suitability during the ground level assessment. A summary of these features is provided in Table No. 06 below and reference to the tree numbers are illustrated in *Figure No. 02 – Site Habitat Plan*.

Table No. 06 – Bat Roost Assessment Results - Trees

Ref.	Suitability	Justification
T01	**PRF-M**	Mature oak tree with light ivy covering. Major deadwood to the centre of the crown and southern aspect, as well as numerous knot holes and shedding collars. Large tear-out to the south at 2-3m high.
T02	PRF-I	Mature oak which is largely dead. Numerous cracks and splits present with lofted bark plates.
T03	**PRF-M**	Mature ash with major dead limbs and bracket fungus. Woodpecker holes and cavities throughout.
T04	PRF-I	Mature oak tree with heavy ivy covering.
T05	**PRF-M**	White willow with large rot cavity to the base and cavities at unions which likely extend upwards through the limb.
T06	**PRF-M**	White willow with major cavity to base, hazard beam at 2.5m north, woodpecker hole at 4m height on western leader and large tear-out with hazard beam to upper crown.
T07	PRF-I	Oak with moderate coverage of ivy.
T08	**PRF-M**	Oak with shedding collar and deadwood at 4m high to western aspect as well as a tear-out to the west at 6m height.
T09	PRF-I	Semi-mature oak with small knot holes to the north-west at 6m height.
T10	**PRF-M**	Mature oak with major deadwood throughout, plus knot holes and cavities.
T11	**PRF-M**	Standing deadwood with cracks and splits.
T12	PRF-I	Mature oak with moderate deadwood to the south at 3-6m height.
T13	PRF-I	Standing deadwood with cracks and splits.
TG14	**PRF-M**	Group of 4no. semi-mature oak trees with deadwood, shedding collars and lifted bark.
T15	PRF-I	Oak with shedding collar and deadwood to the western aspect.
T16	PRF-I	Oak with major deadwood to centre of crown and cracks and splits throughout.
T17	PRF-I	Oak with moderate deadwood and knot hole to west at 4m height.
T18	PRF-I	Oak with moderate deadwood to the upper crown and occluding wound with deadwood to the western aspect at 3-4m height.




Images 13 and 14 – Example of trees which were considered to offer 'PRF-M' suitability.

Daytime Bat Walkover - Buildings

4.3.13 All buildings on site were subject to an internal and external assessment, a summary of findings is contained in Table No. 07 below and reference to the building numbers are illustrated in *Figure No. 02 – Site Habitat Plan*.

Table No. 07 – Bat Roost Assessment Results - Buildings

Ref.	External Assessment Results	Internal Assessment Results	Suitability
B1	Single storey dilapidated stable block of brick and ply construction with a corrugated roof.	Building is light and draughty internally. No suitable PRFs or direct evidence of bats recorded.	*Negligible*
B2	Steel frame barn clad in corrugated metal previously used as an indoor riding school.	Building is open and draughty, with significant light ingress from skylights. No	*Negligible*

Ref.	External Assessment Results	Internal Assessment Results	Suitability
B2 *cont.*	Skylights across roof panels. No suitable crevices noted and no evidence of bats.	suitable PRFs or direct evidence of bats recorded.	
B3	Barn of identical constriction to B2, used as stabling. Skylights throughout. No suitable crevices noted and no evidence of bats.	Significant light ingress and draughty. No suitable PRFs or direct evidence of bats recorded.	*Negligible*
B4	Dormer bungalow of brick construction with plain tile roof. Hanging tile present to dormer cheeks. Wooden soffit boxes with small gap recorded between the southern gable wall and soffit box, as well as small gap to western dormer window.	Small gap present between roof and internal structure but was inaccessible. Significant evidence of wasps was present extruding from this space. However, no direct evidence of bats was recorded.	***Low***

Bat Emergence Surveys

4.3.14 Subsequent dusk emergence and dawn re-entry surveys were undertaken on building B4, and trees categorised as offering high suitability to support a bat roost (Trees T01, T03, T05, T06, T08, T10, T11 and TG14) between June and July 2023.

4.3.15 The survey identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11. No roosts were identified within building B04, nor any other tree surveyed throughout the survey period.

Winter Roosting Potential

4.3.16 The trees and buildings on site were also assessed for their winter hibernation potential. A summary of this assessment is provided in Table No. 08 below and reference to the tree / building numbers are illustrated in *Figure No. 02 – Site Habitat Plan*.

Table No. 08 – Winter Roosting Potential Results

Ref.	Suitability	Justification
B4	Negligible	The building lacked any elements which could offer stable temperature and humidity for winter hibernating bats. Given the absence of roosting bats were identified during summer and identified PRFs were only considered suitable for small numbers of bats the build was assessed as offering **negligible** winter roosting potential.
T01	**Moderate**	Day roost was identified during summer and PRF's would be suitable to support low numbers of bats in winter.
T11	**Moderate**	Day roost was identified during summer and PRF's would be suitable to support low numbers of bats in winter.

Foraging and Commuting Suitability

4.3.17 The hedge, treelines, and scrub within the site are considered likely to support foraging and commuting by numerous bat species. However, the majority of the site comprised species-poor grassland, which was considered to be only suitable to support gap tolerant species. Incidental bat activity from further emergence surveys identified moderate foraging and commuting activity around the south of the site, adjacent to the ditch, treelines and hedgerows. Species identified included common pipistrelle, soprano pipistrelle, noctule, Daubenton's bat, another *Myotis* species, and long-eared bats. This habitat was therefore considered to be of **high site value** for a range of commuting and foraging bat species.

4.3.18 Surrounding habitats to the north and east mostly comprise urban dwellings and gardens which are of low value to bats. Whilst moderate bat activity was identified on-site, the linear features on-site were not considered to link to important areas of foraging habitat in the wider area. Therefore, these areas were not considered strategically significant to foraging and commuting bat species, and further bat activity surveys were not recommended.

Dormouse

Desk Study

4.3.19 SxBRC returned no records of dormice within 2.0km of the site.

Site Assessment

4.3.20 The mature hedgerows around the site contain suitable food plants such as bramble, oak and hawthorn, while mature trees and bramble scrub provide suitable cover for hibernation. Although habitat on site is suitable, the overall value is reduced owing to the fragmentation and isolation of the on-site hedgerows from other areas of suitable habitat in the local area by fences and driveways. The habitat on site is therefore considered to be of **negligible** value to dormice.

Badger

Desk Study

4.3.21 SxBRC consider badger records confidential and were therefore not included within the data search.

Site Assessment

4.3.22 Badger prints, in addition to fox and deer, were recorded in a muddy area within hardstanding to the western section of the site. Numerous mammal excavations were also recorded within both the menage and the disused indoor riding school, with holes extending under the walls of the indoor school. Various mammal tracks were also recorded crossing the fields.

Image 15 – Example of mammal holes found within building B02.

Badger Sett Monitoring

4.3.23 The areas of mammal excavation within the indoor riding school were subject to additional badger monitoring surveys. All potential badger sett entrances on-site were subject to a period of 28no. days continuous monitoring between 26th May and 21st June 2023. Setts were monitored using 2no. Spypoint LINK-LTE infrared cameras which captured still images and video.

4.3.24 A total of 3no. holes beneath the northern and western walls of the indoor riding school were identified as potentially being of a size and shape suitable for use by badger. At the time of the survey, it was not clear whether the holes passed beneath the walls of the building, or were entrances to underground tunnels.

4.3.25 The time which badgers were observed on site, and their regular appearance from areas would suggest accessing the building from doors to the east, and suggested that the holes beneath the walls of the indoor school were utilised as foraging routes, rather than acting as a place of shelter in their own right. Due to the presence of dense scrub to the western section of the site no access into this area was possible; the presence of a sett within this location could therefore not be ruled out.

4.3.26 From the updated site visit completed on the 7th of May 2025, these mammal holes were still present within the riding school. In addition, it was identified that there were holes to the exterior of the riding school, which would align with the conclusion that the site is used as a potential foraging route. The scrub area was sparse at the time of survey and no potential sett entrances were identified within 30m of the building. However, given that that was not possible to view the interior panelling of the riding school there is still potential for there to be sett entrances concealed beneath the building. Therefore, the site was precautionarily assessed to support an outlier badger sett. This is likely to be of no more than **site** value.

Water Vole

Desk Study

4.3.27 SxBRC returned 3no. records of water vole within 2.0km of the site, the nearest located 1.4km north-west.

Site Assessment

4.3.28 The ditch on site is shallow and has poorly vegetated banks. In addition, it is densely overshaded by adjacent shrubs within the adjacent line of trees. A walkover of the length of ditch within and immediately adjacent to the site found no evidence of water vole such as burrows. Given the sub-optimal habitat suitability of the ditch, the site is of **negligible value** to water vole.

Hedgehog

Desk Study

4.3.29 SxBRC returned 37no. records for hedgehog *Erinaceous europaeus* from within the search area. The closest records were from 2022, located 0.96km to the southwest.

Site Assessment

4.3.30 The hedgerows and scrub provide opportunities to support dispersing and nest building hedgehogs, and the modified grassland offers the potential to support foraging hedgehogs. Overall, the site was assessed as offering **moderate** potential for hedgehogs to utilise the site.

Birds

Desk Study

4.3.31 SxBRC returned numerous records for 46no. notable species of birds from within the search area. This included records for 8no. species listed on Schedule 1 (Wildlife and Countryside Act, 1981) (as amended), as well as records for 21no. species of birds listed on the Birds of Conservation Concern (BoCC) Red List (Stanbury *et al*, 2021). This included records for bird associated with urban habitats, such as mistle thrush *Turdus viscivorus*, house sparrow *Passer domesticus*, anstarling *Sternus vulgaris*. In addition, records for ground nesting birds such as meadow pipit *Anthus pratensis*, skylark *Alauda arvensis*, and lapwing *Vanellus vanellus* were returned. Records for reedbed species, birds of prey, wintering wildfowl, seasonal migrants, farmland species, and woodland species were also returned.

Site Assessment

4.3.32 Optimal nesting and foraging habitat is limited to the surrounding hedges and tree lines. An area of nest debris was also noted to the southern gable of B02. The grassland was considered to be lacking in structure suitable for supporting ground nesting birds, and was enclosed on most aspects by hedgerows, tree lines and urban gardens. The sites value to these species was considered to be further reduced by the frequent disturbance which would have occurred when the area was formerly grazed by horses. Overall, the site was considered to have **negligible** potential to support ground nesting birds.

4.3.33 During the updated site visit a male yellowhammer *Emberiza citrinella* was observed within the hedgerow to the northeast of the site. This species is listed within the BOCC Red List. In addition, bird calls were heard from green woodpecker *Picus viridis*, greater spotted woodpecker *Dendrocopos major*, robin *Erithacus rubecula*, blue tit *Cyanistes caeruleus* and great tit *Parus major*. Overall, given the presence of a range of mature hedgerows, tree lines and passerine species, including those listed within the BOCC Red List the site was considered to be of **low local value** to breeding / foraging birds.

Invertebrates

Desk Study

4.3.34 The data search returned records of numerous notable species of invertebrates within 2.0km of the site including brown hairstreak *Thecla betulae*, small blue *Cupido minimus*, small heath *Coenonympha pamphilus*, purple emperor butterflies *Apatura iris* and stag beetle *Lucanus cervus*.

Site Assessment

4.3.35 The most suitable habitat for invertebrates is limited to the scrub, hedgerows and lines of trees which border the site. The grassland is homogenous in structure and lacks the floral diversity needed to support a good range of invertebrate species.

4.3.36 However, the scrub and native hedgerows comprise an abundance of flowering and native species with standing and fallen deadwood present at the base; and therefore, these habitats were considered suitable to support stag beetles. In addition, the dense blackthorn scrub across the south of the site would provide suitable food plants for brown hairstreak caterpillars.

4.3.37 Overall, the majority of the site comprising grassland areas was considered to be of **low-moderate site value** to common and widespread invertebrate species, whilst the dense scrub, native hedgerows, and line of trees were considered to be of **moderate local value**.

5.0 ASSESSMENT OF EFFECTS

5.0.1 Using the Guidelines for Ecological Impact Assessment (IEEM, 2006 & updated by CIEEM, 2018), the assessment set out below considers the potential impacts of the scheme prior to mitigation. Detailed avoidance, mitigation and compensation measures are then discussed, with residual impact identified once these measures have been taken into account. Wherever possible mitigation measures have been designed into the scheme as this gives greater certainty over deliverability and ensures the correct application of the 'Mitigation Hierarchy' (as advocated by BS42020:2013, Defra 2019 and CIEEM, CIRIA & IEMA 2016).

5.0.2 Protected species for which the site offers negligible suitability have been scoped out of further assessment.

5.1 Designated Sites

Potential Impacts

5.1.1 No statutory or locally designated sites were identified within a zone of influence. The site is situated within the impact risk zone of *Wolstonbury Hill SSSI*, however the development proposals would not meet the identified direct or indirect impacts upon this designated site which would require consultation with Natural England. Given the habitats identified within the SSSI, and that this site does not exist within or directly adjacent to the site, the site will not be impacted upon by proposals.

Mitigation and Compensation

5.1.2 As no impacts to nationally or locally designated sites are anticipated, no mitigation is required.

Residual Impacts

5.1.3 As no impacts to designated sites are anticipated, no residual effects will occur.

5.2 Habitats

Potential Impacts

5.2.1 Overall, the habitats on site were broadly assessed as being of low and site ecological value. The habitats of greatest ecological interest were associated with the boundary features such as the mature native hedgerows, line of trees, dense scrub, and wet ditch.

5.2.2 Several native hedgerows are to be reduced across the centre of the site to facilitate the construction of residential units and road access. This could result in reduced ecological connectivity within the site. From the incidental bat activity identified during bat emergence surveys, impacts would be of moderate significance at the **site** level, and certain to occur.

5.2.3 The mature line of trees and mature native hedgerows are proposed be retained in part. In addition, areas of blackthorn scrub and modified grassland are to be retained. Inappropriate construction methods could result in smothering or pollution of these habitats, as well as disturbance through noise, vibration, and emissions.

5.2.4 There is a risk of crushing, compaction of soils and leeching of chemicals into the root systems of trees, scrub, and hedges throughout construction, which could impact their life span and ultimately cause death. Given the scale of the development the potential impacts would be of minor-moderate **site** impact magnitude and likely to occur.

5.2.5 The watercourse is proposed for retention in its entirety. However, inappropriate construction methods have the potential to adversely impact this habitat through chemical and excess water runoff and the smothering of marginal aquatic vegetation through the production of dust. Given that this habitat forms a locally important ecological link with surrounding habitats this would result in minor-moderate **local** impacts, which are likely to occur.

5.2.6 Across the site large areas of modified grassland, bramble scrub, blackthorn scrub, individual trees, and parts of the adjacent line of trees are to be permanently lost for the erection of new dwellings with associated gardens, access, and parking. Therefore, in the absence of appropriate mitigation, proposals would result in biodiversity net loss overall, which would be certain to occur.

Mitigation and Compensation

5.2.7 All construction will be undertaken in accordance with best practice guidelines with regards to control of dust, noise and emissions. Where appropriate measures such as debris netting will be used to prevent unnecessary damage to hedgerows and ditches. To ensure trees and hedgerows scheduled for retention are sufficiently protected throughout the construction and operational phases, a full Arboricultural Impact Assessment, Methods Statement and Tree Retention and Protection Plan accompanies this application, which is compliant with best practice (BSI, 2012).

5.2.8 Storage of fuel etc will be avoided adjacent to hedgerows, and ditches. All re-fuelling and chemical storage shall take place in a bunded enclosure with appropriate containment measures in place and spill kits available. Solid hoarding shall be in place for the duration of construction to minimise impacts from dust and debris entering the ditch.

5.2.9 In order to offset the loss of habitats scheduled for removal, all new areas of soft landscaping will be designed to maximise the biodiversity value of the site. This will be done by enhancing existing grassland, creation of SuDs, and planting of native hedgerows and scrub areas around the boundaries of the site, alongside planting of flowering and fruiting trees of known value to wildlife. A full Biodiversity Net Gain statement accompanies this application which details how these enhancements can contribute to the +10% net gain mandate detailed under the *Environment Act (2021)* and has been prepared in line with best practice guidance (CIEEM, 2021).

Residual Impacts

5.2.10 Once mitigation is taken into account, the impacts will be **negative** in the short-term, with **long-term impacts at the site and site level improving** once vegetation and new habitats have established.

5.3 Reptiles

Potential Impacts

5.3.1 The site supports low number of reptiles of 1no. species and would therefore not be classified as a Key Reptile Site (Froglife, 1999). However, in the absence of mitigation works could result in the killing or injuring of common, widespread reptiles and removal of small areas of suitable habitat. Given the generally low suitability of the site, impacts would be moderate at the **site** level and likely to occur. This could result in a breach of the Wildlife and Countryside Act (as amended) 1981.

Mitigation and Compensation

5.3.2 Reptiles are distributed across a relatively small section of the site. However, the need for large areas of the site to be altered during development means that most of the suitable habitat shall be lost. To ensure that works proceed in accordance with the protection afforded reptiles under The Wildlife and Countryside Act 1981 (as amended), phased clearance shall be undertaken as follows:

- All areas of grassland considered unsuitable for reptiles shall be kept short prior to the commencement of works to prevent possible colonisation of this area by reptiles.
- All suitable areas of reptile habitat which requires removal will be cleared in stages during the active reptile season (March – October inclusive) in suitable weather conditions for reptiles to disperse (+9°C, sunny, dry).
- Vegetation in these areas shall be cut to no less than 150mm using hand tools. Following a fingertip search of the area by a professionally qualified ecologist (PQE) to ensure that reptiles are absent, the vegetation shall be reduced to <50mm rendering it unsuitable for reptiles.

- These shall be directional vegetation cuts moving from north to south towards retained areas of suitable habitat. All works shall be supervised by a PQE.
- Any reptiles found throughout the site clearance shall be caught by hand and stored in a lidded bucket or cloth bag prior to their release.
- Reptiles shall be released into areas of retained habitat to the southern section of the site.
- The vegetation is to be maintained at this height prior to and during construction to ensure that reptiles do not re-colonise the area.
- Additional connectivity should be provided between the north and south of the site by managing proposed soft landscaping around the south of the site for reptiles.

5.3.3 The scheme shall include areas of suitable reptile habitat creation within the south of the site to provide compensation for the fragmentation of on-site reptile habitats. These habitats are to include areas of tussocky grassland with areas of scattered scrub. A suitable management plan is to be implemented to ensure the retention of suitable habitat along the northern boundary, and within any habitat creation areas in perpetuity. Management shall include rotational cutting of the grassland on a two-year cycle to prevent scrub encroachment whilst ensuring that areas of suitable habitat always remain present on site.

5.3.4 In addition, 3no. above ground hibernacula are to be installed in areas of suitable habitat, alongside brash and log piles a minimum of $1m^3$ to provide additional opportunities for shelter and foraging.

Residual Impacts

5.3.5 Once mitigation measures are taken into account, the impact of the scheme shall be **negligible** and shall ensure the retention of suitable reptile habitat in the long-term.

5.3 Bats

Potential Impacts

5.3.1 Further emergence surveys identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11. Therefore, any removal or major tree surgery works to T01 and / or T11 would contravene the protection afforded to bats under The Conservation of Habitats and Species Regulations 2017 (as amended). This would result in **major** impacts at the **site** level, and would be certain to occur.

5.3.2 In the absence of mitigation impacts could also include the disruption of commuting corridors and foraging habitat through the destruction or degradation of boundary hedgerows and vegetation. In addition, these areas could be disrupted through inappropriate nocturnal lighting. Due to the moderate bat activity surrounding these habitats, impacts would be of **minor-moderate** significance at the **site** level, and certain to occur.

Mitigation and Compensation

5.3.3 To ensure the protection of bats and allow the development to proceed lawfully the following mitigation measures shall be required:

- Apply for a mitigation licence from Natural England once planning permission has been granted.
- Erect 2no. crevice bat boxes to adjacent retained trees, at a similar height and aspect as the existing roosts.
- A toolbox talk is to be given to contractors prior to tree works to make them aware of the presence of bat roosts on site, and what to do if a bat roost is unexpectedly found during works.
- All works to T01 and T11 are to be completed under licence, and under the supervision of the named ecologist or accredited agent.
- The trees are to be section felled, with cuts placed to avoid cutting through potential roost features. Each section is to be carefully lowered to the ground before being inspected by the supervising ecologist.
- Features which are found to contain bats shall be securely braced to an adjacent tree at a height and aspect as similar to the existing as possible.

- A licence return shall be sent to Natural England on completion of the licence period.

5.3.4 Retained hedgerows and lines of trees are to be protected during construction and operation in accordance with BS5837:2012, as detailed in the full arboricultural package which accompanies this application. Habitat fragmentation has been minimised by retaining all trees wherever possible and lost hedgerow shrubs will be replaced with new native hedgerow and scrub planting.

5.3.5 The proposed lighting scheme is to be reviewed by an ecologist to ensure protection of all ecological features on site. Inappropriate nocturnal lighting is to be directed away from commuting habitats such as the hedgerows. The lighting scheme must be designed to comply with the ILP Guidance Note 08/23 *Bats and artificial lighting at night* wherever possible and consider the following when choosing luminaires:

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone *et al*, 2012).
- Internal luminaires within dwellings can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires on external pathways to retain darkness above could be considered.
- However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component, and poor facial recognition, and their use should only be as directed by the lighting professional.
- Column heights should be carefully considered to minimise light spill.

- Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance Note 01/21 *Guidance for the Reduction of Obtrusive Light*.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting within garden areas should be set on motion-sensors and have short (1min) timers.

5.3.6 The layout of the scheme includes a semi-natural buffer across the south boundary, which is proposed to be seeded with wildflower grassland, and planted with native trees and shrubs to ensure protection of the boundary features and increase the overall quality of foraging resource available within the site.

Residual Impacts

5.3.7 Once mitigation is taken into account, the impacts will be **negative** in the short-term, with **long-term impacts at the site and local level improving** once vegetation and new hedgerows and habitats have established.

5.4 Badger

Potential Impacts

5.4.1 The badger monitoring surveys confirmed that badgers were using the site but could not confirm if sett entrances were present. Under a precautionary approach the site is considered to support an outlier sett of site value. Therefore, in the absence of mitigation, works could result in adverse impacts to badgers, including the loss of a sett and direct killing / injury of badgers, which would constitute an offence under the *Badgers Protection Act (1992)*, with adverse impacts to badgers significant at the **site** level.

Mitigation and Compensation

5.4.2 Given the location of the potential sett beneath an existing building, it was not possible to redesign the scheme to include the retention of the badger sett and, therefore it will be necessary to close the sett under licence from Natural England. Mitigation included as part of the licence application shall include:

- Applying for licence for sett closure, with works completed between July – November.
- Once the licence is granted one-way badger gates shall be installed over any potential sett entrances, with chain-link fencing installed over the sett to prevent excavation.
- The gates shall be checked every three days for a period of 21 days to ensure that badgers have vacated the sett.
- Once the 21-day period has elapsed the sett shall be careful dismantled and closed.
- All works shall be supervised by an Ecological Clerk of Works.

5.4.3 Owing to the confirmed presence of badgers in the area precautionary working practices for badgers shall be incorporated into the construction phase, to include:

- Pre-commencement of work an updated walkover should be conducted by a suitably qualified ecologist to ensure that no new potential setts have been excavated on site;
- 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.
- Adherence to these measures should be confirmed to planners at regular intervals by the project ecologist.

5.4.4 Maintenance of the grassland to the south will be undertaken to improve the foraging suitability of this area for badgers, while the planting of nut and fruit producing species such as apple, plum and hazel would provide a valuable autumn foraging resource.

Residual Impacts

5.4.5 Once mitigation measures are taken into account, the overall impact of the scheme will be **negligible.**

5.5 Hedgehogs

Potential Impacts

5.5.1 The protected species assessment identified that the site and adjacent habitats offered habitats of **moderate** potential to support hedgehogs. In the absence of mitigation, the scheme could therefore result in habitat fragmentation through the use of impermeable boundary treatments and trapping of hedgehogs.

Mitigation and Compensation

5.5.2 The same precautionary working practices outlined for badgers would be of benefit for hedgehogs and other widespread mammal species.

5.5.3 Clearance of any scrub habitat will be undertaken with an awareness for the potential presence of small mammals, and any individuals found will be caught with gloved hands and moved off-site or away from the proposed works by a suitably qualified ecologist. Clearance of any grassland and tall forb areas shall be done outside the hibernation season and shall be cut with care to no less than 150mm initially, followed by a shorter cut, as set out within the reptile mitigation.

5.6.6 New closed-board fencing used within the scheme shall incorporate 1no. 13x13cm hole at the gravel board to allow free passage of hedgehogs. The holes are to be signed with 'hedgehog highway' or similar to prevent their closure by future residents. Additional provisions for these mammal species are to be provided through the creation of new scattered scrub areas, and enhancement of the grassland within the south of the site.

Residual Impacts

5.6.7 Providing the measures outlined above are incorporated **negligible** impacts to hedgehogs are anticipated overall.

5.6 Breeding Birds

Potential Impacts

5.6.1 The protected species assessment identified that the site and adjacent habitats offered habitats of low-moderate value to a range of common and widespread wild passerine birds only. Therefore, in the absence of mitigation, the removal of vegetation suitable to support nesting birds has the potential to result in damage / destruction of an active nest, which would constitute and offence under the *Wildlife & Countryside Act (1981) (as amended)* with adverse impacts significant at the **site** level.

Mitigation and Compensation

5.6.2 Any dense scrub, hedgerows, ruderal vegetation or trees scheduled for removal will be removed outside the nesting season *(season: March-August, although pigeons may nest all year)* or shall be checked before removal by a suitably qualified ecologist. To compensate for the loss of areas of suitable nesting habitat, bird boxes shall be fitted to the northern side of retained trees.

5.6.3 As detailed in *BS 42021:2022 Integral nest boxes* (BSI, 2022), integral nest boxes should be installed in all new developments, at a rate equal to the number of dwellings. This is to comprise integrated bird boxes targeted for a range of species. Boxes are to be installed to the north-facing aspect of the new buildings, avoiding areas above windows and doors.

Residual Impacts

5.6.4 The overall impact of the scheme will be **negligible,** with the proposed scheme likely to provide a long-term minor positive impact once proposed enhancements have been taken into account.

5.7 Invertebrates

Potential Impacts

5.7.1 The protected species assessment identified that the site offered **low-moderate** potential to support a notable invertebrate assemblage. The most valuable habitats for invertebrates included the blackthorn scrub, alongside standing and fallen deadwood, which would be of value to brown hairstreak and stag beetle respectively.

5.7.2 The site also supports habitats of **low** value to common and widespread invertebrate species, including the modified grassland, ruderal/ephemeral areas and marginal bramble scrub. Most of these areas are to be partially lost. Therefore, in the absence of mitigation it would not be possible to scope out the potential that the development would result in net losses for invertebrates, significant at the **site** level which would be certain to occur.

Mitigation and Compensation

5.7.3 Areas of blackthorn scrub have been retained within proposals wherever possible. This area alongside the adjacent tussocky grassland will be enhanced with areas of scattered scrub, and an appropriate wildflower seed mixture. Management of the blackthorn will also be implemented to create glades and rides within the scrub, in order to create sheltered edges.

5.7.4 Standing deadwood is proposed to be maintained on-site within semi-natural areas wherever possible. Where pruning is required, or where fallen deadwood is present this will be left *in situ*, wherever possible. Stacking of this deadwood at the base of the tree, hedgerows and lines of trees would also be appropriate for visual amenity purposes. If there are concerns over disease, then the fallen deadwood will be removed and disposed of. However, where the only concerns are about the location of the deadwood, owing to safety or access concerns, then the deadwood will be kept on-site and moved to a reasonable location, in as short a distance as possible. The wood must be moved as soon as possible after cutting/falling and kept intact to provide maximum value to wildlife. The most beneficial locations would be in partial shade/sun, adjacent to nectar sources such as dense scrub, lines of trees, and hedgerows, or adjacent to existing dead wood in a more advanced state of decay.

5.7.5 Installation of 2no. log piles shall be incorporated into the area surrounding the mixed scrub planting areas. They shall comprise partially buried log piles including cut or fallen deadwood in an arranged pile. The wood will be from native species and will comprise a mix of logs, branches and / or tree roots. Wherever possible these will be provided from existing deadwood on-site.

5.7.6 Losses of grassland shall be compensated for with the enhancement of retained grassland areas. This shall be implemented through the overseeding of an appropriate wildflower seed mix. New soft landscaping will also comprise native tree and scrub planting including flowering species of known value to invertebrates, to provide opportunities for these species throughout the year. Where possible, all species recommended within the soft landscape scheme will be as listed on '*RHS Plants for Pollinators'* to maximise the invertebrate resource within the site.

Residual Impacts

5.7.7 The overall impact of the scheme will be **negligible**, with a positive impact in the long-term once vegetation has established.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 The design of the proposed development includes ecological enhancements for the benefit of wildlife to ensure compliance with *Local Planning Policy* and the *Environment Act 2021* which mandates a minimum 10% net gain in biodiversity across all development sites.

6.2 The native hedgerows across the site likely provide nesting, foraging and commuting resource for birds, mammals and invertebrates of site importance. The linear nature of this vegetation also provides a commuting and foraging opportunity for bats. Additionally, the hedgerow may provide suitable conditions for hibernating reptiles in the form of tree stumps. Therefore, the majority of these hedgerows are proposed to be retained and enhanced with additional native species planting to achieve the criteria require for species-rich hedgerows. All removal, and/or shortening of these hedgerows to accommodate development proposals has been minimised wherever possible.

6.3 New native hedgerows are proposed to provide further connectivity and ecological linkages across the site, using species of known value to wildlife.

6.4 Areas of wildflower meadow planting using an appropriate seed mixture shall be sown along the south of the site where it will be managed to increase the amount of habitat available to reptiles. Further wildlife corridors are also to be provided surrounding the southern boundaries of the site through sowing wildflower meadows around scrub. Pathways running through these areas will increase the edge habitat suitable for basking reptiles. This habitat shall also enhance the site for other species such as hedgehogs and indirectly benefit bats through increased numbers of invertebrates. These wildflower areas are proposed to satisfy the criteria for Other Neutral Grassland; however, further consideration to water levels, and managing or reducing the nutrient load of these areas may be required.

6.5 Further ecological enhancement of the site will be achieved by creating log piles and compost heaps to provide hibernacula for reptiles.

6.6 Areas of shortly mown grassland surrounding pavements, roads, dwellings and gardens are to use a flowering lawn mixture to enhance the value to pollinators. These will be managed to maximise value to biodiversity wherever possible. All ornamental soft landscape planting within the site shall use flowering species of known value to wildlife in the first instance, as listed within the '*RHS Plants for Pollinators'* list, to provide year-round interest for invertebrates.

6.7 The retained blackthorn scrub to the south of the site will be enhanced by cutting narrow glades and rides into this area. Additional sowing of shade-tolerant hedgerow wildflower mixtures will provide additional opportunities for invertebrates by creating a species-rich sheltered edge.

6.8 The enhancement of the existing ditch along the eastern is proposed, to compensate for proposed encroachment on the riparian zone. This riparian area will be enhanced with a pond or wetland wildflower mixture and reducing shade from adjacent scrub. Management will focus on avoiding overshading from adjacent scrub and lines of trees.

6.9 The construction of SuDS within the proposed scheme shall be maximised for wildlife through providing reedbeds and a biodiverse riparian zone. This will attract aquatic invertebrates to the site as well as provide a drinking site for mammals and birds in seasonally wet periods.

6.10 Integrated bird boxes shall be fitted to the proposed residential dwellings, targeting a range of species including house sparrow *Passer domesticus*, dunnock *Prunella modularis*, starlings, and song thrush *Turdus philomelos*.

6.11 Hedgehog tunnels will be used to maintain connectivity between site boundaries, residential gardens, and adjacent areas. In addition, the installation of hedgehog houses within the site will provide a hibernation resource for this species.

6.12 A sympathetic lighting scheme should be used during and post-construction. This will direct light towards the ground and away from the habitat used by bats, in line with existing guidance *BCT & ILP (2023)*.

7.0 CONCLUSIONS

7.1 The survey area covers c. 1.5 ha of grassland fields located towards the south-western edge of Sayers Common. The site consists of former dwelling, alongside former horse grazing fields and barns with area of tall ruderal, hard standing, scattered trees, native hedgerows, a line of trees, a non-native hedgerow, dense scrub and a ditch. It is understood that the proposals for the construction of 27no. new residential dwellings, with associated access, parking, gardens, and public open space.

7.2 The initial site visit identified the need for further survey work to inform the design process and devise any mitigation necessary to comply with local and national wildlife legislation, prior to application, which was subsequently completed. Surveys for amphibians, reptiles, roosting bats, and badgers were subsequently undertaken, which identified a low population of grass snake, two day roosts for bats within trees, a potential outlier badger sett, and the absence of GCN within off-site ponds.

7.3 Appropriate mitigation strategies for the species shown to be present at the site are outlined herein, which could be secured through an appropriately worded planning condition, alongside a landscape creation, management, and monitoring plan.

7.4 Overall, given the mitigation outlined herein is adhered to, works would avoid committing an offence and deliver net gains for wildlife overall and would accord with all local and national planning policy legislation. Proposed ecological enhancements shall also result in creation of a variety of habitats on site to provide Biodiversity Net Gain in accordance with local and national planning policy.

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Table No. 09 – Species List for Habitat Parcels

Modified Grassland

Common Name	***Scientific Name***	***DAFOR***
Bird's-foot Trefoil	*Lotus corniculatus*	***R***
Broadleaf Plantain	*Plantago major*	***O***
Chickweed	*Stellaria media*	***O***
Cock's-Foot	*Dactylis glomerata*	***LD***
Creeping Bent	*Agrostis stolonifera*	***F***
Creeping Buttercup	*Ranunculus repens*	***A***
Curled Dock	*Rumex crispus*	***F***
Dandelion	*Taraxacum officinale*	***O***
Dove's-Foot Crane's-bill	*Geranium mole*	***R***
False Oat	*Arrhenatherum elatius*	***LA***
Fleabane	*Pulicaria dysenterica*	***LA***
Ground Ivy	*Glechoma hederacea*	***LA***
Herb Robert	*Geranium robertanium*	***LA***
Lesser Celandine	*Ficaria verna*	***LA***
Meadow Fescue	*Festuca pratensis*	***R***
Nettle	*Urtica dioica*	***LD***
Pendulous Sedge	*Carex pendula*	***LA***
Perennial Rye-Grass	*Lolium perenne*	***D***
Ragwort	*Senecio jacobea*	***O***
Red Fescue	*Festuca rubra*	***LA***
Soft Rush	*Juncus effusus*	***LA***
Thistle sp.	*Cirsium* sp.	***LA***
Timothy	*Phleum pratense*	***R***
Vetch sp.	*Vicia* sp.	***R***
White Clover	*Trifolium repens*	***R***
Yorkshire Fog	*Holcus lanatus*	***D***

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Seasonally Wet Modified Grassland with Ruderal / Ephemeral

Common Name	Scientific Name	DAFOR
Cock's-Foot	*Dactylis glomerata*	**D**
Common Fleabane	*Pulicaria dysenterica*	**LA**
Creeping Bent	*Agrostis stolonifera*	**F**
Creeping Buttercup	*Ranunculus repens*	**LD**
Creeping Cinquefoil	*Potentilla reptans*	**F**
Dandelion	*Taraxacum officinale*	**O**
Dock	*Rumex sp.*	**F**
False Oat	*Arrhenatherum elatius*	**LD**
Hemlock Waterdropwort	*Oenanthe crocata*	**LD**
Hogweed	*Heracleum sphondylium*	**O**
Lesser Stitchwort	*Stellaria graminea*	**R**
Nettle	*Urtica dioica*	**LD**
Red Fescue	*Festuca rubra*	**O**
Rush	*Juncus effusus*	**LA**
Thistle	*Cirsium* sp.	**O**
Vetch	*Vicia sativa*	**O**
Water Mint	*Mentha aquatica*	**LA**
Yorkshire Fog	*Holcus lanatus*	**LD**

Ruderal / Ephemeral

Common Name	Scientific Name	DAFOR
Bramble	*Rubus fruticosus* agg.	**O**
Dock	*Rumex* sp.	**R**
Ground Ivy	*Glechoma hederacea*	**O**
Willowherb	*Epilobium* sp.	**O**
Wood Avens	*Geum urbanum*	**O**
Yorkshire Fog	*Holcus lanatus*	**F**

Blackthorn Scrub

Common Name	Scientific Name	DAFOR
Blackthorn	*Prunus spinosa*	**D**

Bramble Scrub

Common Name	Scientific Name	DAFOR
Bramble	*Rubus fruticosus* agg.	**D**
Elder	*Sambucus nigra*	**R**
Cleavers	*Gallium aparine*	**O**
Lord-and-Ladies	*Arum maculatum*	**R**

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Native Hedgerow with Trees (Priority Habitat)

Common Name	Scientific Name	DAFOR
Blackthorn	*Prunus spinosa*	**A**
Bramble	*Rubus fruticosus* agg.	**F**
Cleavers	*Gallium aparine*	**O**
Dog Rose	*Rosa canina*	**R**
Elder	*Sambucas nigra*	**F**
Field Maple	*Acer campestre*	**R**
Ivy	*Hedera helix*	**F**
Lord-and-Ladies	*Arum maculatum*	**O**
Oak	*Quercus robur*	**D**
White Willow	*Salix alba*	**O**

Hedgerow (Priority Habitat)

Common Name	Scientific Name	DAFOR
Blackthorn	*Prunus spinosa*	**A**
Bramble	*Rubus fruticosus* agg.	**O**
Cleavers	*Gallium aparine*	**O**
Lord-and-Ladies	*Arum maculatum*	**O**
Oak	*Quercus robur*	**R**
Willow	*Salix alba*	**D**

Non-Native and Ornamental Hedgerow

Common Name	Scientific Name	DAFOR
Leyland Cypress	*Cupressus x leylandii*	**D**

Line of Trees

Common Name	Scientific Name	DAFOR
Ash	*Fraxinus excelsior*	**R**
Elder	*Sambucus nigra*	**O**
Hazel	*Corylus avellane*	**R**
Oak	*Quercus robur*	**D**
White Willow	*Populus alba*	**F**

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Appendix A – Biodiversity Records Summary Page

Ecological Data Search SxBRC/24/911 - Summary Report

An ecological data search was carried out for land rear of Chesepeake, Sayers Common on behalf of Max Day (Lizard Landscape Design and Ecology) on 24/03/2025.

The following datasets were consulted for this report:

	Requested	Radius/buffer size
Designated sites, habitats & ownership maps	Yes	2km
Protected, designated and invasive species	Yes	2km

Summary of results

Sites and habitats

Statutory sites	None present
Non-statutory sites	1 Designated Road Verge
Section 41 habitats	2 habitats
Ancient and/or ghyll woodland	Present

Protected and designated species

International designations	29 species	220 records
National designations	96 species	1,744 records
Other designations	194 species	2,789 records
Total	**211 species**	**3,070 records**
Invasive non-native	27 species	146 records

The report is compiled using data held by Sussex Biodiversity Record Centre (SxBRC) at the time of the request. SxBRC does not hold comprehensive species data for all areas. Even where data are held, a lack of records for a species in a defined geographical area does not necessarily mean that the species does not occur there – the area may simply not have been surveyed.

This summary page may be published.
The full report and maps may not be published or otherwise shared.

The data search report is valid until 24/03/2026 for the site named above.

Appendix B – GCN eDNA Survey Report

LIZARD
Landscape Design and Ecology

GREAT CRESTED NEWT EDNA REPORT

Chesapeke, Reeds Lane, Sayers Common

On behalf of: Antler Homes

Client:	Antler Homes			
Project:	Chesapeke, Reeds Lane, Sayers Common			
Reference:	LLD2858-ECO-REP-002-00-GCN			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
00	06/06/23	Catherine O'Reilly MCIEEM	Caleb Fry ACIEEM	Catherine O'Reilly MCIEEM

Disclaimer:

The information provided within this report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This report is intended for the sole use of the Client and their agents in accordance with the agreement under which our services were performed. Unauthorised communication, reproduction or usage of this report by any party other than the aforementioned is prohibited. No liability is accepted by Lizard Landscape Design and Ecology for any use of this report, other than for the purposes for which it was originally prepared and provided. This report does not constitute legal advice. No warranty, express or implied, is made as to the advice in this report or any other service provided by us.

Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. lizard.landscape@btconnect.com W. lizardlandscapeecology.com

Contents

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. lizard.landscape@btconnect.com W. lizardlandscapeecology.com

SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake amphibian surveys of ponds within 500.0m of Chesapeke, Reeds Lane, Sayers Common (located around central grid reference: *TQ 26489 18046* – hereafter referred to as 'the site'

There are a total of 14no. ponds within 500m of the site. 2no. of these are located within 250m of the proposed development, the nearest being 140m north. 5no. of these ponds were surveyed in association with nearby developments between 2012 and 2022. None of these previously surveyed ponds were found to support great crested newts.

4no. additional ponds within 500.0m of the site were subject to eDNA survey, with water samples collected on the 12th of May 2023 before analysis by SureScreen Scientifics.

Analysis of the samples indicated the **likely absence** of great crested newts within these ponds. Given the absence of great crested newts during previous surveys, and negative result of these eDNA surveys, the site is considered to be of **negligible value** to GCN and no specific mitigation measures with regards this species is required.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned to undertake great crested newt (GCN) surveys to inform the proposed development of the Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 43887 00275 – hereafter referred to as 'the site'*).

1.2 Surveys were recommended following the original ecology survey completed by this company in December 2022, which identified 2no. ponds within 250.0m of the site, and a further 12no. within 500.0m.

Survey Rationale

1.3 The site consists of modified grassland, surrounded by hedgerow and scattered trees.

1.4 Although the modified grassland within the site offers generally sub-optimal terrestrial habitat, proposals shall likely require the removal of areas of scrub, hedgerows and tall ruderal vegetation which offers suitable habitat. Further survey work to assess the potential impacts upon this species was therefore undertaken to rule out the presence of great crested newts within these ponds.

Site Information

1.5 The survey area covers c. 1.5 hectares (ha) of grassland fields located towards the south-western edge of Sayers Common. The site is enclosed by mature, mixed-species hedge and treelines and is bordered by Reeds Lane to the north, residential properties to the east and west and farmland to the south.

Surrounding Landscape

1.6 The site is located to the south-western edge of Sayers Common. Surrounding landscape to the south and west is rural, with the nearest large settlement of Burgess Hill located 3.1 (km) to the east, while the properties of Hurstpierpoint are located 1.5km south-east. Surrounding land is dominated by arable fields and grazing land interspersed with small shaws and mature tree / hedge lines.

Development Proposals

1.7 It is understood that the development proposals include the construction of a c. 33no. new residential dwellings with associated access, gardens and parking.

Aims

1.8 The aim of the amphibian and great crested newt survey was;

- *To identify presence / absence of amphibians (including great crested newt (GCN) within the water bodies identified within 500.0m of the site.*
- *To suggest population size classes for newt species recorded, where present;*
- *To complete all data requirements for any possible application to Natural England for a mitigation licence if required; and;*
- *To suggest mitigation to avoid / minimise impacts of the scheme to Protected Species if necessary.*

2.0 LEGISLATION

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this report includes:

- *The Conservation of Habitats and Species Regulations 2017;*
- *The Wildlife and Countryside Act 1981 (as amended);*
- *The Natural Environment and Rural Communities (NERC) Act 2006.*

2.2 The great crested newt is included on *Schedule 2 of The Conservation of Habitats and Species Regulations* 2017 (as amended) and *Schedule* 5 of the *Wildlife and Countryside Act 1981* (as amended) which makes it an offence, amongst other things, to deliberately capture, injure, kill or disturb any such species. In addition, this notification also prohibits the deliberate taking or destroying of any eggs and the damaging, destroying or blocking access toa breeding site or resting place of any such species.

2.3 The common toad *(Bufo bufo)* is a target of UK and Local Biodiversity Action Plans and listed as *Species of Principle Importance under Section 41 of the Natural Environment and Rural Communities Act 2006.* Local Authorities are obliged to have regard to the purpose of conserving biodiversity with particular emphasis on targeted species.

2.4 In addition, the National Planning Policy Framework (*NPPF*) 2021 sets out the government planning policies for England and how they should be applied. '*Chapter 15: Conserving and Enhancing the Natural Environment*' states that development should be '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*.'

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Sussex Biodiversity Records Centre (SxBRC) provided records of all protected and notable species within a 2.0km radius of the site.

3.1.2 In accordance with Natural England's GCN Mitigation Guidelines (English Nature, 2001) a desktop search was undertaken to identify ponds within 500m and 250m of the site using Ordnance Survey mapping, the *MAGIC* database and aerial photography.

3.2 HSI Assessment

3.2.1 The waterbodies within 500.0m of the site (*where access allowed*), were subject to a HSI assessment in May 2023.

3.2.2 The *Habitat Suitability Index (HSI)* was developed by *Oldham et al (2000)* as a way of providing a numerical index allowing a direct comparison to be made between different water bodies. This index assesses ponds against ten different criteria, each of which have a bearing on the likelihood of great crested newts (*GCN*) being present in the pond under consideration.

3.2.3 The ten attributes against which ponds are assessed are:

- *Geographic Location;*
- *Pond Area (at its highest water level);*
- *Permanence;*
- *Water Quality;*
- *Perimeter Shading;*
- *Numbers of Wildfowl;*
- *Numbers of Fish Present;*

- *Pond Count (within a 1.0km radius);*
- *Terrestrial Habitat (within 250.00m);*
- *Macrophyte Coverage.*

3.2.4 The HSI results in a score between 1 and 0; with 1 being optimal conditions and 0 being unlikely to support a population. However, the index merely gives an indication as to whether a pond has the potential to support GCNs and is not a substitute for more detailed presence / absence surveys for protected species of amphibian. The evaluation criteria is shown in *Table No. 01* below.

Table No. 01 – HSI Evaluation Criteria

HSI Score	*Pond Suitability*
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

3.3 eDNA Survey

3.3.1 An eDNA survey of surroundings ponds was completed on the 12th of May 2023.

3.3.2 20no. water samples were collected from the margin of each pond, with samples spaced as evenly as possible to collect a representative sample. All samples were collected using a sterile sampling kit as supplied by SureScreen Scientifics.

3.3.3 Each sample was stored in a refrigerator before return to SureScreen Scientifics for analysis. The results of the survey indicate the presence of absence of great crested newt environmental DNA within the water body.

4.0 RESULTS

4.1 Desk Study

4.1.1 26no. records of great crested newt *Triturus cristatus* exist within 2.0km of the site, as well as records of common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and palmate newt *Lissotriton helveticus.* The closest GCN record is located 575m north of the site, recorded in 2013.

4.2 HSI Assessment

4.2.1 Pond P1 is a small pond located within a small area of scrubby woodland c. 330m west of the proposed development site. The pond was heavily shaded, with abundant leaf litter which reduced water quality to 'poor'.

4.2.2 Pond P2 is located within a recreation ground c. 470m north-east of the site. The pond is surrounded by trees and scrub with playing fields beyond. Fish presence could not be ruled out, however no detrimental effects caused by wildfowl were recorded.

4.2.3 Pond P3 is located between a road and residential properties c. 250m from the proposed site. Dense trees and scrub casts shade to the margins however some macrophyte cover was noted to the more open aspects. Fish presence could not be ruled out, however no detrimental effects caused by wildfowl were recorded.

4.2.4 Pond P4 is a recently constructed / extended pond located 320m north of the site. The open occupies an open position with macrophyte vegetation to the margins. A number of sticklebacks were recorded during the HSI assessment.

4.2.5 The HSI Index, as shown in the below table dictates the ponds as providing varying levels of habitat suitability for great crested newt.

Table No.2 – Summary HSI Results

SI Description	***P1***	***P2***	***P3***	***P4***
Location	*1*	*1*	*1*	*1*
Pond area	*0.2*	*1*	*0.4*	*0.8*
Permanence	*0.5*	*0.9*	*1*	*0.9*
Water quality	*0.33*	*0.67*	*0.67*	*0.67*
Shade	*0.2*	*0.2*	*0.8*	*1*
Waterfowl effect	*1*	*1*	*1*	*1*
Fish presence	*1*	*0.67*	*0.67*	*0.33*
Pond density	*0.9*	*0.9*	*0.9*	*0.9*
Terrestrial habitat	*0.67*	*0.67*	*0.33*	*0.67*
Macrophyte cover	*0.3*	*0.3*	*0.4*	*0.5*
HSI Score	***0.51***	***0.65***	***0.67***	***0.73***
Pond suitability	***Below Average***	***Average***	***Average***	***Good***

4.3 eDNA Survey

4.3.1 Each pond was negative for great crested newt environmental DNA, suggesting the absence of GCN within the waterbodies.

4.4 Survey Constraints / Considerations

4.4.1 All phase 2 surveys were undertaken at the appropriate time of the year by trained, licenced surveyors. There were no constraints recoded relating to survey methodology, therefore the results are considered to a true representation of conditions within the surveyed waterbodies.

4.4.2 Access was only possible to 4no. of 14no. ponds within 500.0m of the site; however the majority of ponds which could not be surveyed are isolated from the site by residential development, located 400-500m away or were previously surveyed and found not to support GCN. The overall level of survey effort is considered to be robust enough to give credibility to the conclusions reached in this report.

5.0 CONCLUSION

5.1 Great crested newts were found to be absent from all surveyed ponds therefore no specific mitigation with regards this species is required.

5.2 Given the likely absence of great crested newts in the vicinity of the site, the scheme is highly unlikely to contravene protection afforded this species under The Conservation of Habitats and Species Regulations 2017 (as amended).

6.0 REFERENCES

- English Nature (2001) Great Crested Newt Mitigation Guidelines, English Nature.

- Froglife (2001) Great Crested Newt Conservation Handbook. Froglife.

- Joint Nature Conservation Committee, (1998) Herpetofauna Workers' Manual. JNCC, Peterborough.

- Natural England (2015) Template for Method Statement to support application for licence under Regulation 53(2)e of The Conservation of Habitats and Species Regulations 2010 (as amended) in respect of great crested newts (Triturus cristatus). Form WML-A14-2 (Version December 2015).

Appendix A – Pond Images

Image 01 – Pond P1, assessed as below average suitability and negative for GCN environmental DNA.

Image 02 - Pond P2, assessed as average suitability and negative for GCN environmental DNA.

Image 03 - Pond P3, assessed as average suitability and negative for GCN environmental DNA.

Image 04 - Pond P4, assessed as good suitability and negative for GCN environmental DNA.

Appendix B – eDNA Results

SureScreen Scientifics

Folio No: E17450
Report No: 1
Purchase Order: LLD2818
Client: LIZARD LANDSCAPE DESIGN AND ECOLOGY
Contact: Catherine O'Reilly

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

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

RESULTS

Date sample received at Laboratory: 17/05/2023
Date Reported: 25/05/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
1636	Chesapeke - Pond P3	-	Pass	Pass	Pass	Negative	0
3855	Chesapeke - Pond P4	-	Pass	Pass	Pass	Negative	0
3856	Chesapeke - Pond P2	-	Pass	Pass	Pass	Negative	0
3857	Chesapeke - Pond P1	-	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Gabriela Danickova **Approved by:** Jackson Young

METHODOLOGY

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

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

SIC: **Sample Integrity Check** [Pass/Fail]
When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.

DC: **Degradation Check** [Pass/Fail]
Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

IC: **Inhibition Check** [Pass/Fail]
The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result: **Presence of GCN eDNA** [Positive/Negative/Inconclusive]
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.

Appendix C – Reptile Survey Report

LIZARD
Landscape Design and Ecology

REPTILE SURVEY REPORT

Land at Chesapeke, Reeds Lane, Sayers Common

On behalf of: Antler Homes

Client:	Antler Homes			
Project:	Land at Chesapeke, Reeds Lane, Sayers Common			
Reference:	LLD2818-ECO-REP-003-00-Reptile			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
00	03/08/23	Kofi Bernson BSc	Hayley Swann MSc PgCert	Catherine O'Reilly MCIEEM

Disclaimer:

The information provided within this report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This report is intended for the sole use of the Client and their agents in accordance with the agreement under which our services were performed. Unauthorised communication, reproduction or usage of this report by any party other than the aforementioned is prohibited. No liability is accepted by Lizard Landscape Design and Ecology for any use of this report, other than for the purposes for which it was originally prepared and provided. This report does not constitute legal advice. No warranty, express or implied, is made as to the advice in this report or any other service provided by us.

Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. lizard.landscape@btconnect.com W. lizardlandscapeecology.com

Contents

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. lizard.landscape@btconnect.com W. lizardlandscapeecology.com

SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Antler Homes to complete an updated reptile population assessment of Land at Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*).

24 no. artificial reptile refugia *(roofing felt; 1.0 x 0.50 m)* were laid out around the area on the 12th of May 2023. Mats were distributed along each field margin, covering all areas of optimal reptile habitat. Refugia was allowed to bed-in for 14 days prior to survey visits beginning on the 26th of May 2022.

The results of the survey recorded a peak count of 2no. adult grass snake (*Natrix Helvetica*) on site.

Due to the low numbers of reptiles on site a full translocation exercise is not proportionate to the predicted scale of the impacts. To ensure the protection of the reptile species on site, vegetation within the site should be cleared using phased cutting to encourage reptiles to disperse from the construction zone. The implementation of these mitigation measures will ensure that that no reptiles are harmed and the development proceeds in accordance with The Wildlife and Countryside Act 1981 (as amended).

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Antler Homes to complete an updated reptile presence / absence and population assessment of Land at Chesapeke, Reeds Lane, Sayers Common (*Central Grid Reference: TQ 44090 00406– hereafter referred to as 'the site'*).

1.2 The site was subject to a Preliminary Ecological Appraisal on 6th December 2022 which identified the presence of suitable reptile habitat on site in the form of grassland and tall ruderal vegetation to the field margins, as well as developing habitat within the central field areas. A full reptile survey was therefore recommended to assess the presence / absence of reptiles and the population size or species composition on site.

1.3 This report has been compiled in accordance with current guidelines, including British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and CIEEM, 2017 and 2018.

Site Information

1.4 The survey area covers c. 1.5 hectares (ha) of grassland fields located towards the south-western edge of Sayers Common. The site is enclosed by mature, mixed-species hedge and treelines and is bordered by Reeds Lane to the north, residential properties to the east and west and farmland to the south.

Surrounding Landscape

1.5 The surrounding landscape is rural, with the nearest large settlement of Burgess Hill located 3.1 (km) to the east, while the properties of Hurstpierpoint are located 1.5km south-east. Surrounding land is dominated by arable fields and grazing land interspersed with small shaws and mature tree / hedge lines.

1.6 The surrounding landscape is highly suitable for all common UK reptile species, however no suitable habitat for sand lizard *Lacerta agilis* or smooth snake *Coronella austriaca* exists in the vicinity.

Development Proposals

1.7 The development proposals include the construction of a c. 33no. new residential dwellings with associated public open space, amenities, gardens and parking.

Scope of the Survey

1.8 The aim of the updated reptile survey has been to:

- Determine whether reptiles exist on site;
- Provide an assessment of the distribution and population of reptiles within the site, if present; and
- Provide a mitigation strategy to ensure reckless killing / injury of reptiles is avoided, such that works would comply with *The Wildlife and Countryside Act (1981) (as amended)* and net gains for reptiles are achieved.

2.0 LEGISLATION

2.1 All species of UK reptile are listed under Schedule 5 Wildlife and Countryside Act 1981 (as amended). Reptiles are afforded protection under section 9(1) and section 9(5) against intentional killing or injuring, offering for sale, transport for sale or advertisement of any live or dead reptile. All UK reptile species are also recognised as species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006, meaning that local authorities must take into account the conservation of reptiles when assessing a planning application.

2.2 Smooth Snake and Sand Lizard receive additional protection under The Conservation of Habitats and Species Regulations 2017 (as amended) which makes it an offence to kill, injure, capture or disturb them; damage or destroy their habitat; or to possess or trade in them.

Licensing

2.3 If a site is found to support Smooth Snake or Sand Lizard and disturbance or removal or habitat is unavoidable, a licence will be required from Natural England to allow work to proceed.

2.4 A licence must show that there is no satisfactory alternative to the works proposed, and that they are for reasons of health and safety or overriding reasons of public interest. Licenses are only issued once planning permission has been granted.

2.5 There is no formal licensing requirement for sites which support only common UK reptile species (slow worm, common lizard, adder or grass snake *Natrix helvetica*).

3.0 METHODOLOGY

3.1 Field Survey

3.1.1 24 no. artificial reptile refugia *(roofing felt; 1.0 x 0.50 m)* were laid around the site area on the 12th of May 2023. Mats were distributed along each field margin, and allowed to bed-in for 14 days prior to survey visits beginning on the 26th of May 2023. The locations of artificial reptile refugia are detailed within *Figure No. 01.*

Figure No. 01 – Map detailing reptile refugia location (white) and field number (red)

3.1.2 07 no. site visits were conducted, where the number, species, age and sex of the reptile's present were recorded. Debris piles on-site considered suitable as reptile refugia were checked during the surveys, and repeated walkovers of the site were used to search for active reptiles.

3.1.3 Surveys were undertaken during recommended times *(08:00–11:00 and 16:00-18:30)* with suitable weather conditions for surveying reptiles wherever possible *(guidelines recommend temperatures 9-18^{o}C).*

Table No. 01 – Weather Conditions during Surveys

Survey	*Date of Visit*	*Time*	*Temp.*	*Weather Conditions*
1	26/5/2023	10:00	16ºC	Dry, WF2, 10% cloud
2	30/5/2023	10:30	14ºC	Dry, WF3, 10% cloud
3	07/6/2023	10:00	18ºC	Dry , WF1, 10% cloud
4	12/6/2023	00:00	18ºC	Dry, WF1, 10% cloud
5	28/6/2023	10:00	18ºC	Dry, WF2, 50% cloud
6	21/6/2033	00:00	16ºC	Dry, WF1, 10% cloud
7	30/6/2023	09:30	18ºC	Dry, WF0, 10% cloud

3.2 Population Assessment

3.2.1 Reptile populations were assessed in accordance with population level criteria as stated for the Key Reptile Site Register (*Froglife, 1999*). This system classifies populations of individual reptile species into three population categories assessing the importance of the population. These categories are based on the total number of adult animals observed during individual survey occasions and based upon a survey density of 10/Ha.

Table No. 02 – Population Size Assessment

Species	*Low Population*	*Good Population*	*Exceptional Population*
Slow Worm	<5	5-20	>20
Common Lizard	<5	5-20	>20
Grass Snake	<5	5-10	>10
Adder	<5	5-10	>10

3.3 Details of Surveyors

3.3.1 The reptile survey was undertaken by the following ecologists, all of which have extensive experience undertaking both reptile surveys and reptile translocation:

- Catherine O' Reilly – Principal Ecologist, 9 years' experience
- Hayley Swann – Assistant Ecologist, 2 years' experience
- Angus Cairncross – Assistant Ecologist, 1 year experience
- Sam Hall – Assistant Ecologist, 2 years' experience
- Ben Sear – Assistant Ecologist, 2 years' experience

3.4 Constraints and Limitations

3.4.1 No constraints or limitations which would impact the overall conclusions of this report were encountered.

4.0 RESULTS

Desk Study

4.1 SxBRC returned 45no. records of slow worm, 19no. records of grass snake, and 9no. records of common lizard within 2.0km of the site.

4.2 SxBRC returned records which indicate that the most recent records of reptiles within 2km of the site include grass snake and slow worm in 2017, and common lizard in 2021.

Field Survey

4.3 The results of the survey recorded a peak count of 2no. adult grass snakes. No other reptile species were recorded during the surveys. A summary of each visit is detailed below:

Table No. 03 – Summary of Results (adults only)

Survey	*Date of Visit*	*Results*
1	26/5/2023	1no. grass snake
2	30/5/2023	2no. grass snake
3	7/6/2023	1no. grass snake
4	12/6/2023	2no. grass snake
5	28/6/2023	1no. grass snake
6	21/6/2033	No recordings
7	30/6/2023	1no. grass snake

4.4 The results indicate a low population of grass snake. Reptile distribution was limited across the site, as both individuals were consistently found under the same refugia, no.6 and 18. Both tiles are located centrally within the site, on the northern boundary of field B and C respectively.

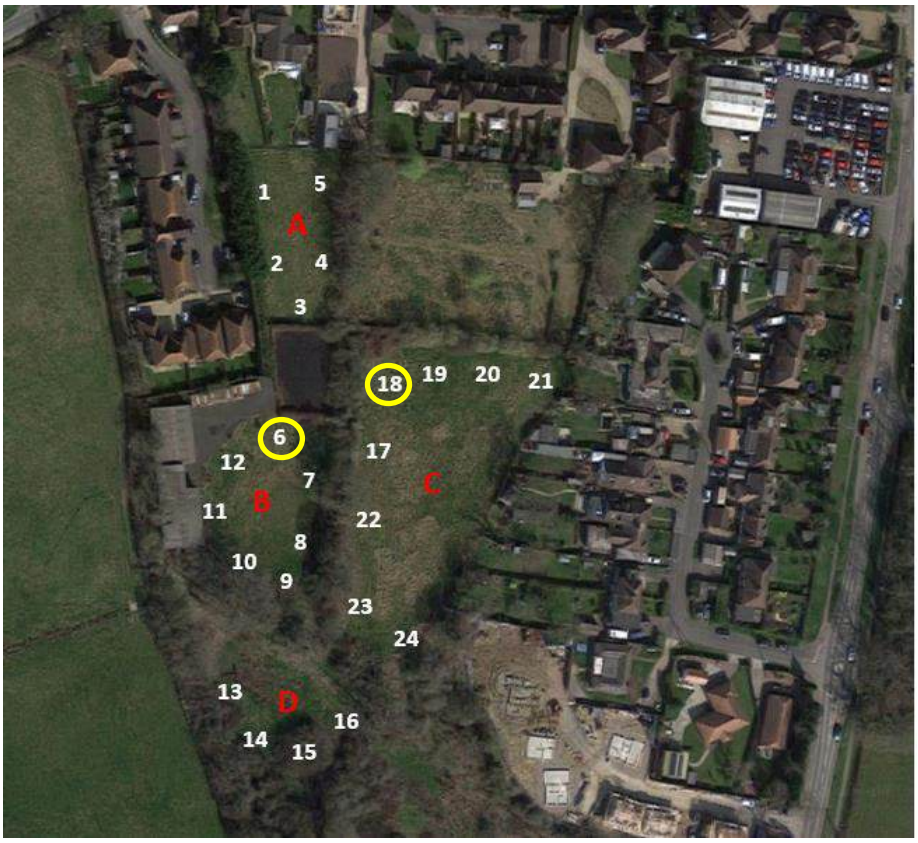

Figure 02 – Location of Reptiles on site (circled)

5.0 EVALUATION AND RECOMMENDATIONS

5.1 Impacts

5.1.1 The site supports low number of reptiles of 1no. species and would therefore not be classified as a Key Reptile Site (Froglife, 1999). Without some form of mitigation however there is a risk that development could result in the killing or injuring of reptiles, contrary to The Wildlife and Countryside Act 1981 (*as amended).*

5.2 Mitigation

5.2.1 Reptiles are distributed across a relatively small section of the site. However, the need for large areas of the site to be altered during development means that most of the suitable habitat shall be lost. To ensure that works proceed in accordance with the protection afforded reptiles under The Wildlife and Countryside Act 1981 (as amended), phased clearance shall be undertaken as follows:

- All grassland on site shall be cleared from north to south in phases, whereby the grass shall first be cut to no lower than 150mm using a cut and collect mower.
- The area shall then be subject to a fingertip search by a SQE, and any reptiles found shall be caught by hand and stored in a lidded bucket or cloth bag prior to their release.
- Reptiles shall be released into areas of retained habitat to the southern section of the site.
- Once the SQE is satisfied that no reptiles are present within the construction area, a final cut shall reduce the vegetation to <50mm.
- The vegetation is to be maintained at this height prior to and during construction to ensure that reptiles do not re-colonise the area.

5.3 Compensation

5.3.1 The retained habitat to the southern portion of the site should be maintained as suitable reptile habitat. The habitat should be formed of tussocky grassland with areas of scattered scrub.

5.3.2 A minimum of 2no. above ground hibernacula should be installed in areas of retained habitat within field D. Log piles a minimum of $1m^3$ should also be installed to provide additional opportunities for shelter and foraging.

5.4 Management

5.4.1 A suitable management plan should be in place to ensure the vegetation level remains <50mm throughout the development once all reptiles are removed to reduce the likelihood of reptiles recolonising the area.

5.4.2 Suitable reptile habitat to the southern section of the site shall be maintained as reptile habitat in perpetuity through an annual cut to 150mm to prevent entire scrub encroachment.

6.0 CONCLUSION

6.1 The site supports a low population of grass snake and does not qualify as a Key Reptile Site. No juveniles were recorded, indicating the absence of any breeding populations.

6.2 The proposals shall require the removal of reptile habitat to facilitate the scheme, with partial retention of some areas of habitat on site. The implementation of the above mitigation measures will ensure that no reptiles are harmed and the development proceeds in accordance with The Wildlife and Countryside Act 1981 (as amended).

6.3 The scheme should incorporate phased clearance accompanied by fingertip reptile searches by a SQE followed by translocation if required. Such mitigation to encourage the movement of reptiles out of the site will ensure that the scheme will have no significant impact upon the local reptile population.

7.0 REFERENCES

Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10*. Froglife: Halesworth

Herpetofauna Groups Of Britain And Ireland (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards.* HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife: Halesworth.

Joint Nature Conservation Committee (1998) *Herpetofauna Worker's Manual* (Gent, T. and Gibson, S. eds) JNCC: Peterborough

Appendix D – Bat Emergence Survey Report

LIZARD
Landscape Design and Ecology

BAT EMERGENCE SURVEY REPORT

Land at Chesapeke, Reeds Lane, Sayers Common

On behalf of: Antler Homes

Client:	Antler Homes			
Project:	Land at Chesapeke, Reeds Lane, Sayers Common			
Reference:	LLD2818-ECO-REP-005-00-BES			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
00	19/09/23	Catherine O'Reilly MCIEEM	Hayley Swann MSc PgCert	Louise Barker MSc BSc

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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

LIZARD
Landscape Design and Ecology
The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7LH
T. 01903 216033 E. lizard.landscape@btconnect.com W. lizardlandscapeecology.com

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake emergence / re-entry surveys of Land at Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*).

1no. existing building and 18no. trees on site were categorised as offering some level of bat roost suitability during the Preliminary Roost Assessment undertaken on the 6th of December 2022. Subsequent surveys were therefore completed during June and July 2023. The survey identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11. No roosts were identified within building B04, nor any other tree surveyed throughout the survey period.

Given the results of the survey, removal or major tree surgery works to T01 and / or T11 would contravene the protection afforded bats under The Conservation of Habitats and Species Regulations 2017 (as amended). To ensure the protection of bats and allow the development to proceed lawfully the following mitigation measures shall be required:

- Apply for a mitigation licence from Natural England once planning permission has been granted.
- Erect 2no. crevice bat boxes to adjacent retained trees, at a similar height and aspect as the existing roosts.
- A toolbox talk is to be given to contractors prior to tree works to make them aware of the presence of bat roosts on site, and what to do if a bat roost is unexpectedly found during works.
- All works to T01 and T11 are to be completed under licence, and under the supervision of the named ecologist or accredited agent.
- A licence return shall be sent to Natural England on completion of the licence period.

Furthermore, trees which have been assessed as offering 'low' bat roost suitability which require removal or major tree surgery works (such as T04, T07 and T12) shall require soft felling under ecological supervision, in accordance with best practise guidelines (Collins, 2016).

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Antler Homes to undertake emergence / re-entry surveys of Land at Chesapeke, Reeds Lane, Sayers Common (*Grid Reference: TQ 26509 18043 – hereafter referred to as 'the site'*).

1.2 1no. existing building and 18no. trees on site were categorised as offering some level of bat roost suitability during the Preliminary Roost Assessment undertaken on the 6th of December 2022. The purpose of the survey and this report is to establish the presence or absence of a bat roost within the buildings and trees to be affected by the proposals, and allow the full impact of the proposed development to be established.

1.3 This report has been compiled in accordance with current guidelines, including British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and Bat Conservation Trust Best Practise Guidelines 2016.

Site Information

1.4 The survey area covers c. 1.5 hectares (ha) of grassland fields located towards the south-western edge of Sayers Common. The site is enclosed by mature, mixed-species hedge and treelines and is bordered by Reeds Lane to the north, residential properties to the east and west and farmland to the south.

Surrounding Landscape

1.5 The surrounding landscape is rural, with the nearest large settlement of Burgess Hill located 3.1 (km) to the east, while the properties of Hurstpierpoint are located 1.5km south-east. Surrounding land is dominated by arable fields and grazing land interspersed with small shaws and mature tree / hedge lines.

1.6 The surrounding landscape is suitable for generalist species such as common pipistrelle and aerial hawkers such as noctule. Due to the urban nature of the surrounding land, the site is considered to be unsuitable for Annex II species such as barbastelle.

Development Proposals

1.7 The development proposals include the construction of a c. 33no. new residential dwellings with associated public open space, amenities, gardens and parking.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the survey has been:

- To assess the buildings for signs of current use by bats;
- To establish the location of any roosts if present;
- To establish the numbers and species of bats present;
- To identify access points and flight lines to and from the building;
- To provide suitable mitigation measures.

3.0 METHODOLOGY

3.1 Bat Emergence / Re-entry Surveys

3.1.1 In accordance with current best practise guidelines (BCT, 2016), a single bat emergence survey of building B04, alongside 2-3no. survey visits of trees T01, T05-T06, T08-T11 and TG14 were completed between June and July 2023.

3.1.2 Between 3-7 no. bat surveyors were used each survey to cover all potential roost features during the surveys (*Refer to Figure No. 01 – Site Habitat Plan for location of trees*).

3.1.3 Dusk emergence surveys started 15 minutes before sunset and terminated approximately 1.5 hours after sunset. Dawn re-entry surveys began 1.5 hours before sunrise and ended 15minutes after. Data including species, behaviour and general patterns of activity were recorded throughout the survey. Details of the survey visits can be found in *Table No. 01* below:

Table No. 01 – Bat Emergence Survey Details

Date	21/06/23	06/07/23	10/07/23	20/07/23	25/07/23
Building / Tree	T01, T03, T06	T01, T03, T06	B04, T05, T08, T10, T11, TG14	T01, T03, T06	T05, T08, T10, T11, TG14
Survey Type	Dusk	Dusk	Dusk	Dawn	Dawn
Surveyors	LB, SH, PA	CO, HS, AC	LB, WM, AC, KB, BS, SH, PA	WM, AC, BS	WM, AC, KB, SH
Weather	17ºC, WF2, 70% cloud, dry	18ºC, WF0, 10% cloud, dry	20ºC, WF1, 90% cloud, dry	17ºC, WF2, 70% cloud, dry	12ºC, WF1, 60% cloud, dry
Sunset	21:18	21:16	21:13	05:09	05:15
Start	21:03	21:01	20:58	03:39	03:45
Finish	22:48	22:48	22:48	05:24	05:30

3.1.4 Bats were identified using Echo Meter Touch Pro 2 and Peersonic RPA3 bat detectors. 2no. infra-red cameras with additional illuminators were also used to aid the surveys where necessary.

Data Analysis

3.1.5 Sonogram analysis was undertaken using the Kaleidoscope programme.

Surveyor Details

3.1.6 The survey was designed and led by a licenced surveyor, assisted by experienced field ecologists. The following surveyors were used during these surveys:

- Catherine O'Reilly –NE Class 2 Licence Licence Holder, 9 years survey experience.
- Louise Barker –NE Class 2 Licence Licence Holder, 7 years survey experience.
- Will Mills – Consultant Ecologist, 5 years survey experience.
- Sam Hall – Assistant ecologist with 3 years survey experience
- Hayley Swann – Assistant ecologist with 3 years survey experience.
- Ben Sear – Assistant ecologist with 2 years survey experience.
- Kofi Bernson – Assistant ecologist with 1 year survey experience.
- Penny Andrews – Field Assistant with 1 year survey experience.

3.2 Limitation and Constraints

3.2.1 No limitations to the emergence / re-entry survey was encountered, surveys were undertaken at the optimal time of year and in suitable weather conditions for bats to be active.

4.0 RESULTS

4.1 Desk Study

4.1.1 Sussex Biodiversity Records Centre (SxBRC) returned records of Common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared bat *Plecotus* sp., noctule *Nyctalus noctula*, serotine *Eptesicus serotinus*, Brandts *Myotis brandtii* / whiskered *Myotis mystacinus*, Natterer's *Myotis nattererii*, Daubenton's *Myotis daubentonii*, Bechstein's *Myotis bechstenii* and barbastelle *Barbastella barbastellus* bats have been recorded within 2.0km of the site area.

4.2 Preliminary Roost Assessment

4.2.1 The initial survey completed in December 2022 assessed all buildings and trees within the site. Building B04 was found to be a brick bungalow with plain tile roof. A small gap was recorded between the southern gable wall and soffit box, as well as small gap to western dormer window. This building was assessed as offering low bat roost suitability. 18no. trees on site were found to offer some level of bat roost suitability, 8no. of which were considered to be potentially impacted by the proposed development. For full details of the PRA refer to the Preliminary Ecological Appraisal (Lizard Landscape Design & Ecology, December 2022).

4.3 Bat Emergence / Re-entry Surveys

Dusk Emergence – 21st of June 2023

4.3.1 Bat activity was generally low throughout the survey period with no bats recorded emerging from any surveyed tree.

4.3.2 A soprano pipistrelle was record consistently foraging around the southern section of the site between 21:22 and 21:45 before flying away to the south. Other species recorded on site include noctule, long-eared sp. and myotis sp., although these species were only recorded as single passes.

Dusk Emergence – 06th of July 2023

4.3.3 A single soprano pipistrelle emerged from tree T01 at 21:27 and flew towards the south-east. No bats were seen to emerge from any other tree during the survey period.

4.3.4 Frequent passes by common and soprano pipistrelle were recorded throughout the first hour after sunset, after which activity was much lower. A single noctule was recorded commuting over the site at 21:28, with a whiskered bat recorded foraging along the boundary vegetation at 21:58 and 22:32. No other species were recorded during the survey.

Dusk Emergence – 10th of July 2023

4.3.5 A common pipistrelle emerged from tree T11 at 21:31 and foraged along the treeline before flying south. No bats were recorded emerging from any other tree or building during the survey period.

4.3.6 Moderate levels of activity was recorded on site, with the majority of bat passes being either common or soprano pipistrelle utilising the southern section of the site and adjacent treeline. A small number of passes by long-eared bats were also recorded, as well as a single Daubentons pass recorded at 22:42.

Dawn Re-entry – 20th of July 2023

4.3.7 2no. soprano pipistrelles re-entered a tear-out to a primary scaffold of T01 at 04:50. Numerous common and soprano pipistrelles were recording foraging around this tree, and the southern hedgerow throughout the survey period. A single noctule was recorded at 04:49 however no other bat species were recorded on site during the survey.

Dawn Re-entry – 25th of July 2023

4.3.8 A single common pipistrelle was noted re-entering tree T11 at 04:51. Activity was low during this survey, limited to a small number of passes by common and soprano pipistrelle.

5.0 EVALUATION AND MITIGATION

5.1 The survey has identified the presence of a day roost of soprano pipistrelle within tree T01, and a day roost of common pipistrelle within T11.

5.2 No roosts were identified within building B04, nor any other tree surveyed throughout the survey period.

5.3 Given the results of the survey, removal or major tree surgery works to T01 and / or T11 would contravene the protection afforded bats under The Conservation of Habitats and Species Regulations 2017 (as amended). To ensure the protection of bats and allow the development to proceed lawfully the following mitigation measures shall be required:

- Apply for a mitigation licence from Natural England once planning permission has been granted.
- Erect 2no. crevice bat boxes to adjacent retained trees, at a similar height and aspect as the existing roosts.
- A toolbox talk is to be given to contractors prior to tree works to make them aware of the presence of bat roosts on site, and what to do if a bat roost is unexpectedly found during works.
- All works to T01 and T11 are to be completed under licence, and under the supervision of the named ecologist or accredited agent.
- The trees are to be section felled, with cuts placed to avoid cutting through potential roost features. Each section is to be carefully lowered to the ground before being inspected by the supervising ecologist.
- Features which are found to contain bats shall be securely braced to an adjacent tree at a height and aspect as similar to the existing as possible.
- A licence return shall be sent to Natural England on completion of the licence period.

5.4 Furthermore, trees which have been assessed as offering ‘low’ bat roost suitability which require removal or major tree surgery works (such as T04, T07 and T12) shall require soft felling under ecological supervision, in accordance with best practise guidelines (Collins, 2016).

5.5 A sensitive lighting scheme must be utilised on site, which should comply with Bats and Artificial Lighting at Night – Guidance Note 08/23 (ILP, 2023). Light spill upon retained boundary vegetation and compensatory / new roost features must be avoided to allow the use of these features by bats.

5.6 The scheme should provide ecological enhancements for the benefit of biodiversity, including enhancements for bats. Measures should include the installation of bat boxes to the southern aspect of new buildings and incorporation of pale and night species plant species within the soft landscape scheme. Further details of potential enhancements are provided within the Preliminary Ecological Appraisal (December 2022).

6.0 CONCLUSION

6.1 The site supports low numbers of roosting common and pipistrelle bats within trees T01 and T11. As roosts used by low numbers of common bat species, the roosts are considered to be of low conservation significance. Implementation of mitigation measures as outlined above shall ensure the protection of bats on site, and shall ensure that the development proceeds lawfully.

7.0 REFERENCES

BCT & ILP. (2023). Guidance Note 08/23. Bats and Artificial Lighting at Night. Bats and the Built Environment series

CIEEM. (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

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Ministry of Housing, Communities & Local Government. (2021). National Planning Policy Framework. Fry Building, 2 Marsham Street, London. This publication is available [online] at www.gov.uk/government/publications

Multi-Agency Geographic Information for the Countryside (MAGIC). (2013). Interactive Map. [online]. Available at http://www.magic.gov.uk/Magicmap.aspx

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004).

Appendix A – Full Survey Results

Emergence Survey of Trees:

Date	**21/06/2023**
Survey Type	**Dusk**
Sunrise / Sunset	**21:18**
Start Time	**21:03**
End Time	**22:48**
Temperature	**17 ºC**
Wind	**2**
Weather	**Overcast**

Surveyor	PA	
Point	N of T01	
Time	**Species**	**Notes**
22:44	S.Pip	Flying along boundary vegetation

Surveyor	SH	
Point	T03	
Time	**Species**	**Notes**
21:22 – 21:45	S.Pip	Foraging within the southern fields and tree lines
22:07	C.Pip	Foraging along southern boundary vegetation
22:12	C.Pip	HNS
22:42	C.Pip	Flying north

Surveyor	LB	
Point	S of T06	
Time	**Species**	**Notes**
21:30	Noctule	commuting high up
22:22	BLE	Flew along tree line from E, heading N
22:24	Myotis	HNS
22:27	Sop	HNS

Date	**06/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:16**
Start Time	**21:01**
End Time	**22:46**
Temperature	**18 ºC**
Wind	**0**
Weather	**Clear and warm**

Surveyor	HS	
Point	S of T01 & T06	
Time	**Species**	**Notes**
21:27	**S.Pip**	**Emerged from T01, Flew from N to SE**
21:30	Noctule	Flew from W to SE
21:43	S pip	Short / clear HNS
21:46 - 21:49	C pip	Flew from W to E along tree line in front of SP, foraging along tree line
21:51	S pip	Short / clear HNS
21:55	S pip	Flew from N, foraging in front of SP
21:58	Pip	SNH - Flew from S to N, W of T01
22:01-22:02	x 2 C pips	Foraging around T01, flew W
22:11-22:12	S pip	Flew from E, foraging around T01
22:16-22:18	S pip	Flew from S, foraging around T01
22:27	C pip	Faint HNS
22:31	C pip	Foraging in front of tree line
22:32	Whiskered Myotis	HNS
22:33-22:35	S pip	Foraging in front of tree line

Surveyor	AC	
Point	N of T01 & T06	
Time	**Species**	**Notes**
21:29	Noc	HNS
21:44	Spip	HNS
21:49	Cpip	Flew from S to NW
21:54	Spip	Flew from S moving N, looked to be foraging once it broke treeline, then flew back SW towards trees
22:00	2 x Cpip	Both came from NE, looked to forage, then left going SE
22:01	Cpip	Flew from S, commuting towards NW
22:04	Spip	HNS
22:12	Cpip	HNS
22:16	Cpip	HNS

Surveyor	CO	
Point	T03	
Time	**Species**	**Notes**
21:28	Noctule	Flying SW over tree, flew away to S
21:58	Myotis sp.	HNS
22:04	CPip	Flew E to W over barn
22:16	CPip	HNS, brief pass

Date	**10/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:13**
Start Time	**20:58**
End Time	**22:43**
Temperature	**20 ºC**
Wind	**1**
Weather	**Clear and dry**

Surveyor	KB	
Point	TG14	
Time	**Species**	**Notes**
21.33	Noc	HNS
21.39	Noc	HNS
21.49	C.pip	Commuting N to S over trees
22.01	C.pip	HNS
22.04	C.pip	Foraging in tree group.
22.08	C.pip	Commuting e to w over southern treeline
22.12	S.pip	HNS
22.26	C.pip	HNS
22.42	Daubentons	HNS

Surveyor	BS	
Point	T08	
Time	**Species**	**Notes**
21:33	Noc	Commuting high up heading East
21:38	Noc	Flying north
21:44	Cpip	HNS
22:05	Cpip	HNS
22:20	LE	Flying north
22:25	Spip	HNS

Surveyor	SH	
Point	T10 / T11	
Time	**Species**	**Notes**
21:31	**C.pip**	**Emerge from T11, flew S**
21:37	Noc	HNS
22:00	C.pip	Commute along tree line towards N
22:03	C.pip	HNS
22:11-22:12	S.pip	HNS x2

Surveyor	AC	
Point	T05	
Time	**Species**	**Notes**
21:38	Noc	Foraging, hns
21:45	Cpip	Flew from sw, did some foraging behaviour then left SE
21:45	Cpip	Flew from E between TO5&TO6 then left S
21:50	Spip	Foraging hns
21:50	Spip	Flew From NW Then Left NE
21:50	Spip	Flying In Distance Between TO5&TO6
21:52	Spip	Commuting, Flew From NE (T01 Direction) And Left SW
22:04	Spip	Brief HNS
22:12	Cpip	Brief HNS
22:13	LE	Brief HNS
22:15	Cpip	commuting E to N
22:16	Spip	commuting from NE to S
22:19	LE	Brief HNS
22:22	Cpip	Brief HNS
22:25	Spip	Brief HNS

Date	**20/07/23**
Survey Type	**Dawn**
Sunrise / Sunset	**05:09**
Start Time	**03:39**
End Time	**05:24**
Temperature	**13 ºC**
Wind	**1**
Weather	**Overcast**

Surveyor	WM	
Point	T03	
Time	**Species**	**Notes**
04:03	Myotis sp.	flew S to N over the path
04:13	Myotis sp	flew S to N over the trees
04:55	Noc	flew E to W over the trees

Surveyor	BS	
Point	T06	
Time	**Species**	**Notes**
03:40-44	cpip	hns multiple passes
03:47	cpip	hns
03:51	spip	hns 2 passes
03:58	cpip	hns
04:03	spip	hns commute
04:06	spip	hns brief
04:12	spip	commute along treeline n - s
04:15-19	cpip	multiple bats foraging amongst T6
04:22	cpip	multiple bats foraging around T1 and T6
04:24-26	cpip	hns foraging
04:29	cpip	hns foraging
04:36	cpip	hns 2 passes

Surveyor	AC	
Point	T01	
Time	**Species**	**Notes**
03:37-03:45	cpip	2x bats foraging around tree
03:47	S.Pip	HNS
03:51-04:16	cpip	constant foraging around upper half of T01
04:17	cpip	HNS

04:18-04:21	cpip	approached tree from S, foraging within crown
04:22-04:25	cpip	foraging in between an above SW hedgerows of T01, then flew towards T01
04:26-04:35	CPip	3x bats foraging around trees
4:35-04:49	SPip	foraging around W&S aspects of tree
04:50	**Spip**	**2x re-entries to tear out in lower bole**

Date	**25/07/23**
Survey Type	**Dawn**
Sunrise / Sunset	**05.15**
Start Time	**03.45**
End Time	**05.15**
Temperature	**12 ºC**
Wind	**1**
Weather	**Overcast**

Surveyor	KB	
Point	T10 & 11	
Time	**Species**	**Notes**
04:51	**c.pip**	**Re-entry to T11**
04:59	S.Pip	Flying S along tree line

Surveyor	SH	
Point	T08	
Time	**Species**	**Notes**
04:05 – 04:08	CPip	Foraging along trees
04:34	SPip	Flying N
04:36	CPip	Commuting along hedge to S

Surveyor	WM	
Point	TG14	
Time	**Species**	**Notes**
04:15	Noc	HNS
04:25	C.pip	HNS

Surveyor	AC	
Point	T05	
Time	**Species**	**Notes**
03:55	LE	HNS
04:02	cpip	Foraging S of T05 and t01
04:03	LE	Commuting along hedge
04:15	Noctule	Flying high over site
04:34	Cpip	Came from S flew towards T01

Emergence Survey of B04:

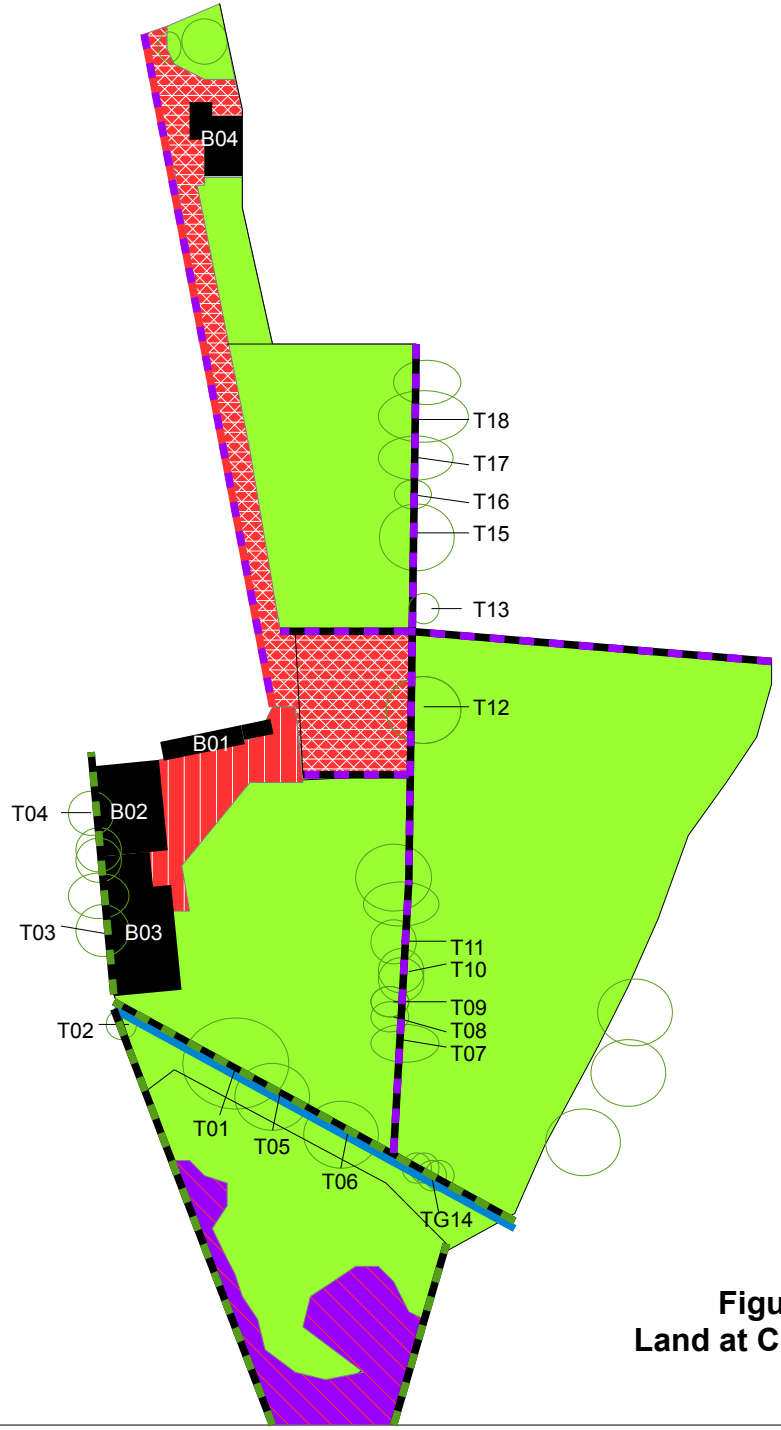
Date	**10/07/23**
Survey Type	**Dusk**
Sunrise / Sunset	**21:13**
Start Time	**20:58**
End Time	**22:43**
Temperature	**20 ºC**
Wind	**1**
Weather	**Clear and dry**

Surveyor	LB	
Point	NE	
Time	**Species**	**Notes**
21:31	Sop	NHS
21:35	Sop	flew west of building, heading north
21:50	Sop	flew from SE heading NW around building and back
21:58	Sop	flew from NE heading SW
22:04	Sop	HNS
22:14	CP	Foraging around building
22:19	CP	HNS
22:28	CP	HNS

Surveyor	WM	
Point	SE	
Time	**Species**	**Notes**
21:31	C.pip	Flew n from next door along the treeline
21:36	C.pip	Flew n from next door along the treeline then flew back and foraged around the garden
21:53	Sop	Flew n from next door along the treeline
21:04	C.pip	Foraged around the garden then flew s
22:09 - 22:22	C.pip	HNS fairly active

Surveyor	PA	
Point	SW	
Time	**Species**	**Notes**
21.33	S pip	Flying over house; did not emerge
21.36	C Pip	Flapping around doing loops in the back garden
21.49	S pip	Flying over the north west aspect of hedge to the house
21.51	C Pip	HNS
21.51	S Pip	HNS
21:54	LE	Bat seen flying over NW aspect of house to hedge
21:58-22:11	CPip	Foraging over rear garden and driveway
22.14	C Pip	Seen flying between hedge and west aspect of house
22:23 – 22:31	Cpip	Flying up and down hedge and garden

Figure No. 01 – Site Habitat Plan



Key:

= Sealed Surface

= Scrub

= Line of Trees

= Stream

= Modified Grassland

= Unsealed Surface

= Building

T01 = Tree with Bat Roost Suitability

= Other Hedgerow

= Hedgerow (Priority)

= Fence

N

20m

Figure No. 01 – Site Habitat Plan
Land at Chesapeke and Meadow View

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Appendix E – Badger Monitoring Results

Table No. 03 – Summary of Recorded Activity

Date	*Time*	*Activity*
27/05/23	00:23	Badger enters hole 1, enters from outside building and is seen on both cameras.
28/05/23	01:41	Badger appears in entrance to hole 1, and re-enters
29/05/23	23:30	Badger enters then exits hole 2
30/05/23	00:33	Badger enters hole 2, appears from south
02/06/23	04:16	Badger enters hole 1, enters shot from north
04/06/23	00:52	Badger enters hole 1, enters shot from north
04/06/23	02:52	Young fox appears in frame, enters from south
05/06/23	03:44	Young fox appears in frame, enters from south
07/06/23	03:37	Badgers enters hole 1, enters shot from north
07/06/23	04:50	Young fox appears in frame, enters hole 3

Image 01 – Badgers were seen clearly entering and exiting throughout the monitoring period.

Image 02 – A young fox was also observed during the monitoring period.